~~2/80~~ A

Yorkshire Philosophical Society.

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# ANNUAL REPORT

FOR

MDCCCL.

NATURAL HISTORY

S.403.A.3.

29

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCL.

PRESENTED TO THE ANNUAL MEETING

FEBRUARY 4, 1851.

YORK:
H. SOTHERAN, CONEYSTREET.

1851.

# TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY THE ROYAL GRANT.

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CHARLES WILLIAM, EARL FITZWILLIAM.

THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

FRANCIS CHOLMELEY, ESQ., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

RICHARD JOHN THOMPSON, ESQ.

PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

EARL OF CARLISLE, F. R. S.

EARL FITZWILLIAM, F. R. S.

EARL OF TYRCONNEL, F. R. S.

LORD FEVERSHAM.

LORD WENLOCK.

# OFFICERS OF THE SOCIETY, 1851.

## PRESIDENT:

EARL FITZWILLIAM.

## VICE-PRESIDENTS:

FRANCIS CHOLMELEY.
WILLIAM GRAY, F. G. S.
REV. WILLIAM VERNON HARCOURT, F. R. S.
REV. WILLIAM HEY.
HON. AND REV. S. W. LAWLEY.
JOHN PHILLIPS, F. R. S.
H. S. THOMPSON.
REV. CHARLES WELLBELOVED.

## TREASURER:

THOMAS MEYNELL, JUN., F. L. S.

## COUNCIL:

*Elected* 1849 .... OSWALD ALLEN MOORE.
REV. THOMAS MYERS.
THOMAS PRICE.
HENRY ROBINSON.
*Elected* 1850 .... ROBERT H. ANDERSON.
REV. JOHN KENRICK.
W. L. NEWMAN, F. R. Ast. S.
J. P. PRITCHETT.
*Elected* 1851 .... JOHN CLUDERAY.
JOHN FORD.
JOSHUA OLDFIELD.
DR. SHANN.

## SECRETARIES:

THOMAS MEYNELL, JUN., F. L. S.
THOMAS HENRY TRAVIS.

## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | Professor Phillips, F.R.S. |
| Comparative Anatomy . . | Thomas Allis. |
| Foreign Ornithology. . . | Thomas Meynell, F.L.S. |
| British Ornithology . . . | W. Rudston Read, F.L.S. |
| Insecta and Crustacea . . | Rev. Wm. Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology *under the care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F.R.S.<br>Professor Phillips, F.R.S.<br>Wm. Gray, F.G.S.<br>Wm. L. Newman, F.R.Ast.S.<br>John Ford.<br>Rev. Wm. Hey. |

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## KEEPER OF THE MUSEUM:

Edward Charlesworth, F. G. S.

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## SUB-CURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 1851.

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THE period has now arrived, when, in the annual course of events, it becomes the duty of the Council to report, to this Meeting, the proceedings of the Yorkshire Philosophical Society during the year 1850.

The Council are glad to state that, upon a review of the past year, the Society is still advancing in its career of usefulness, and that while there will be occasion to notice the attainment of much that was desirable in several departments of the Institution, some important improvements in the grounds have been completed, and the Council have the satisfaction of leaving the finances of the Society in a better state than at the commencement of the past year. It is gratifying to the Council to be able to report additions to the Collections of Natural History and Antiquities by the process of donation, to which the Society has been accustomed for more than a quarter of century to look, with well grounded confidence, as the principal means of improving its Museum. Of these additions several deserve especial notice. From Thos. S. Rudd, Esq., of Redcar, has been received the whole of the British Insects, with the exception of the Lepidoptera, which were collected by his brother, the late Rev. G. T. Rudd, M. A., well known as one of the leading British Entomologists. This extensive collection consists chiefly of Coleoptera, Hymenoptera, and Diptera, of which three orders it contains several thousand specimens.

Many of these are of extremely rare occurrence; some are unique; and several specimens are the originals of the figures in Mr. Curtis's splendid work on British Insects.

The naming and arrangement of this extremely valuable collection in the Entomological Cabinet is now in progress, under the able superintendence of Mr. Meynell, a continuation of labours of a similar kind for which the Society is indebted to the same zealous member.

The Society has through the intervention of the Naturalist Club received two masses of Calcareous grit from Newton Dale, exhibiting impressions of Star-fish, and constituting a very desirable addition to the fine series of Asteriadæ, from the Yorkshire Oolite already in the Museum.

To Mrs. Watson, of Thorpe, near Pocklington, the Society is indebted for the Tibia of an Elephant, found at Harswell, on the estate of Sir Chas. Slingsby, in digging for marle. This specimen is quite perfect, and in the highest state of preservation. Though scarcely at all mineralised, it weighs 20 pounds, and measures round its upper extremity 23 inches.

The Collections of Tertiary Fossils and recent British Shells have been enriched by further contributions from the British Natural-History Society.

The series of shells obtained from the Hampshire Tertiary beds (now exhibited in the Museum) includes 320 species, about 150 of which are new or unfigured as British Fossils. Of the generic types, among which these 150 species are distributed, upwards of 20 are not yet recorded in systematic works as known in British Eocene Strata. With a view of making some of the minute shells in this collection instructive to general visitors, a series of magnified figures, of the whole of the small species, is in the course of preparation by Mr. Smith (late a pupil at the School of Design in York), under the direction of the Keeper of the Museum, and a plan, of mounting the figures and specimens together, has been adopted, which effectually protects *both* from dust or other accidents, and at the same time allows the latter to be closely examined. A series of these species so mounted is displayed in the Museum.

Very choice examples of Modiola nigra from the Firth of Forth, Bulla acuminata and Crania Norwegica, from Loch Fyne, Pleurotoma Boothii, and Trochus millegranus from Lamlash, have been added to the Cabinet of Shells. In the last named locality, the Keeper of the Museum, by dredging, obtained Lima hians, in its nest, and the series of specimens, now displayed in the Museum, constitutes, it is believed, by far the most complete illustration of this feature in the economy of the Lima, that has ever been obtained. The Limas, thus dredged in their nests in Lamlash Bay, were of all sizes, from the very young up to the adult, and it will be observed, that the cavity of the nest presents no aperture corresponding to the Siphonal aperture in the nest sometimes made by Gastrochæna, the capacity of the interior being generally eight or ten times that of the contained animal and shell. One of the very scarce forms of Buccinum, referable to Buccinum acuminatum of Broderip, obtained at Redcar, by Mr. D. Ferguson, from a Staithes fishing-boat in the course of last summer, was subsequently presented to the Museum by the British Natural-History Society.

Through Mr. Edward Wood, of Richmond, the Society has received a Slab of Micaceous Sandstone from the Mountain Limestone series, having upon its surface in relief a Sea Worm allied to Nereis.

The Council are glad to state that Professor King in his valuable work on the Fossils of the Permian system, published by the Palæontographic Society, has derived assistance from an examination of the specimens of Fish in Magnesian Limestone in the Society's Museum, from which several of the plates in his work have been figured.

The Council have the pleasure of noticing the completion of the arrangement and fitting up of the Rudstone Collection of British Birds, which is found, as was anticipated, as valuable to the student as attractive to the general visitor.

Of the Donations to the Antiquarian department of the Museum during the past year, which have been very few, there are none which require any particular notice.

In their last report the Council stated, that the first part of

a descriptive Account of the Antiquities in the Grounds and Museum of the Society, (which, with the sanction of the Council, their valued Curator of Antiquities had undertaken to prepare,) had been sent to press; and a hope was expressed, that the other parts would speedily follow, and the whole be completed in the course of the Spring. In the midst of his endeavours to realize this hope, the Council regret to state, that their Curator was attacked by very serious illness, from which he has even now only partially recovered. Having, however, been lately encouraged by the offer of assistance from friends, the Curator has resumed his labours, and the Council trust that he may have it in his power to finish the valuable work he has begun.

Since the last Report the Hot-houses and Gardens have received some interesting additions from Dr. Lindley, John Wood, Esq., and others. Amongst these is deserving of especial notice, the Victoria Regia received through Mr. Paxton from the Duke of Devonshire, along with other valuable plants. For the reception of this very interesting present a suitable building was erected in September last, without expense to the Society,* and the Council are glad to state that subsequent experience has proved its complete adaptation to the object in view. The Victoria Regia has flowered several times during the Autumn, and has been an object of admiration to numerous visitors. There are few places in Great Britain, besides the Gardens of the Yorkshire Philosophical Society, where public curiosity can be gratified with a sight of this wonder of the vegetable kingdom.

* The Subscription for the Victoria House has as yet proved inadequate to meet the total expense incurred.

The following is the—

## METEOROLOGICAL REGISTER FOR 1850—YORK.

| | Highest. | Lowest. | Mean. | Inches Rain. | Days of more or less rain. | Average Max. | Average Min. | Mean Temp. | Highest Temp. | Lowest Temp. | Nights, at or below 32° | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 30·50 | 29·22 | 29·980 | 1·58 | 14 | 36·0 | 27·1 | 31·6 | 47 | 20 | 27 | Easterly. |
| II | 30·39 | 28·65 | 29·797 | ·51 | 6 | 46·1 | 37·0 | 41·5 | 53 | 29 | 6 | South. |
| III | 30·62 | 29·54 | 30·127 | ·50 | 7 | 46·3 | 32·0 | 39·2 | 60 | 20 | 15 | North. |
| IV | 30·51 | 28·85 | 29·687 | 2·07 | 16 | 51·3 | 39·7 | 45·5 | 58 | 32 | 2 | N. East. |
| V | 30·32 | 29·43 | 29·817 | ·72 | 16 | 57·9 | 41·2 | 49·6 | 71 | 31 | 4 | Northerly. |
| VI | 30·49 | 29·40 | 29·974 | 1·71 | 10 | 67·5 | 49·9 | 58·7 | 77 | 42 | 0 | S. West. |
| VII | 30·25 | 29·63 | 29·930 | 3·09 | 14 | 66·6 | 52·1 | 59·4 | 78 | 40 | 0 | West. |
| VIII | 30·31 | 29·59 | 29·844 | 2·22 | 16 | 65·3 | 49·6 | 57·5 | 74 | 38 | 0 | S. West. |
| IX | 30·58 | 29·32 | 30·059 | 1·06 | 8 | 59·8 | 46·4 | 53·1 | 69 | 35 | 0 | N.E. & S.E. |
| X | 30·45 | 29·08 | 29·777 | 1·71 | 18 | 52·4 | 39·7 | 46·0 | 59 | 29 | 5 | North. |
| XI | 30·40 | 28·58 | 29·739 | 1·94 | 13 | 50·4 | 38·5 | 44·5 | 58 | 17 | 9 | S. West. |
| XII | 30·58 | 28·99 | 29·929 | ·78 | 11 | 42·7 | 32·3 | 37·5 | 53 | 22 | 15 | Westerly. |
| | | | 29·888 | 17·89 | 149 | | | 47·00 | | | 83 | |

DIRECTION OF THE WIND.

| N. | S. | E. | W. | N.E. | N.W. | S.E. | S.W. |
|---|---|---|---|---|---|---|---|
| 44 | 55 | 19 | 46 | 49 | 36 | 38 | 78 |

The year 1850 has been remarkable for the very small amount of rain fallen; the quantity being only 17·89 inches, about two thirds of a mean, and less than has been registered during the last twenty years. The year 1834 was nearly as dry, the amount being then 18·49 inches. The amount reported from Doncaster corresponds with that from York, being 17·16, the annual mean of both places being nearly the same. At Settle also, the quantity has been small, being 37·69 inches; the annual mean of that locality is about 43 inches. The temperature has been very nearly a mean 47°; the mean of 20 years was 47·6. The mercurial column is very nearly the usual mean for York, 29·88 inches being the average for the year 1850. On the 19th

of November it fell to the unusually low point of 28·581, accompanied with a fall of nearly three quarters of an inch of rain.* A thunder storm of unusual violence burst over the city on Thursday, the 8th of August, between 6 and 8 P. M. The Diocesan School, and the Roman Catholic Chapel in Walmgate, were struck by the electric fluid. The diminution of the usual amount of rain was equally distributed over the first and the last six months of the year, the defect in the first six being 3.65 inches, and in the last six 3·13 inches. Of the two months in the year in which the drought would have been most apparent, one, July, had an excess of ·38 of an inch, and the other, August, a defect of ·38 of an inch.

The Library has received valuable donations from various learned Societies and private individuals, and some original works have been presented by their Authors: among which the Council notice with pleasure the donation from M. Boucher de Perthes, of Abbeville, of a Work on Geology and Antiquities, in 4 vols. and a vol. of the Memoires de la Societè d' Emulation of Abbeville.

The reading of papers at the Monthly Meetings of the Society was interrupted by accidental causes, during the spring of last year, but was resumed in the autumn, and the Council trust that this source of much valuable information to the Members of the Society will be continued.

Several parties have been admitted as Associates of the Society during the year 1850, under the Rule passed at the last Annual Meeting, and the Council trust that the increased facilities of enjoying the advantages afforded by the Society have proved beneficial.

The Swimming Baths have this year failed to be a source of profit, because, owing to circumstances connected with the establishment of the New Water Company, the usual supply of water was suspended during a great part of the bathing season. To explain this occurrence it is necessary to notice arrangements entered into long ago, and more particularly an Agreement

* On the 12th of March the mercury rose to 30·626 inches, so that the range of the year was 2·04 inches.

entered into on the 30th of June, 1837, between the gentlemen composing the then Committee of Management of the York Water-works Company for themselves, their executors, adminstrators, and assigns, of the one part, and the then Trustees of the Company for establishing and maintaining Swimming Baths in the City of York, for themselves, their executors, administrators, and assigns, of the other part, by which, after stating that the Water-works Company had agreed with the said Trustees to supply the Baths with water for the term of 97 years, upon the terms and subject to the stipulations therein mentioned, the Swimming Bath Company agreed to be at the expense of laying down pipes for conveying water from the Works of the Water Company (which were then carried on close to Lendal Ferry), and also that they would construct a brick tunnel drain, commencing from the main Marygate drain, and extending along the Manor Shore and terminating in a public sewer, emptying itself into the River Ouse near Lendal Ferry, and that, at all times during the term of 97 years the contents of the Marygate drain and all the waste water, washings, and other liquids or other offensive matter from the Baths and buildings connected therewith should be conveyed into the drain, *so that no part thereof should flow into the River Ouse either from the Street of Marygate or from the Manor Shore.* And further that the Swimming Company should during the term of 97 years pay to the Water-works Company the rent of £5 for the water to be supplied to the Baths, as in the agreement afterwards mentioned. And in consideration of the premises the Committee of Management of the Water-works Company agreed with the Trustees of the Swimming Bath Company that the Water-works Company would supply the Baths with cold water during the ordinary times of working their Engine from the 15th day of July, 1838, during the term of 97 years then next ensuing, on payment by the Swimming Company and their assigns of the annual rent of £5, and that the Water-works Company would pay to the Trustees of the Swimming Bath Company the sum of £50 towards the expense of making the said brick tunnel or drain, when the same should be completed to the satisfaction of the Water-works Company.

Under this Agreement the Baths were regularly supplied with water up to the commencement of the past year. In the spring of 1845, the Yorkshire Philosophical Society purchased the rights of the Swimming Bath Company in the Baths and under their Agreement, and at some period between that time and December 1848, the Old Water-works Company ceased to exist, having transferred their interests to the New Water Company, and after such transfer the rent of £5 was duly paid pursuant to the stipulalations of the Agreement to the New Water Company, and received by them without any objection being raised from the 31st day of December 1848, to the 31st day of March 1850. In the spring of last year, however, the New Company (having transferred their works from Lendal Ferry to a distance from York), and being applied to by the Secretaries to affix the necessary communications from their new main pipes to the Baths, gave the Society notice, that they did not consider themselves bound by the Agreement of 1837, and that any supply of Water to the Baths must be under a new Agreement.

This led to a Meeting between a Committee appointed by the Council, and the Directors of the Water Company, at which the latter repudiated altogether the recited Agreement of 1837, but (subject to the future settlement of the rights of the parties) they offered to supply the *Baths* (only) for £30 per annum, leaving the charge for the Fountains, Mr. Baines's House, the Lodge, and the other requirements of the gardens (which had always been up to that time supplied at a fixed rate of £6. 8s. per annum for the whole) altogether uncertain.

To these terms, temporary only and highly disadvantageous as they were, the Council could not agree, and without relinquishing what they conceived to be the rights of the Society under the Agreement of 1837, it became a matter of necessity, that immediate steps should be taken, to procure the permanent supply of the requisite quantity of water. With this view estimates were obtained, from which it appeared that the Society could supply itself with the whole of the water required, at a cost including interest of Capital expended and other payments of from £20 to £25 per annum, and the Council au-

thorized the purchase of a Steam Engine and Machinery and the erection and formation of buildings and works adapted to the objects in view.

Under these circumstances the necessary works were prosecuted with as little loss of time as possible, and had not a delay occurred on the part of those employed to provide the Engine, the Society might have been enabled to supply the water required during a considerable portion of the Bathing Season, and for other purposes. This, however, under the circumstances, was found to be impracticable, and previous to the erection of the machinery and the completion of the works, the Council were induced to allow the negociations with the Water Company to be re-opened, and it was found that they were *then* willing to supply all the water required for the Baths, Fountains, Mr. Baines's House, the Lodge, and the various requirements of the Gardens, for an annual sum of £25. After much deliberation the Council authorized the acceptance of this offer (without prejudice to the existing rights of the Society under the Agreement of 1837,) having already secured for the Society the means, at any future time, of readily supplying the water required for the Baths, &c., independently of the Water Company, should any circumstances or considerations render such a step expedient.

The Engine is still in the maker's hands, and it has been ascertained that the Society would sustain little or no loss should a sale of it be considered desirable.

The total expenditure of every other kind in relation to the Baths exceeds the income derived from the same source during the year 1850 by £75 14s. 6d., and forms one of the only two items of extraordinary expenditure of the current year.

The other item of extraordinary expenditure, £71 9s. 10d., has been incurred in connection with the new entrance to the Gardens from Marygate, and the Society will, no doubt, justly appreciate the very great improvement effected in that part of their grounds. By thus restoring to the Museum Grounds the ancient boundary of the Abbey Close, we offer to convenient inspection structures, which rank among the earliest of our Monastic remains, and guard from further injury and decay all that is left of that gateway, which was the principal entrance to the

Monastery in times anterior to the erection of the beautiful Church, the ruins of which are now the chief ornament of our gardens.

The Admissions at the Gates have yielded the sum of £212 7s. 10d. during 1850, exceeding the receipts of the previous year by £22 16s. 8d., being a greater sum than has ever been derived from the same source in any previous year; and it is of importance to know that the ordinary income of the Society, during 1850, has more than equalled its expenditure of every kind, ordinary as well as extraordinary, by the sum of £54 10s. 5d., notwithstanding that, owing to unexpected circumstances already noticed, one source of revenue has been less productive than usual.

Such is the history the Council are enabled to lay before this meeting, not without hope of its affording many grounds of congratulation.

To the increased attractions of the gardens, to the acquisition of many valued additions to the collections, and to the number of admissions at the Gate during the year 1850, (evincing as the Council trust a gradually increasing appreciation of the peculiar objects to which this and similar Institutions are devoted,) the Council point with pleasure; while in the improved financial position of the Society, a prospect is opened of extending its efforts towards the promotion of antiquarian pursuits, and of adding to the facilities of acquiring information already afforded to the student and lover of Natural History, by the varied objects of interest and admiration displayed in the Museum.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

IN ACCOUNT FOR THE YEAR 1850.

**Cr.** INCOME.

| 1850. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 506 | 1 | 0 |
| Admission of 22 New Members | 110 | 0 | 0 |
| Associates | 13 | 0 | 0 |
| Composition of two Members in lieu of Annual Subscriptions | 40 | 0 | 0 |
| Ladies' Subscriptions | 47 | 0 | 0 |
| Rents | 111 | 1 | 6 |
| Keys of the Gates | 33 | 0 | 0 |
| Money received at the Gate | 212 | 7 | 10 |
| Use of the Tent | 7 | 0 | 0 |
| Total Income | £1079 | 10 | 4 |
| Permanent Debt, viz.: Yorkshire Insurance Company £1000 0 0 | | | |
| Six Members at £50 each 300 0 0 | | | |
| | 1300 | 0 | 0 |
| Balance overdrawn Messrs. Swann, Clough, & Co., December 31st, 1850 | 1206 | 12 | 0 |
| Total Debt of the Society Dec. 31st, 1850 | 2506 | 12 | 0 |
| | £3586 | 2 | 4 |

EXPENDITURE. **Dr.**

| 1850. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Rent to the Crown | 1 | 0 | 1 | | | |
| Rent to the Corporation | 53 | 8 | 0 | | | |
| Rates and Taxes | 9 | 11 | 4 | | | |
| Insurance & Water Rates | 12 | 15 | 0 | | | |
| | | | | 76 | 14 | 5 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum | 150 | 0 | 0 | | | |
| Sub-Curator | 100 | 0 | 0 | | | |
| Servants | 20 | 0 | 0 | | | |
| Lodgekeeper | 20 | 0 | 0 | | | |
| Labourers | 151 | 6 | 0 | | | |
| Clerk and Collector | 25 | 0 | 0 | | | |
| Attendant in Hospitium | 6 | 0 | 0 | | | |
| | | | | 472 | 6 | 0 |
| Interest on Debt: | | | | | | |
| Yorkshire Insurance Company | 48 | 10 | 10 | | | |
| To Bankers | 52 | 3 | 0 | | | |
| | | | | 100 | 13 | 10 |
| Museum, Gardens, &c.: | | | | | | |
| Painting and General Repairs | 55 | 11 | 4 | | | |
| Purchase and preparation of Specimens | 52 | 12 | 11 | | | |
| | | | | 108 | 4 | 3 |
| Library, Books and Binding | | | | 10 | 2 | 0 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery | 33 | 16 | 0 | | | |
| Coals and Gas | 45 | 5 | 8 | | | |
| Postages, Carriage, and Sundries | 30 | 13 | 5 | | | |
| | | | | 109 | 15 | 1 |
| Total Ordinary Expenditure | | | | 877 | 15 | 7 |
| *Extraordinary Expenses:* | | | | | | |
| Alteration at the Marygate Extrance | 71 | 9 | 10 | | | |
| Balance against the Society on Swimming Bath Account | 75 | 14 | 6 | | | |
| | | | | 147 | 4 | 4 |
| Total Expenditure | | | | 1024 | 19 | 11 |
| Permanent Debt, viz.: Yorkshire Insurance Company | 1000 | 0 | 0 | | | |
| Six Members at £50 each | 300 | 0 | 0 | | | |
| | 1300 | 0 | 0 | | | |
| Balance overdrawn Messrs. Swann, Clough, & Co. Dec. 31st, 1849 | 1261 | 2 | 5 | | | |
| Total Debt of the Society Dec. 31st, 1849 | | | | 2561 | 2 | 5 |
| | | | | £3586 | 2 | 4 |

Jan. 14, 1851, Audited by us,

JOHN KENRICK,
JOHN PHILLIPS.

THOMAS MEYNELL, Treasurer.

## MEMBERS

ELECTED SINCE FEB. 1850.

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### 1850.

Robert Atkinson, *York.*
Robert Brown, *York.*
Charles Edwd. Harris, *Fulford, York.*
Thomas Lambert, *York.*
William Smith, *York.*
Eliza Stringer, *York.*
Henry John Ware, *York.*
John Wolstenholme, *York.*

### 1851.

G. L. Cressey, *York.*
Henry Anderson, *York.*
Thomas Forrest, *York.*
Joseph Hunt, *York.*
Thomas Hodgson, *York.*
George Hornby, *York.*
Joseph Terry, *York.*
Thomas Watkinson, *York.*
John Wilson, *Castlegate, York.*
Thomas Craven, *York.*
Richard Walker, *York.*

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 4TH, 1851.

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1. That George Goldie, M. D., and Peter Murray, M. D., of Scarborough, be elected Honorary Members of the Society.

2. That the Report of the Council be adopted and printed for the use of the Members.

3. That the thanks of the Society be given to the Vice-Presidents and Members of the Council retiring from office, and to the Secretary and Curators for their valuable services.

4. That the Council be empowered to authorize the holding of one or more Horticultural Meetings in the Society's grounds during the present year.

5. That the Council be empowered on certain days to be selected by them during the present year, to permit free admission to all persons to the Museum and Gardens, the mode of admission to be regulated by the Council.

6. That the Council be empowered to admit Strangers during the present year, at the usual rates of payment.

7. That the Council be authorized to admit to the Museum and Gardens, as temporary subscribers, any occasional Visitors to York, not residing in the County, at the rate of one pound for four months for themselves and families, but that in no case shall such privilege be granted for a longer period than twelve months.

*At a Meeting of the Council held Feb. 25th,* 1851, *the following Regulations respecting the reading and publication of Papers and the duties of Curators were adopted.*

## PUBLICATION OF PAPERS.

After the reading of any Paper at the Monthly Meetings the Author shall be requested to furnish an Abstract or Copy of the same to the Secretaries.

The Abstract or Copy so furnished shall be immediately copied into a *folio* Book, which book shall be placed in the Library, and be open to the Members, but shall not be taken out of the room, except for the use of the Council at their Meetings, at each of which it shall be laid before them.

The printing of Papers or Abstracts shall be limited to such Papers as relate to the Natural-History and Antiquities of Yorkshire, or the contents of the Yorkshire Museum.

The Council shall provide the means of determining what Papers come within this rule, and to what extent they shall be printed, and whether they shall be accompanied or not by plates.

The transactions shall not be offered for sale, and no more than 500 copies shall be printed ;—such copies being for the use of Members and for exchange with other Societies.

Authors shall be allowed 25 copies of their communications free of charge.

The publication shall be annual.

## DUTIES OF CURATORS.

The Council being of opinion that the Society derived great benefit from the services of Curators of departments of the Museum through a long period of years, and that the interests of the Institution require that these officers should be maintained in activity and honour, not only as positively useful to the due care of the Collections, but as collaterally important in preserving and extending the favour of the Public—have adopted the following regulations :—

The Curators of departments shall be severally independent, responsible only to, and allowed free communication with the Council, by written reports or personal communication.

Each Curator shall be requested to attend at the Monthly Meetings of the Members (as was formerly done), to examine and report upon the objects belonging to his department, which may have been received since the preceding Meeting. In case of unavoidable absence from ill health or other cause, a Curator may request another Member to supply his place.

The Curators shall be requested to state to the Council, from time to time, whatever they may deem fit to mention or suggest in respect of the state of the Collections: as

Their state of completeness or deficiency;
The manner in which they are exhibited;
The state of nomenclature, &c.

For the purpose of making such statements, they shall be empowered to attend the Monthly Council Meetings, due notice of the times of holding these Meetings being communicated to them.

A reference may be made to them before the purchase of Books, Instruments, Natural or Artificial Curiosities, &c., for their opinion as to the suitableness of such purchases.

The Curators shall be provided with personal Keys of the Cases in their departments, and are encouraged to explain the objects under their care to strangers of eminence who may be accredited to them for the purpose.

## COMMUNICATIONS

TO THE

## MONTHLY MEETINGS,

1850.

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MARCH.—JOHN THURNAM, M. D.—On the Tumuli examined by the Antiquarian Club, and the Funeral Customs of the Ancient Britons.

APRIL.—W. C. COPPERTHWAITE.—On certain discoveries at Malton, of Roman Remains.

JUNE.—H. C. SORBY, F. G. S.—On the direction from which the Oolitic Sandstones and Shales of the Yorkshire Coast have drifted, and on the Geology of a Valley in the Tabular Hills, near Scarboro', called "Yedman Dale."

DECEMBER.—JOHN PHILLIPS, F. R. S.—On Ptolemy's Map of Britain.

# DONATIONS TO THE MUSEUM,

1850.

## GEOLOGY.

| | |
|---|---|
| Club, Yorkshire Naturalists'. | Several Starfishes (*Asterias arenicola*) in calcareous Grit from the neighbourhood of Pickering. |
| Society, British Natural-History ..... | Large series of Tertiary Fossils from the Isle of Wight, and adjacent Hampshire Cliffs; Mountain Limestone Fossils from the neighbourhood of Settle and Clitheroe. |
| Anderson, Mrs. R. H. ..... | Piece of the celebrated boulder stone "Pierre à bot," from Chaumont. |
| Gibson, Mrs. ..... | Fine specimen of the Horn of the Red Deer, found in making a drain at Thornton near Pocklington. |
| Harvey, Lady ..... | Wood from the Greensand of Folkstone perforated by Teredo. |
| Hatfield, Randall, Esq..... | Bones of a Ruminant, found near Thorp-Arch. |
| Higgins, E. T., Esq. ..... | Femur of Pliosaurus. |
| Watson, Mrs., *(Thorpe)* ... | Tibia of Fossil Elephant from Harswell, (see page 8.) |

## ZOOLOGY.

| | |
|---|---|
| British Natural-History Society ..... | British Shells, Annelida, Radiata and Crustacea, including many species new to the Collection. |
| Yorkshire Naturalists' Club. | Four mounted Silver-Grey Rabbits, from Nappa in Wensleydale. |
| Anderson, Mrs. R. H. ..... | Skin of a Penguin. |
| Dayrell, Rev. Thos. ..... | Variety of the Pheasant. |
| Leckenby, John, Esq. ..... | Very fine specimen of the Spiney Crab, taken at Scarboro'. |
| Meynell, Thos. Jun., Esq.... | Various British Shells. |
| Read, W. Rudstone, Esq. ... | Specimen of the Bean Goose. |

Rudd, Thos. S., Esq. ..... Extensive Collection of British Insects, (see page 1.)

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## ANTIQUITIES.

Bayldon, J., Esq. ..... Coin of Trajan, 2nd brass.
Coin of Gallienus, 3rd brass.
Nine modern Foreign Coins, chiefly Spanish, silver; 1 Russian, copper; 2 Sixpences, Eliz.; 1 Sixpence, Ja. i.; 2 Fourpences, Cha. ii.; 1 Fourpence, Anne; 1 Fourpence, Geo. ii.; 1 Twopence, Geo. iii.; 1 Penny, Anne; 1 Penny, Geo. i.
A Medal, in brass, struck on occasion of the Victory of the King of Prussia, 1757.
Medal of Louis XV.
Kalendar for 1704, on a brass medal.
One of the Leaden Coins or Tokens found on removing the old Bridge at Layerthorpe Postern.

Bonomi, Jos., Esq. ..... Cast of the Obelisk of Carnak.

Bulmer, Jas., Esq..... Coin of Hadrian, 1st brass.

Wilkinson, Miss ..... Impression of an Ecclesiastical Seal found at Cawood, inscribed SIGILLVM·INDVLGENTIARVM·DISPENSATIONVM·····

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## MISCELLANEOUS.

British Natural-History Society ..... } Glass Case for the display of the more fragile specimens in the collection of Hampshire Tertiary Fossils.

The Lord Mayor ..... .. Specimen of Telegraphic Wire used for Marine purposes.

Matterson, Wm., Esq. ..... Indian Club and Mat.

## GARDEN.

| | |
|---|---|
| Devonshire, his Grace the Duke of ..... | Victoria Regia, from the Conservatory at Chatsworth. |
| Harrison, Miss, *(Bootham)* | 120 Papers of Seeds from the Calcutta Botanical Gardens. |
| Lindley, Dr. ..... | A collection of Seeds and Plants from the Chiswick Gardens. |
| Oldfield, Joshua, Esq. ..... | Two Loads of Garden Manure. |
| Wood, John, Esq. ..... | Various Seeds. |

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## LIBRARY.

| | |
|---|---|
| Association, British, for the advancement of Science... | Report for 1849. |
| Society, Royal Astronomical, of London ..... | Greenwich Astronomical Observations, 1847. |
| | Greenwich Magnetical and Meteorological Observations, 1847. |
| | Cancels for the Introduction to the Reductions of the Greenwich Lunar Observations. |
| | Appendix to Greenwich Observations, 1847. Twelve-year Catalogue. |
| | Astronomical and Magnetical Observations, made at the Royal Observatory, Greenwich, in the year 1848, under the direction of G. Biddle Airy, Esq., M. A. |
| Society, Geological, of London | Quarterly Journal for 1850. |
| Society, Literary and Philosophical, of Leeds ..... | Report for 1849. |
| Society, Royal, of Edinburgh | Transactions of the Society, vol. 20, pt. 1. |
| | Astronomical Observations, vol. 9, 1843. |
| | Proceedings of the Society, vol. 2, Nos. 35, 36, 37, 38, and 39. |

| | |
|---|---|
| Society Royal, of Edinburgh | General Results of the Observations in Magnetism and Meteorology, made at Makerstoun, in Scotland, for 1845 and 6. |
| Society, Chemical, of London | Journal for 1850. |
| Society, Zoological, of London | Reports for 1847, 8, and 9. |
| | Proceedings 1848 and 9. |
| Société d'emulation D'Abbeville ..... | Memoirs of, for 1844, 5, 6, 7, and 8. |
| Boucher de Perthes, M. ... (*The Author.*) | Antiquites Celtiques et Antédiluviennes. Memoire sur l'industrie primitive et les arts a leur origine. |
| | De la Creation. Essai sur L'Origine et la progression Des Etres, 4 vols. 8vo. |
| Gray, William, Esq. ..... | History of the extinct Volcanoes of the basin of Neuwied on the lower Rhine. By Samuel Hibbert. |
| Hogg, John, Esq., M. A., F.R.S., &c. (*The Author.*) | Remarks on Mount Serbal being the true Mount Sinai; on the Wilderness of Sin; on the Manna of the Israelites, and on the Sinaic Inscriptions. |
| Smith, Chas. Roach, Esq., F.S.A. (*The Author.*) | Collectanea Antiqua, part 3, vol. 2. |
| Stillingfleet, E. W., Esq., *Hotham* ..... | Description of a Roman Building and other remains lately discovered at Caerleon.—By John Edw. Lee. |
| Wood, John, Esq. ..... | The Journal of the Horticultural Society of London, 1850, vol. 5. |
| Wild, John James, Esq., (*The Author.*) | A Letter to the Right Honourable Lord Brougham and Vaux, containing Proposals for a Scientific Exploration of Egypt and Ethiopia. |
| Yates, James, Esq., F.R.S. &c. (*The Author.*) | A Paper on the use of Celts in Military Operations. |

## SERIAL WORKS SUBSCRIBED FOR.

Doubleday and Hewitson's Genera of Diurnal Lepidoptera, fol., col. plates, (42 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (11 parts published).

Waterhouse's Natural History of Mammalia, 8vo., col. plates, (2 vols. published).

Churton's Monastic Ruins of Yorkshire, fol. (6 parts published).

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Forbes and Hanley's British Mollusca, 8vo. col. plates, (37 parts published).

Scientific Memoirs, edited by Richard Taylor, F. S. A., (20 parts published).

Publications of the Ray Society, viz.:—Bibliographia *Z*oologiæ et Geologiæ, by Prof. Louis Agassiz, vol. 2. On the Natural-History of the British Entomostraca, by W. Baird, M. D.

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

Presented
13 MAR 1886

Yorkshire Philosophical Society.

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# ANNUAL REPORT

FOR

MDCCCLI.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLI.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1852.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1852.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

---

CHARLES WILLIAM, EARL FITZWILLIAM.

THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

FRANCIS CHOLMELEY, ESQ., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

RICHARD JOHN THOMPSON, ESQ.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

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EARL FITZWILLIAM, F. R. S.

EARL OF TYRCONNEL, F. R. S.

LORD FEVERSHAM.

LORD WENLOCK.

# OFFICERS OF THE SOCIETY, 1852.

## PRESIDENT:

EARL FITZWILLIAM.

## VICE PRESIDENTS:

LORD LONDESBOROUGH, F.R.S.
HON. PAYAN DAWNAY.
REV. C. WELLBELOVED.
REV. WM. HEY.
FRANCIS CHOLMELEY.
WM. RUDSTON READ, F.L.S.
THOS. MEYNELL, JUN., F.L.S.
HENRY ROBINSON.

## TREASURER:

WILLIAM GRAY, F.G.S.

## COUNCIL:

*Elected* 1850....ROBT. H. ANDERSON.
REV. J. KENRICK.
W. L. NEWMAN, F.R.Ast.S.
J. P. PRITCHETT.
*Elected* 1851....JOHN CLUDERAY.
JOHN FORD.
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DR. SHANN.
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ROBT. DAVIES.
THOMAS ALLIS.

## SECRETARIES:

THOS. H. TRAVIS.
JOHN PHILLIPS, F.R.S.

## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | Professor Phillips, F.R.S. |
| Comparative Anatomy . . | Thomas Allis. |
| Foreign Ornithology. . . | Thomas Meynell, F.L.S. |
| British Ornithology . . . | W. Rudston Read, F.L.S. |
| Insecta and Crustacea . . | Rev. Wm. Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology *under the care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F.R.S.<br>Profesor Phillips, F.R.S.<br>Wm. Gray, F.G.S.<br>Wm. L. Newman, F.R.Ast.S.<br>John Ford.<br>Rev. Wm. Hey. |

---

## KEEPER OF THE MUSEUM:

Edward Charlesworth, F. G. S.

---

## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 1852.

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IN presenting a report of the proceedings of the Yorkshire Philosophical Society for the year 1851, the Council are happy to assure the Annual Meeting of a continuance of that prosperity which has been the subject of congratulation in former years, and which is the result of a steady pursuit of the special objects of science and utility to which this Institution is devoted. At the close of 1850 numerous improvements in the Gardens, that for many years had occupied the attention of the Council, and had occasioned a great annual demand upon the resources of the Society, were completed, with the exception of the laying out in a suitable manner the space between St. Leonard's Hospital and the Multangular Tower.

This has been effected during the past year at a trifling expense, and in a manner likely to make that part of the Society's Grounds of equal interest with the others. The Council have thus had the opportunity, which they have not neglected, of directing more than usual attention to the state of the Collections already made and still increasing in every department of the Museum, in order that by the most careful and (where practicable) improved arrangement, appropriate exhibition, and accurate labelling of the specimens already accumulated, increased facilities may be afforded of instruction to the Student and Scientific Observer.

By thus employing to the greatest advantage the Collections already made, the Council conceive that the Society is strengthening its claim on the Members and the Public for increased assistance and co-operation.

In the Geological department there have been no donations calling for particular notice, but the Council have the pleasure of reporting a general augmentation of the Collection, especially in the Fossils of the Carboniferous Limestone and in the Tertiary group.

Valuable additions have been made to the Eocene Hampshire Fossils, and the Keeper of the Museum, during his visit to Suffolk in July last, obtained a very large Collection of the Fossils of the Crag, especially from the older or Coralline beds.

The Council have been glad to accede to an application from Mr. Edwards, on behalf of the Palæontographical Society, for permission to borrow some of the new species in the Hampshire Collection, in order to figure them in the Monograph of British Eocene Mollusca, upon which that gentleman is now at work. Several of the Oolitic Echinodermata have also been entrusted to Prof. E. Forbes to assist him in the investigation of the species of this class, which he has undertaken as Palæontologist to the Geological Survey of the United Kingdom.

Considerable progress has been made in the extension of the Collection of British Marine Recent Shells. The written labels have been replaced with neatly printed ones, and above 100 species, of which previously the Society possessed no examples, have been added to our series by the British Natural History Society. These include some of the rarest known British Shells—among them are Fusus Norvegicus, in fine condition, obtained by Mr. D. Ferguson, from the Yorkshire Coast; Fusus Turtoni, dredged off the Northumbrian Coast by Mr. Howes, of Newcastle; a living specimen of Tellina balaustrina, dredged alive by Professor Melville, in Galway Bay: Aclis supranitida, from Southport; and a considerable number of the rarer forms among the Genera Rissoa, Odostomia, Mangelia, &c. Great pains have been taken by the Keeper of the Museum to insure accuracy in the determination of the species by personal or written communication in doubtful

cases with Mr. Bean, Mr. Alder, Mr. Hanley, and other well known authorities in this branch of Natural History, and the Council trust that the correctness of identification may be relied upon throughout. The Council invite attention to an ingenious method (invented by the Keeper of the Museum) for the purpose of insuring the security of the smaller and more delicate species, which in the course of time suffer by exposure when mounted in the ordinary way.

The completion (so far at least as the *Marine* species are concerned) of the History of British Mollusca by Professor E. Forbes, and Mr. Hanley, has enabled the Keeper of the Museum to draw up and print a list of all the species recognized as such by the authors of this work. The circulation of copies of this list, with our desiderata marked, will, it is hoped, greatly facilitate our obtaining the species yet wanted to complete the British Collection.

In the class Radiata, there have been added in the British series some choice specimens of Goniaster equestris, from Lamlash Bay, Arran, and a carefully prepared specimen of Comatula, from the same locality; a valuable acquisition, as connecting the Starfishes with the family of Crinoidea.

Another series of Uniones and Helices has been forwarded by our indefatigable correspondent, Mr. Joseph Clarke, of Cincinnati.

To Mr. O. A. Moore, the Society is indebted for a very interesting series of Land Shells, from Chili, principally of the genus Bulimus, and containing several forms new to the Collection.

The additions to the Foreign Collection have not been numerous, but are valuable. A skin of the Sable Antelope (Aigoceros niger), one of the rarest known species of African Ruminants, has been presented to the Society by Mr. Armitage, of Harrogate.

The Mineralogical cabinet has received, during the year, some fine specimens of Rutile, the gift of J. B. Lawes, Esq. The Minerals have been revised and the arrangement of them, in some respects, improved; and the Council hope by an enlarged method of labelling, for which the cases now afford

space, to render the Collection more attractive to the Visitors and more useful to the Student.

The Council notice with pleasure the great progress that has been made in the arrangement of the general Collection of Foreign Birds. About 1100 species, including the British Collection, are now named, and although great difficulty may perhaps present itself in naming the remaining species, about 120 in number, owing to the want of works of reference in the Society's Library, yet the Curator of Foreign Ornithology, using the means within his power, and aided by the assistance of scientific friends, is not without hope of accomplishing this object.

To the Collection of British Birds there have been no additions that require particular notice. In the room dedicated to the Rudstone Collection the Council have directed a tablet to be erected in honor of the generous donor. The Council are also desirous of taking an early opportunity of adding to the pleasing effect of that Collection by making the glazing of the cases uniform.

Since the last report the valuable series of British Insects, presented by the executors of the late Rev. G. P. Rudd, has been incorporated with the Society's Collection by Mr. Meynell. A large number of species has been named by him, and a marked Catalogue of the British Coleoptera has been provided by the Rev. W. Hey, the Curator of that department.

The Collection of Insects, however, is still very deficient in Lepidoptera; none of which were among the specimens received by the Society from Mr. Rudd's executors.

The cabinet of Foreign Entomology has been carefully examined and put into good condition.

In the Antiquarian department the donations have not been numerous. A few Coins have been added to the cabinet, none of which require any particular notice. The Society is indebted to the Yorkshire Antiquarian Club for some further additions to the British and Saxon remains in the Museum, the result of excavations at Acklam and other localities in Yorkshire. A very interesting addition to the Roman Antiquities was made in the early part of the year, by the purchase of a large stone

coffin, containing the remains of a female and child covered with lime, found at Clementhorpe, in the excavations for a new house near the end of Nunnery-lane. In the course of the summer, near the same place, a portion of tessellated pavement having been unexpectedly brought to light, steps were immediately taken to obtain it for the Museum; and the Council having made application to the owner of the ground, are happy to state that there is reason to hope that, if it escape destruction, it will eventually be placed among the Collections of the Yorkshire Philosophical Society.

The Descriptive Catalogue, which the Curator of Antiquities began some time ago, is not yet finished. The council regret that, in consequence of the state of his health, Mr. Wellbeloved has been precluded from visiting the Museum so frequently as he wished. He has, however, received much valuable assistance, especially from Mr. Kenrick; and the Council are glad to learn that his work is so far advanced that he confidently hopes it may be ready for publication in the course of a few weeks.

The Council notice with pleasure a valuable donation from W. Rudston Read, Esq. to the Library, which has also received useful donations from various learned Societies during the past year; and such additional accommodation in bookcases has been provided, that not only all the volumes at present constituting the Library have been placed upon the shelves, but space is left for its future increase. Many new books have been entered in the classed and alphabetical Catalogues, and the numbering has been completed where it was imperfect; so that it is hoped the Members of the Society will find no difficulty in availing themselves of the many valuable scientific and antiquarian works which their Library contains.

The Council announce, with much satisfaction, that since their last report the Observatory has been put into substantial repair, both as to the walls, which had been loosened, and the roof, which admitted water. The Transit Instruments and Clocks, thus secured from harm, have been carefully re-adjusted and kept for six months in regular work. Two cases have been fixed on the north side of the building for the purpose of containing a pair of day and night thermometers (screened

from radiation), and a couple of wet and dry bulb thermometers graduated to fifths of degrees. Preparation is made for mounting a self-registering anemometer and rain guage in a separate building, with clock movement; and it is intended to place in a conspicuous situation, open to all Members and visitors, a Chart of the recorded observations of all the meteorological instruments.

The following Meteorological Register for 1851, York, has been received from Mr. Ford, who has for ten years obliged the Society by preparing similar annual documents, and who will continue his superintendence, in conjunction with other members, of the new instruments at the Observatory.

## METEOROLOGICAL REGISTER, YORK, 1851.

| Months. | Highest. | Lowest. | Mean. | Inches Rain. | Days of Rain. | Average Max. | Average Min. | Mean Temp. | Highest Temp. | Lowest Temp. | Nights at 32°. | Prevailing Winds. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| I | 30·33 | 29·16 | 29·666 | 2·05 | 18 | 44·3 | 35·0 | 39·6 | 55 | 24 | 8 | S. West. |
| II | 30·47 | 29·43 | 29·966 | 0·79 | 8 | 44·6 | 32·1 | 38·3 | 54 | 27 | 19 | West. |
| III | 30·46 | 28·94 | 29·663 | 2·30 | 12 | 46·5 | 34·4 | 40·5 | 51 | 28 | 13 | Southerly. |
| IV | 30·23 | 29·41 | 29·825 | 1·47 | 11 | 51·0 | 37·2 | 44·1 | 63 | 30 | 3 | N. East. |
| V | 30·60 | 29·71 | 29·979 | 1·16 | 9 | 57·6 | 41·6 | 54·6 | 72 | 31 | 2 | N. East. |
| VI | 30·40 | 29·58 | 29·913 | 3·36 | 14 | 66·5 | 47·9 | 56·1 | 80 | 39 | 0 | S. West. |
| VII | 30·26 | 29·35 | 29·814 | 2·53 | 14 | 65·0 | 49·9 | 57·4 | 80 | 40 | 0 | West. |
| VIII | 30·41 | 29·56 | 29·962 | 2·21 | 13 | 67·9 | 51·0 | 59·4 | 76 | 37 | 0 | N. East. |
| IX | 30·72 | 29·33 | 30·166 | 1·77 | 5 | 62·0 | 44·6 | 53·4 | 74 | 37 | 0 | N. East. |
| X | 30·52 | 29·09 | 29·766 | 1·11 | 14 | 55·7 | 42·6 | 49·1 | 65 | 29 | 3 | S. West. |
| XI | 30·44 | 29·31 | 29·862 | ·62 | 9 | 42·0 | 30·6 | 36·3 | 49 | 23 | 19 | N. West. |
| XII | 30·60 | 29·44 | 30·168 | 1·09 | 9 | 44·0 | 33·3 | 38·7 | 57 | 23 | 16 | Southerly. |
| | | | 29·895 | 20·46 | 136 | 53·9 | 40·0 | 47·3 | | | 83 | |

DIRECTION OF THE WIND.

| N. | S. | E. | W. | N.E. | N.W. | S.E. | S.W. |
|---|---|---|---|---|---|---|---|
| 27 | 45 | 5 | 49 | 64 | 38 | 55 | 82 |

The temperature of the year 1851 was again nearly an exact mean 47·3. The mean for the last twenty years was 47·5. Since the year 1846, the mean annual temperature of York has exhibited a remarkable uniformity.

| | |
|---|---|
| Temperature of 1846 .. .. .. .. | 50·00 |
| 1847 .. .. .. .. | 47·80 |
| 1848 .. .. .. .. | 47·50 |
| 1849 .. .. .. .. | 47·05 |
| 1850 .. .. .. .. | 47·00 |
| 1851 .. .. .. .. | 47·30 |

The month of January was 4° above a mean, and the month of November 5° below. The year like its predecessor was distinguished by an amount of rain considerably below a mean. In 1850, the total was 17·89 inches; in 1851, 20·46; the mean for 20 years being 24·27 inches. The month of November seems to be losing its pluviose character. In 1844 on an average of 13 years November was second in amount of rain, July being first. The diminished quantities of the last few years have placed it fifth in amount of rain fallen, July still retaining the first place. November, 1851, appears to have been the coldest and the dryest November of the last 20 years.

The pressure of the mercurial column is again about a mean, being 29·89 5 inches, reduced for capillarity and temperature. The range between the two extremes of the year was 1·786 inches. Thunder and lightning were of rare occurrence during the year. A heavy storm burst over the city on the 21st June, accompanied with ·77 inch of rain, and another about the usual time in the first half of the month of August. The term, *usual time*, will be justified by the following statement of thunder storms at York in that month.

| | | | |
|---|---|---|---|
| 1851, .. | August 13, ..... | Wind S. ..... | Rain ·03 |
| 1850, .. | „ 8 & 9 | „ S.W. | „ 1·08 |
| 1849, .. | „ 8 & 9 | „ S.E. | „ 1·06 |
| 1848, .. | „ 9 & 10 | „ W. | „ ·07 |
| 1847, not observed, probably nocte? | | | |
| 1846, .. | August 1, 2, 7, & 13 | Wind S. | Rain ·63 |
| 1845, .. | „ 9 | „ E. | „ ·95 |
| 1844, .. | „ 13 | „ S.W. | „ ·11 |
| 1843, .. | „ 15 & 16 | „ W. | „ 1·96 |
| 1842, .. | „ 10 | „ S. | „ 1·44 |

This almost invariable recurrence of storms, with only one exception in the course of ten years, all occurring within a limit of 8 days, is a fact of some interest. "Thunder, lightning, and rain more or less, the day before or the day after."*

The statements of Accounts which follow will fully explain the condition of the Society's financial arrangements, and will, the Council trust, prove satisfactory.

The total annual expenditure has been kept within the income by above £62., notwithstanding the extraordinary expenses attending the addition of new bookcases to the Library, and the completion of the communications between the baths, fountains, and hothouses, and the mains of the new waterworks, and although the general account has been necessarily charged this year with much larger sums than usual for painting and general repairs, and a large but long called for expenditure on the Observatory has been incurred.

On this occasion the Council announce, with regret, the resignation of Thomas Meynell, Esq., the Treasurer, and one of the present Secretaries of the Society, a gentleman from whom, for many years past, the Society has received the most valuable and efficient assistance in carrying out the various objects that from time to time have occupied attention. The Council, however, are glad to find that the Society may still hope to enjoy the benefit of Mr. Meynell's knowledge and experience,

* Reports on the amount of rain fallen in the past year have been received as follows:

| 1851. | | Mean of years. | |
|---|---|---|---|
| Settle | 36·28 | 42·7 | 10 |
| Huggate | 28·75 | 28·37 | 7 |
| Middleton, near Beverley | 23·64 | 21·77 | 4 |
| Bransby | 24·91 | .. | .. |
| Ackworth | 20·13 | 25·2 | 10 |
| Doncaster | 17·83 | 24·6 | 9 |

Mr. Marshall of Kendal, who has registered the rain of that district for 30 years, states that the amount has diminished considerably; that in the first 15 years of that period the annual fall was 57·34; and in the last 15, 50·73.

The mean rain fallen at York in the 10 years ending Dec. 31st, 1841, was 21·145; and in the last 10, ending Dec. 31st, 1851, 24·244, indicating no tendency towards a diminished annual amount.

and the Meeting will no doubt gladly accept the proposal of the Council to elect him a Vice-President of the Society for the ensuing year. The Council are glad to announce as a successor to Mr. Meynell in the office of Treasurer, Wm. Gray, Esq., a gentleman whose former labours in behalf of the Society as Secretary, will still be in the recollection of the Meeting.

In looking round for a successor to Mr. Meynell as one of the Secretaries, the Council congratulate the Meeting in being able to name Professor Phillips, a gentleman distinguished no less for his scientific attainments, than for his constant co-operation and warm interest in the welfare of the Society on all occasions from its earliest days, who has kindly consented to return to an office, which he formerly filled, and to act as joint Secretary with Mr. Travis.

Such is a brief review of the proceedings of the Society during the year that is past, and the Council trust that the hopes and promises of former years have been in a considerable degree realized. The arrangements in every department of the Museum have undergone the most careful scrutiny and examination, and wherever an improvement has been practicable steps have been taken for carrying it out. The collections in the Museum have been enlarged and enriched, the sources of attraction to strangers, and of enjoyment to the Members and their families which the Gardens offered, have been increased, and the Society may be regarded as having advanced to a point from which its friends may look back with satisfaction on the progress it has made, and forward with confidence, to a career of increased and increasing usefulness.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

IN ACCOUNT FOR THE YEAR 1851.

**Cr.** INCOME.

| 1851. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 551 | 1 | 0 |
| Admission of 19 New Members .... | 95 | 0 | 0 |
| Associates ..... | 9 | 0 | 0 |
| Ladies' Subscriptions..... | 49 | 1 | 0 |
| Rents ..... | 116 | 14 | 3 |
| Keys of the Gates..... | 31 | 10 | 0 |
| Money received at the Gate ..... | 170 | 15 | 11 |
| Swimming Bath (deducting expenses) ..... | 44 | 14 | 10 |
| Use of Tent..... | 7 | 0 | 0 |
| Total Income..... | £1074 | 17 | 0 |
| Permanent Debt: | | | |
| Yorkshire Insurance Company ..... £1000 0 0 | | | |
| Six Members at £50 each ..... 300 0 0 | | | |
| 1300 0 0 | | | |
| Balance overdrawn Messrs. Swann, Clough, & Co., Dec. 31st, 1851..... 1143 6 8 | | | |
| | 2443 | 6 | 8 |
| | £3518 | 3 | 8 |

EXPENDITURE. **Dr.**

| 1851. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Rent to the Crown ..... | 1 | 0 | 1 | | | |
| Rent to the Corporation | 53 | 8 | 0 | | | |
| Rates and Taxes ..... | 6 | 14 | 4 | | | |
| Insurance & Water Rent | 12 | 15 | 0 | | | |
| | | | | 73 | 17 | 5 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum | 150 | 0 | 0 | | | |
| Sub-Curator ..... | 100 | 0 | 0 | | | |
| Servants ..... | 20 | 0 | 0 | | | |
| Lodgekeeper ..... | 20 | 0 | 0 | | | |
| Labourers ..... | 152 | 3 | 0 | | | |
| Clerk and Collector.... | 25 | 0 | 0 | | | |
| Attendant in Hospitium | 6 | 0 | 0 | | | |
| | | | | 473 | 3 | 0 |
| Interest on Debt: | | | | | | |
| Yorkshire Insurance Company ..... | 48 | 10 | 10 | | | |
| To Bankers..... | 49 | 9 | 0 | | | |
| | | | | 97 | 19 | 10 |
| Museum, Gardens, &c.: | | | | | | |
| Painting and General Repairs ..... | 91 | 8 | 9 | | | |
| Purchase and preparation of Specimens .. | 33 | 18 | 6 | | | |
| Observatory ..... | 42 | 17 | 1 | | | |
| | | | | 168 | 4 | 4 |
| Library, Books and Binding..... | | | | 24 | 15 | 6 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery .... | 21 | 19 | 0 | | | |
| Coals and Gas ..... | 48 | 5 | 10 | | | |
| Postages, Carriage, and Sundries ..... | 45 | 0 | 3 | | | |
| | | | | 115 | 5 | 1 |
| Total Ordinary Expenses ..... | | | | 953 | 4 | 8 |
| *Extraordinary Expenses:* | | | | | | |
| New Book Cases in Library ..... | 21 | 0 | 0 | | | |
| Connecting the Bath, Fountains, Hothouses &c., with the New Waterworks ..... | 37 | 7 | 0 | | | |
| | | | | 58 | 7 | 0 |
| Total Expenditure ..... | | | | 1011 | 11 | 8 |
| Permanent Debt, viz.: | | | | | | |
| Yorkshire Insurance Company ..... | 1000 | 0 | 0 | | | |
| Six Members at £50 each ..... | 300 | 0 | 0 | | | |
| | 1300 | 0 | 0 | | | |
| Balance overdrawn Messrs. Swann, Clough, & Co., Dec. 31st, 1850 ..... | 1206 | 12 | 0 | | | |
| Total Debt of the Society Dec. 31st, 1850 ..... | 2506 | 12 | 0 | 2506 | 12 | 0 |
| | | | | £3518 | 3 | 8 |

Audited, Jan. 20th, 1852.

THOMAS MEYNELL, Jun., Treasurer.

JOHN CLUDERAY,
HENRY ROBINSON.

# MEMBERS

ELECTED SINCE FEB., 1851.

---

## 1851.

Thomas Shipton, *York.*
Robert William Anderson, *York.*
George Acton, *York.*
Col. Michael Childers, *York.*
Francis Moore, *York.*
Thomas Smith, *York.*
Thomas Taylor, *York.*
Thomas Cooke, *York.*

## 1852.

Thomas H. Morris, *York.*
Samuel William North, *York.*
Lord Londesborough, *Grimstone Park.*
John G. Lees, *York.*

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 10TH, 1852.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the thanks of the Society be given to the Vice-Presidents and Members of the Council retiring from office, and to the Secretaries and Curators for their valuable services.

3. That the special thanks of the Society be given to Thomas Meynell, Jun., Esq., the Treasurer, and joint Secretary of the Society, retiring from office.

4. That the Council be empowered to authorize the holding of one or more Horticultural Meetings in the Society's Grounds during the present year.

5. That the Council be empowered on certain days to be selected by them during the present year, to permit free admission to all persons to the Museum and Gardens, the mode of admission to be regulated by the Council.

6. That the Council be empowered to admit Strangers during the present year, at the usual rates of payment.

7. That the Council be authorized to admit to the Museum and Gardens, as temporary subscribers, any occasional Visitors to York, not residing in the County, at the rate of one pound for four months for themselves and families, but in no case shall such privilege be granted for a longer period than twelve months.

8. That it is desirable to raise a further sum not exceeding £1000 on Mortgage of the property of the Society, and that the Trustees be authorized and requested to execute such security as shall be approved by the Council.

## COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

## 1851.

---

JANUARY.—JOHN PHILLIPS, ESQ.—On Magnetism in Yorkshire.

JUNE.—J. HALL, ESQ.—On the Walls of Roman York.

NOVEMBER.—W. GRAY, ESQ.—On the total Eclipse of the Sun, of the 28th July last, as observed by him in Norway.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Club, Yorkshire Naturalists'. | Various species of Trilobites and Pentremites, with other rare Fossils from the Mountain Limestone of Yorkshire. |
| Society, British Natural-History ..... | A large series of specimens from the Coralline Crag, consisting of Shells and Corals; also numerous Sharks' Teeth, Cetacean bones, &c. from the Red Crag of Suffolk. |
| | Additional Fossils from the Eocene Hampshire Strata. |
| Clarke, Joseph, Esq., *(Cincinnati)* ..... | Silurian Fossils from North America. |
| Lyell, Sir Chas. ..... | A rare Natica, from the Eocene Strata of Barton Cliff, Hants. |

## MINERALOGY.

| | |
|---|---|
| Backhouse, Miss Sarah ... | Bekite from Torquay. |
| Boucher, Mr..... | A rare variety of Felspar. |
| Lawes, J. B. Esq., *(St. Albans)* ..... | Very fine specimens of Oxyde of Titanium with Sulphate of Molybdena and Chromate of Iron from Loch Tay. |
| Walker, Miss, *(Sand Hutton)* ..... | Interesting varieties of Agate (in exchange.) |

## ZOOLOGY.

| | |
|---|---|
| Club, Yorkshire Naturalists'. | Remarkable Lizard from Mexico. |
| Society, British Natural-History..... ..... | About 100 species of the rarer British Marine Shells, including Fusus Norvegicus, Fusus Turtoni, Tellina Balaustina, Arca raridentata, &c. &c. |

| | |
|---|---|
| Society, British Natural-History ..... | Asteriadæ from Lamlash, Arran, including a specimen in fine preservation of Comatula rosacea. |
| Armitage, S., Esq., *(Harrogate)* ..... ... | Skin of the Sable Antelope, *Aigoceros niger*, from South Africa. |
| Clarke, Joseph, Esq., *(Cincinnati)*..... ..... | Fine series of American Land and Freshwater Shells. |
| Dawnay, Hon. Payan ..... | Pure white variety of the Blackbird, shot at Beningbrough Hall. |
| Healey, Major ..... | Three British Ducks. |
| Lee, Mr. H.. *(Stillington)* | Two specimens of the white variety of the Common Mole. |
| Moore, O. A., Esq. ..... | A valuable series of Bulimi and Patellæ from Chili. |
| Read, Wm. Rudstone, Esq. | A species of the genus Tetradon, in very fine preservation. |
| Wood, Edw., Esq., *(Richmond)* ..... | Mounted specimen of Ray's Bream (in exchange.) |

## ANTIQUITIES.

| | |
|---|---|
| Club, Yorkshire Antiquarian. | Large Urn, two Vases of British Pottery, two Bone Pins, and Skull from Tumuli, at Acklam. |
| | Two skulls from Tumuli, at Dane's-dale; portion of Mortarium and two Coins of Vespasian and Trajan, from Malton. |
| Annakin, Mr. C. ..... | Fragments of Pottery found in Blake Street. |
| Brown, Mr. Robt..... | Two curious antique Keys. |
| Bell, Mr. Wm. ..... | Groat of David. II. of Scotland. |
| Champion, Mrs., *(Redland, Bristol)* ..... | Seventy-six Coins and Tokens. |
| Clarke, Joseph, Esq., *(Cincinnati)*..... | Some Flint Arrow Heads. |
| Day, Edw., Esq. ..... | Roman Sword found at the Mount. |
| Davies, Robt., Esq. ..... | Fragments of Earthenware, found near two Roman Coffins, in a Field South |

| | |
|---|---|
| | of Severus' Place; a small portion of one of the Coffins, and portions of its contents. |
| | A Cinerary Urn found in digging for the foundation of his house, without Micklegate Bar. |
| Hobson, R., Esq. ..... | Twenty Coins in Brass, (1 Grecian, 12 Roman, 7 Autonomons.) |
| King, John, Esq. ..... | Half-sovereign of Queen Elizabeth. |
| Prest, John, Esq. ..... | Coin of Faustina (large brass.) |
| Pulleyn, Mr. J. ..... | Two Horse Shoes found in Petergate. |
| Seymour, John, Esq. ..... | Seal of Queen Elizabeth. |
| Thomas, Mr. ..... | Two Urns, a Patera, &c. found in the brickfield, near Layerthorpe Bridge. |
| Welbeloved, Rev. C..... | Roman Key found in digging a drain in Davygate. |

## GARDEN.

| | |
|---|---|
| Devonshire, his Grace the Duke of ..... | Victoria regia, from the Conservatory at Chatsworth. |
| Fulton, Miss, *(Blackheath)* | 10 Papers of Seeds, from India. |
| Lindley, Dr. ..... | A collection of Seeds and Plants, from the Chiswick Gardens. |
| Oldfield, Joshua, Esq. ..... | Two Loads of Manure. |
| Wood, John, Esq. ..... | Various Seeds. |

## MISCELLANEOUS.

| | |
|---|---|
| Brown, Mr. John ..... | Burnt Wheat found in Peterlane. |
| Meynell, Thos. Jun., Esq.... | A Mason's Hygrometer. |
| Newman, W. L., Esq. ..... | The original Equatorial of Abm. Sharpe. |
| | A Standard Barometer. |
| Taylor, Rev. Wm..... | Piece of the protected Telegraphic wire used for Submarine purposes. |
| Turner, John, Esq. ..... | The Bomerang of the Aboriginal tribes of Australia Felix. |
| | The Lee-an-gle of the Aboriginal tribes of Australia Felix, (made from the Oak of the Colonists.) |

# LIBRARY.

| | |
|---|---|
| Association, British, for the Advancement of Science | Report for 1850. |
| Company, East India, Honourable Court of Directors of | Catalogue of the Mammalia in the Musuem of the East India Company. |
| Institute, Archæological | On the Roman Roads, Camps, and other Earth-works, between the Tees and the Swale, in the North Riding of the County of York, by Henry Maclauchlan. (From No. 23, of the Archæological Journal.) |
| Society, Royal Astronomical, of London | Greenwich Observations, for 1849.<br>Greenwich Magnetical and Meteorological Observations, 1850. |
| Society, Chemical, of London | Journal for 1851. |
| Society, Geological, of London | Quarterly Journal for 1851. |
| Society, Zoological, of London | Proceedings 1849. |
| Society, the Numismatic | Proceedings for Session 1849—50. |
| Societé d'emulation D'Abbeville | Memoirs for 1844, 5, 6, 7, and 8. |
| Society, Royal, of Edinburgh | Transactions of the Society, part 2, vol. 20, for Session 1850 and 1851.<br>Proceedings of the Society from Dec. 1844, to April 1850, (index of.)<br>Proceedings of the Society, vol. 3, parts 40 and 41, for 1850 and 1851. |
| Society, Royal Cornwall Polytechnic | Report for 1850. |
| Society, Historic of Lancashire and Cheshire | Proceedings and Papers for 1850—51. |
| Society, Liverpool Literary and Philosophical | Proceedings for Sessions 1849 to 51. |
| Society, Literary and Philosophical, of Manchester. | Memoirs of, vol. 9. |
| Society, Geological and Polytechnic, of the West Riding. | Report of the Proceedings for 1850. |
| Government, British, by direction of | Observations on days of unusual Magnetic disturbance made at the British |

| | |
|---|---|
| | Colonial Magnetic Observatories, under the departments of the Ordnance and Admiralty: printed by the British Government under the superintendence of Lieut. Col. Edwd. Sabine, vol. 1, part 1—1840, 1841; part 2—1842, 1843, 1844. |
| | Observations made at the Magnetical and Meteorological Observatory at Hobarton, in Van Dieman's Island and by the Antarctic Naval Expedition, vol. 1. commencing with 1841, with Abstracts of the Observations from 1841 to 1848. |
| | Magnetic and Meteorological Observations made at the Cape of Good Hope, 1841 to 1846, with Abstracts of the Observations from 1841 to 1850, inclusive. |
| Fenwick, John, Esq., *(The Author.)* | Treasure-Trove in Northumberland. |
| Londesborough, Lord ..... | The Yorkshire Anthology, by J. O. Halliwell, Esq. |
| Mantell, G. A., Esq., L.L.D. *(The Author.)* | Supplementary Observations on the structure of the Belemnite, and Belemnoteuthis. |
| Maxey, Rev. Jonathan, D.D. *(The Author.)* | Collegiate addresses with a Biographical introduction by Romeo Elton, D. D., F. R. P. S. |
| Merryweather, George, M.D. *(The Author.)* | An Essay explanatory of the 'Tempest Prognosticator.' |
| Read, Wm. Rudstone, Esq. | Linnæan Transactions, vols. 1 to 11, vols. 17, 18, and parts 1, 2, of vol. 20. |
| | Zoological Transactions, vol. 1, and part 1 of vol. 2. |
| Smith, C. R., Esq., F. S. A. *(The Author.)* | Notes on the Antiquities of Treves, Mayence, Wiesbaden, Niederbeber, Bonn, and Cologne. |
| | Etchings of Anglo-Saxon Antiquities extracted from 'Collectanea Antiqua,' vol. 11, part 6. |

| | |
|---|---|
| | Proceedings of the Society of Antiquaries of London, (Nos. 18, 20, 21, 22, 24, 25, 26, and 27.) |
| Thurnam, John, Esq., M.D. | Die Universitats Sternwarte in Christiania herausgegeben, von Christopher Hansteen, Director der Sternwarte. |
| Wood, John, Esq. ..... | Journal of the Horticultural Society of London for 1851. |

## SERIAL WORKS SUBSCRIBED FOR.

Churton's Monastic Ruins of Yorkshire, fol., (6 parts published).

Doubleday and Hewitson's Genera of Diurnal Lepidoptera, fol., col. plates, (50 parts published).

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Forbes and Hanley's British Mollusca, 8vo. col. plates, (42 parts published).

Publications of the Ray Society, (1851): The British Species of Angiocarpous Lichens elucidated by their sporadia, by the Rev. W. A. Leighton; part 5 of The British Nudibranchiate Mollusca, by Messrs. Alder and Hancock.

Publications of the Palæontographical Society, viz. :—Crag Mollusca, part 1, Univalves; part 2, Bivalves, by S. V. Wood, F. G. S. Fossil Reptilia of the London Clay, part 1, Chelonia, by Prof. Owen and Bell; part 2, Crocodilia and Ophidia, by Prof. Owen; part 3, Reptilia of the Cretaceous Formations, by Prof. Owen. Mollusca, from the Eocene Formations of England; part 1, Cephalopoda, by Fred. E. Edwards. Mollusca of the Great Oolite, part 1, Univalves, by J. Morris, F. G. S., and John Lycett. British Oolitic and Liassic Brachiopoda, by Thos. Davidson. British Fossil Corals; part 1, Corals from the Tertiary and Cretaceous Formations; part 2, Corals from the Oolitic Formations, by Prof. H. Milne Edwards and Jules Haime. The Entomostraca of the Cretaceous Formation of England, by T. Rupert Jones. Permian Fossils of England, by Prof. Wm. King. On the Fossil Lepadidæ, or pedunculated Cirripedes of Great Britain, by Charles Darwin, F. R. S., &c.

Scientific Memoirs, edited by Richard Taylor, F. S. A., (20 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (12 parts published).

Waterhouse's Natural History of Mammalia, 8vo., col. plates, (2 vols. published.)

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

Presented
13 MAR 1886

H. SOTHERAN, BOOKSELLER, CONEYSTREET, YORK.

Yorkshire Philosophical Society.

# ANNUAL REPORT

FOR

MDCCCLII.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

## MDCCCLII.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1853.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1853.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

---

CHARLES WILLIAM, EARL FITZWILLIAM.
THOMAS PHILIP, EARL DE GREY.
HON. AND VERY REV. HENRY HOWARD, D.D.
SIR WILLIAM LAWSON, BART., F.S.A.
FRANCIS CHOLMELEY, ESQ., F.S.A.
ROBERT DENISON, ESQ.
REV. WILLIAM VERNON HARCOURT, F.R.S.
RICHARD JOHN THOMPSON, ESQ.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

---

## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F.R.S.

EARL OF CARLISLE, F.R.S.

EARL FITZWILLIAM, F.R.S.

LORD FEVERSHAM.

LORD WENLOCK.

# OFFICERS OF THE SOCIETY, 1853.

## PRESIDENT:

EARL FITZWILLIAM, F.R.S.

## VICE PRESIDENTS:

LORD LONDESBOROUGH, F.R.S.
HON. PAYAN DAWNAY.
REV. C. WELLBELOVED.
REV. WM. H. DIXON, F.S.A.
REV. J. KENRICK.
WM. RUDSTON READ, F.L.S.
THOMAS MEYNELL, JUN., F.L.S.
HENRY ROBINSON.

## TREASURER.

WILLIAM GRAY, F.G.S.

## COUNCIL.

*Elected* 1851....J. P. PRITCHETT.
JOHN FORD.
JOSHUA OLDFIELD.
DR. SHANN.
*Elected* 1852....REV. W. V. HARCOURT, F.R.S.
REV. R. B. COOKE, F.G.S.
ROBT. DAVIES.
THOMAS ALLIS.
*Elected* 1853....FRANCIS CHOLMELEY.
WM. FREDERICK RAWDON.
REV. WM. HEY.
O. A. MOORE.

## SECRETARIES:

THOS. H. TRAVIS.
JOHN PHILLIPS, F.R.S.

## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | Professor Phillips, F.R.S. |
| Comparative Anatomy . . | Thomas Allis. |
| Foreign Ornithology. . . | Thomas Meynell, F.L.S. |
| British Ornithology . . | W. Rudston Read, F.L.S. |
| Insecta and Crustacea . . | Rev. Wm. Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology *under the care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F.R.S.<br>Professor Phillips, F.R.S.<br>Wm. Gray, F.G.S.<br>Wm. L. Newman, F.R.Ast.S.<br>John Ford.<br>Rev. Wm. Hey. |

## KEEPER OF THE MUSEUM:

Edward Charlesworth, F.G.S.

## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 1ST, 1853.

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THE Thirtieth Annual Report of the Yorkshire Philosophical Society, which it is now the duty of the Council to present, will record an undiminished flow of donations to the Museum, and a financial statement in which the income exceeds the expenditure.

During the year 1852, the donations to the Geological department of the Museum have been more than usually valuable. Of these, the most important is a very remarkable Plesiosaurus from Lofthouse, presented by the Earl of Zetland, an acquisition acceptable, not only because the Society previously possessed nothing but plaster casts to illustrate this very extraordinary extinct type of Saurians, but also because, the lias of the Yorkshire coast having become celebrated as a resting place for the remains of these reptiles, it was very desirable that one specimen at least should be seen in the Museum of the Yorkshire Philosophical Society.

Professor Phillips has already made this fine specimen (to which he has assigned the name of Plesiosaurus Zetlandicus) the subject of a communication to one of the Society's Monthly Meetings, in which he pointed out some remarkable characters in the conformation of the head, distinguishing it from all other known species of the genus, and contributing, therefore, to

increase the interest with which it will be regarded by Naturalists.*

Mr. Wood has enriched the Palæontology of Yorkshire by the discovery in the Mountain Limestone near Richmond, of a beautiful Encrinite, referable, perhaps, to the genus Cyathocrinus. It presents a very remarkable feature, which, it is believed, is quite unknown in the history of, at least, this particular group of Crinoidal Animals. The column or stem supporting the Richmond Encrinite gradually contracts in diameter towards the base, so that it would appear, from one or two almost entire columns in the possession of Mr. Wood, to have terminated nearly in a point. Three slabs, rich in remains of this new fossil, have recently been sent by Mr. Wood for presentation at the Annual Meeting.

Through the Rev. R. B. Cooke of Wheldrake, W. C. Maxwell, Esq. has presented two Slabs of new red-sandstone, with footmarks upon the surface, found near Carlaverock, Dumfrieshire. And the materials for studying these singular vestiges of ancient nature have been augmented by Professor Phillips's gift of a large mass covered with footprints of Labyrinthodon from the same series of strata in Cheshire.

Lieut. Anthony Cooke, R.E., has presented a large Ichthyolite from the Coal Measures at Gilmerton, referable to the genus Holoptychius, and displaying the natural outline of the mouth and parts of both jaws of this fish, the specimen in this respect being probably unique.

The Society is indebted to the late Dr. Mantell, for an interesting series of Bones of Iguanodon from the Wealden of the Isle of Wight, a contribution which derives additional interest from having been received so short a time before the death of the amiable and distinguished donor.

Some further contributions to the Tertiary Collection have been made by the British Natural-History Society; among

* Of four large specimens of Plesiosauri hitherto discovered in the lias of the Yorkshire coast, one (P. grandipennis of Owen) is at the Cambridge University Museum. Another (P. brachyspondylus of Owen) is at the Whitby Museum; a third is now at York; the fourth and most perfect of all, remains at Mulgrave Castle.

these is a very large and perfect specimen of the Great Wing Shell (Rostellaria ampla), 9 inches long by 6 broad, a much prized Hampshire Fossil.

Since the last Report the Council have authorized the purchase of some Foreign Shells, of which a Collection from Mazatlan, Central America, embracing more than 200 species, selected by Mr. Carpenter, of Warrington, formed a part. The American Shells were unaccompanied by names, but the Keeper of the Museum has been enabled to identify a considerable number of the species contained in this valuable acquisition.

A M.S. Catalogue which he has drawn out with the Genera placed in Alphabetical order, shews the whole of the Foreign Shells in the Society's possession hitherto identified with published species.

The only donation of importance in Foreign Conchology is from Mr. O. A. Moore, who has presented some South-American land Shells, including one very extraordinary Helix, sent to him from Brazil under the name of the Trumpet Snail.

To the British Collection of Shells, the rare Buccinum Humphreysianum has been presented by Mr. Meynell, and several other additions of minor importance have been made to this series.

The Ichthyological Collection has been enriched by a fine specimen of the Angel Fish (Squatina Angelus), 5 feet in length, sent anonymously from Scarborough.

Several interesting fishes, taken on the Coast, have been presented, through Mr. Meynell, by Mr. Rudd, of Redcar, and the whole of the less bulky specimens presented by Dr. Parnell and the late Mr. Hailstone have been neatly and carefully remounted by the Sub-Curator.

The British Ornithological Collection has been enriched by the purchase of a beautiful specimen of the Black Stork, shot near Market Weighton, being the first recorded specimen that has occurred in Yorkshire.

To the Foreign Ornithological Collection there have been no additions during the past year, but the Council have pleasure in again directing the attention of the Members to the state of this part of the Museum, both as to condition of specimens and

exactness of nomenclature—points essential to the credit of the Society,—on which Mr. Gould recently expressed to the Curator of the department a highly favorable opinion.

The Cabinet of British Insects has recently received a valuable augmentation from T. Meynell, Esq., Jun., who has presented to the Society his Collection of Libellulæ. This is the only contribution which has been received during the past year to this interesting department of Natural History.

To the series of Comparative Anatomy one addition only has been made, consisting of a beautiful skeleton of a mole, for which the Society is indebted to the Curator of that department.

The Library has received many additions of great value, amongst which may be mentioned particularly, a very extensive donation of books from Edward Hailstone, Esq., of Bradford, comprising 49 works relating to British and Foreign Botany. From Professor Phillips, a Copy of his own Report on the Ventilation of Mines, and an important series of the Transactions of Foreign Societies, and other works. From the Earl of Ellesmere, a Copy of his Guide to Northern Archæology. From Lord Londesborough, Halliwell's Yorkshire Anthology, and Tracts on Antiquarian subjects. From His Grace the Duke of Northumberland (by whose direction the work was undertaken and executed), Mc. Laughlan's Survey of Watling Street. From Mr. Roach Smith, the Proceedings of the Society of Antiquaries, and his Report of the Excavations at Lymne, and from Mr. Mayer, of Liverpool, a Copy of Sprott's Chronicle, with fac-simile.

The Council have also to announce the addition to the Library of the Transactions of several learned Societies.

Of the very few donations to the department of Antiquities during this year, the most interesting is a fragment of a carved grit-stone, found in the year 1811 with several other similar Roman remains, in a bed of warp nearly 3 feet below the foundations of the old bridge over the Ouse. When perfect it exhibited the figure of an eagle with a large ring about its neck, surrounded by a wreath of laurel. It was obtained by the late Benj. Brooksbank, Esq., and removed to his house at Healaugh, near Tadcaster, and by the kindness of his son,

Stamp Brooksbank, Esq., it has been presented to the Museum of the Yorkshire Philosophical Society.

The Descriptive Account of the Antiquities in the grounds of the Museum has been recently completed and published by the learned Curator (Mr. Wellbeloved), and has been welcomed not only by Members of the Society but by numerous visitors, in a manner indicating a due appreciation of its interesting and valuable details.

The Council cannot leave this subject without expressing their deep sense of the obligation the Society is under, for the labour and research bestowed upon this work; which so greatly enhances the interest and value of the Antiquarian objects in the Society's possession, and which, from the liberality of the Author in kindly placing the profit arising from the sale of the work at the disposal of the Council, promises, in a pecuniary point of view, to be a donation to the Society of much importance.

A further contribution to the Natural History and Antiquities of Yorkshire has proceeded from the pen of Professor Phillips, who has added to his well-known Geological works, an illustrated volume of descriptions, entitled "The Rivers, Mountains, and Sea Coast of Yorkshire." The objects contemplated by the author of this volume are exactly those which the Society labours to advance, and the Council report with pleasure that several communications having the same tendency, which have been read to the Monthly Meetings, are now under the consideration of a Committtee, for publication in the Transactions of the Society.

The Society has received a very valuable Collection of Plants from Messrs. Standish and Noble, during the past year, besides some minor donations from other parties.

The work of the Observatory has been continued, and some part of the plans sanctioned by the Council for increasing its utility has been performed. There is, however, as yet no registration of Wind, and some further steps are requisite to complete the desired daily information on the changes of temperature and moisture.

The following Meteorological Register for 1852, has been received from Mr. Ford, who has for many years past obliged the Society by preparing similar annual statements.

## METEOROLOGICAL REGISTER, YORK, 1852.

| Months. | Highest. | Lowest. | Mean. | Inches Rain. | Days Rain. | Average Maximum. | Average Minimum. | Mean Temp. | Highest. | Lowest. | Nights at °32 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 30·262 | 28·764 | 29·528 | 2·35 | 14 | 44·2 | 31·5 | 37·9 | 51 | 24 | 18 | S.W. |
| Feb. | 30·800 | 29.160 | 29·975 | ·74 | 7 | 44·6 | 31·9 | 38·3 | 53 | 22 | 17 | N. |
| Mar. | 30·828 | 29·258 | 30·138 | ·47 | 4 | 47·9 | 30·8 | 39·3 | 66 | 20 | 22 | N.E. |
| April | 30·498 | 29·548 | 30·081 | ·26 | 4 | 55·0 | 34·7 | 44·9 | 72 | 27 | 12 | S.E. |
| May | 30·314 | 29·354 | 29·851 | ·87 | 10 | 57·5 | 44·3 | 50·9 | 69 | 33 | — | N.E. |
| June | 30·014 | 29·214 | 29·668 | 3·46 | 20 | 62·7 | 50·1 | 56·4 | 69 | 40 | — | S.E. |
| July | 30·300 | 29·776 | 29·935 | 1·77 | 7 | 74.3 | 55·8 | 65·0 | 87$\frac{1}{10}$ | 49 | — | W. |
| Aug. | 30·402 | 29·126 | 29·670 | 2·52 | 16 | 67·7 | 53·4 | 60·5 | 77 | 47 | — | S. |
| Sept. | 30·548 | 29·120 | 29·717 | 4·30 | 14 | 60·9 | 46·8 | 53·8 | 71 | 34 | — | N.E. |
| Oct. | 30·450 | 28·810 | 29·780 | 3·80 | 15 | 51·2 | 40·7 | 45·9 | 57 | 32 | 1 | S. |
| Nov. | 30·206 | 28·858 | 29·495 | 4·21 | 24 | 48·8 | 38·5 | 43·6 | 62 | 25 | 6 | S. |
| Dec. | 30·274 | 28·588 | 29·480 | 2·43 | 21 | 48·2 | 38·5 | 43·3 | 54 | 32 | 1 | S.W. |
| | | | 29·776 | 27·18 | 156 | | | 48.3 | | | 77 | |

DIRECTION OF THE WIND.

| N. | S. | E. | W. | N.E. | N.W. | S.E. | S.W. |
|---|---|---|---|---|---|---|---|
| 25 | 83 | 17 | 35 | 70 | 18 | 65 | 52 |

The temperature of the year 1852 was nearly ·8 of degree above a mean of twenty years, being 48·3 against 47·5. Many of the months have differed widely from their mean temperature, making nevertheless but a small amount of excess for the whole year, as will be seen from the following statement.

| *Months of excess.* | | *Months of defect.* | |
|---|---|---|---|
| January .. .. | ·2·4 | March .. .. .. | ·1·2 |
| February .. .. | ·0·4 | April .. .. .. | ·0·2 |
| July .. .. .. | 4·9 | May .. .. .. | ·1·5 |
| August .. .. .. | 1·5 | June .. .. .. | 1·7 |
| November .. .. | 2·0 | September .. .. | 0·4 |
| December .. .. | 4·4 | October .. .. | 1·4 |
| Total excess | 15·6 | Total defect | 6·4 |
| | 6·4 | | |
| | 12) 9·2 | | |

·77 of a degree excess for the year.

The mean of the barometer was 29·776, being ·119 below that of 1851. The days on which rain fell were 156 against 136 of 1851. The amount of rain is correspondingly large, being 27·18, an increase of 6·72 inches on last year, or 2·91 above a mean of twenty years. Of this quantity only 8·15 fell in the first six months, whilst in the last four there fell 14·74 inches. The rain of January was ·63 above a mean. The Holmfirth tragedy speedily followed this excess. The last three months have been distinguished by devastating inundations in various parts of the country.

The range of the mercurial column has been extensive in the year, from 30·828, March 6, to 28·588, Dec. 30, making a difference of 2·24 inches. This depression in December was accompanied by a violent storm from the N. W. and S. W., which deposited salt spray on the windows at York.

By the kindness of several correspondents and from other sources, we present the following record of the rain fallen in the several months of 1852, in a series of localities stretching from east to west across the country, and touching Lancashire in the S.W., and Kendal in the N.W. We have also contrasted the amount fallen in each place during the first six months of the year with that of the last six months.

| | Scarborough. | Huggate. | Brandsby. | Wheldrake. | York. | Doncaster. | Ackworth. | Leeds. | Wakefield. | Baildon, near Bradford. | Sheffield. | Settle. | Todmorden. | Kendal. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 1·66 | 3·625 | 3·22 | 1·82 | 2·35 | 3·379 | 2·46 | 3·20 | 3·10 | 4·60 | 5·23 | 7·05 | 10·804 | 9·886 |
| Feb. | 2·53 | 1·500 | 1·14 | 1·48 | ·74 | ·415 | 1·08 | 1·00 | 1·40 | 2·51 | 5·63 | 3·98 | 6·264 | 7·907 |
| March | ·24 | ·500 | ·57 | ·44 | ·47 | ·953 | ·66 | | 2·00 | ·74 | 1·11 | ·43 | 0·664 | ·210 |
| April | 1·12 | ·125 | ·34 | ·25 | ·26 | ·277 | ·18 | ·10 | ·10 | ·28 | ·27 | ·31 | 0·320 | 1·112 |
| May | 1·42 | 1·875 | 1·95 | ·78 | ·87 | 1·091 | ·91 | ·80 | ·80 | ·73 | 1·88 | 1·39 | 3·114 | 4·052 |
| June | 3·65 | 4·000 | 3·84 | 2·77 | 3·46 | 4·124 | 3·95 | 3·50 | 5·10 | 4·55 | 5·23 | 3·92 | 6·338 | 4·984 |
| July | ·43 | 1·250 | 2·27 | 2·05 | 1·77 | 3·223 | 2·29 | 2·30 | 3·80 | 1·87 | 2·27 | 3·27 | 4·350 | 3·448 |
| Aug. | 2·97 | 3·375 | 3·33 | 2·82 | 2·52 | 2·703 | 1·84 | 1·70 | 2·00 | 2·42 | 2·40 | 3·84 | 4·926 | 7·618 |
| Sept. | 4·60 | 6·000 | 6·89 | 3·47 | 4·30 | 4·853 | 3·71 | 3·40 | 3·80 | 3·58 | 5·24 | 2·42 | 3·030 | 2·121 |
| Oct. | 4·06 | 4·375 | 4·31 | 2·98 | 3·80 | 2·564 | 3·21 | 3·70 | 2·70 | 4·33 | 3·72 | 5·28 | 6·768 | 3·668 |
| Nov. | 4·34 | 5·125 | 6·25 | 4·33 | 4·21 | 4·991 | 5·82 | 5·20 | 5·90 | 5·53 | 8·04 | 8·64 | 9·082 | 7·582 |
| Dec. | 2·65 | 2·500 | 3·53 | 2·28 | 2·43 | 2·876 | 2·64 | 3·10 | 2·80 | 3·78 | 4·85 | 7·98 | 9·728 | 12·766 |
| | 29·67 | 34·250 | 37·64 | 25·47 | 27·18 | 31·449 | 28·75 | 28·00 | 33·50 | 34·92 | 45·97 | 48·51 | 65·388 | 65·354 |
| Last VI | 19·05 | 22·625 | 26·52 | 17·93 | 19·03 | 21·210 | 19·51 | 19·40 | 21·00 | 21·51 | 26·52 | 31·43 | 37·884 | 37·203 |
| First VI | 10·62 | 11·625 | 11·06 | 7·54 | 8·15 | 10·239 | 9·24 | 8·60 | 12·50 | 13·41 | 19·45 | 17·08 | 27·504 | 28·151 |
| | 8·43 | 11·000 | 15·52 | 10·39 | 10·88 | 10·971 | 10·27 | 10·80 | 8·50 | 8·10 | 7·07 | 14·35 | 10·380 | 9·052 |

Professor Phillips, at p. 152, &c., of his recent work on the Rivers, Mountains, &c., of Yorkshire, has given much valuable information regarding this part of the Natural History of our County. We would gladly see an increased interest in these investigations marked by an increase of intelligent observers. The Yorkshire Philosophical Society forms a medium for collecting and arranging such information. An inspection of the foregoing table will rather point out the deficiencies in our knowledge of the distribution of rain than satisfy us that nothing more remains to be done. From the coast north of Scarbro', from the district of Cleveland, from the northern part of the great plain of York, we have no information.

The Statements of Accounts, which follow, will fully explain the condition of the Society's financial arrangements; and the Council have pleasure in referring to the increased receipts, as compared with 1851—at the Gates, at the Swimming Baths, and in some other items, and to the fact that, notwithstanding the admission of new members in 1852 has been considerably

less than in 1851, the total annual expenditure of the Society (ordinary and extra-ordinary) has been less than its income by £54. 4s. 1d. Nor will the satisfaction, which the Meeting must feel at this favorable result, be diminished by closer examination. The buildings are in good repair, the gardens are kept in order and undergoing improvement, and the collections in every department are continually expanding. Let us hope that in future years, the advantages which the Society now offers will be largely augmented, and that the peaceful pursuits which it encourages will become more and more valued in the large circle over which its beneficial action extends, and from which it derives name, influence and support.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1852.

**Cr.** RECEIPTS.

| 1852. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 506 | 1 | 0 |
| Admission of 7 New Members .... | 35 | 0 | 0 |
| Composition in lieu of Subscription | 25 | 0 | 0 |
| Associates ..... | 7 | 0 | 0 |
| Ladies' Subscriptions..... | 38 | 0 | 0 |
| Rents ..... | 109 | 7 | 9 |
| Money received at the Gate..... | 187 | 16 | 7 |
| Swimming Bath (deducting expenses) ..... | 79 | 10 | 11 |
| Keys of the Gates ..... | 30 | 5 | 0 |
| Sale of Guide to Antiquities ..... | 22 | 3 | 0 |
| Use of Tent ..... | 21 | 0 | 0 |
| Total Income ..... | £1061 | 4 | 3 |
| Permanent Debt: | | | |
| Yorkshire Insurance Company ..... £2000 0 0 | | | |
| Six Members at £50 each ..... 300 0 0 | | | |
| Balance overdrawn Messrs. Swann, Clough, and Co., Jan. 1853 ..... 89 2 7 | | | |
| | 2389 | 2 | 7 |
| | £3450 | 6 | 10 |

**Dr.** EXPENDITURE.

| 1852. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent ..... | 1 | 0 | 1 | | | |
| Rent to Corporation .... | 53 | 8 | 0 | | | |
| Rates and Taxes ..... | 11 | 9 | 8 | | | |
| Insurance & Water Rent | 11 | 7 | 0 | | | |
| | | | | 77 | 4 | 9 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum | 150 | 0 | 0 | | | |
| Sub-Curator ..... | 100 | 0 | 0 | | | |
| Servant ..... | 20 | 0 | 0 | | | |
| Lodge Keeper ..... | 20 | 0 | 0 | | | |
| Labourers ..... | 167 | 18 | 0 | | | |
| Clerk and Collector .... | 25 | 0 | 0 | | | |
| Attendant, Hospitium | 6 | 0 | 0 | | | |
| | | | | 488 | 18 | 0 |
| Interest on Debt: | | | | | | |
| Insurance Company .. | 63 | 2 | 1 | | | |
| Bankers ..... | 10 | 8 | 0 | | | |
| | | | | 73 | 10 | 1 |
| Museum, Gardens, &c.: | | | | | | |
| Painting and General Repairs ..... | 113 | 6 | 5 | | | |
| Purchase and preparation of Specimen .... | 31 | 0 | 4 | | | |
| Meteorological Instruments, Observatory., | 8 | 14 | 6 | | | |
| | | | | 153 | 1 | 3 |
| Library, Books and Binding ..... | | | | 30 | 16 | 3 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery ..... | 39 | 16 | 9 | | | |
| Coals and Gas ..... | 42 | 15 | 0 | | | |
| Postage, Carriage, and Sundries ..... | 41 | 10 | 0 | | | |
| | | | | 124 | 1 | 9 |
| Extraordinary Expenses: | | | | | | |
| House for Victoria Regia Lily.... | | | | 16 | 1 | 4 |
| Publication of Guide to the Antiquities ..... | | | | 43 | 6 | 9 |
| Total Expenditure .... | | | | 1007 | 0 | 2 |
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company..... | 1000 | 0 | 0 | | | |
| Six Members at £50 each ..... | 300 | 0 | 0 | | | |
| Balance overdrawn Messrs. Swann, Clough, and Co., Dec. 31st, 1852 .... | 1143 | 6 | 8 | | | |
| Total Debt of the Society Dec. 31st, 1852..... | | | | 2443 | 6 | 8 |
| | | | | £3450 | 6 | 10 |

Audited, Jan. 24th, 1853.

J. P. PRITCHETT,
HENRY ROBINSON.

W. GRAY, TREASURER.

## MEMBERS

ELECTED SINCE FEB., 1852.

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1852.

Thomas Cooper, *York.*
C. W. Strickland, *Malton.*
William Anderson, *York.*
Thomas Camidge, *York.*
John Cressey, *York.*

1853.

John Pearson, Jun., *York.*
Harry Porter, *York.*
Admiral Robt. Mitford, *Hunmanby.*
Rev. Thomas Baily, *York.*

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 1ST, 1853.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the Yorkshire Philosophical Society beg to express to His Grace the Duke of Northumberland, the sense which they entertain of the valued service he has rendered to Antiquarian Science, by directing the survey of Watling Street, from Catterick Bridge to the extremity of Northumberland, and to offer their thanks for the presentation of a copy of the finished Work.

3. That the thanks of the Society be presented to Mr. Wellbeloved, for the care and diligence which he has manifested as Curator of Antiquities for many years, and more especially for his Catalogue of British, Saxon, and English Gold and Silver Coins, and of Stycas found in York and near Bolton Percy.

4. That the thanks of the Society be given to the Vice-Presidents, and Members of Council retiring from Office, and to the Secretaries and Curators, for their valuable services.

5. That the Council be empowered to authorize the holding one or more Horticultural Meetings, in the Society's grounds during the present year.

6. That the Council be empowered, on certain days to be selected by them during the present year, to permit free admission to all persons to the Museum and Gardens, the mode of admission to be regulated by the Council.

7. That the Council be empowered to admit Strangers during the present year at the usual rates of payment.

8. That the Council be authorized to admit to the Museum and Gardens, as temporary subscribers, any occasional Visitors to York not residing in the County, at the rate of one pound for four Months for themselves and families, but in no case shall such privilege be granted for a longer period than twelve Months.

## COMMUNICATIONS

TO THE

## MONTHLY MEETINGS

1852.

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JANUARY.—WM. PROCTER, ESQ.—On the Results attained by the Yorkshire Antiquarian Club in the Excavation of Barrows.

MARCH.—JOHN PHILLIPS, ESQ.—On a rare Marine Animal (Priapulus caudatus) taken at Scarboro'.

APRIL.—WM. GRAY, ESQ.—On Sarp Fors, a Waterfall in Norway.

JUNE.—JOHN PHILLIPS, ESQ.—On a large Plesiosaurus (P. Zetlandi) presented to the Museum by Lord Zetland.

OCTOBER.—REV. C. WELLBELOVED.—On a Compotus of the Abbey of St. Mary, York.

NOVEMBER.—I. L. HALL, ESQ.—On the Extent of the Roman Military Station, Eburacum.

HENRY BELCHER, ESQ.—On the Discovery of an Antler of the Red Deer (Cervus elaphus), near Whitby.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Society, British Natural-History ..... | Additional Fossils selected from the Specimens obtained by the Collectors of the Society in the Hampshire Eocene Beds, including various land and fresh-water species from the Isle of Wight, and two entire examples from Barton Cliff, of the great Wing-shell (Rostellaria ampla), &c., &c. |
| Carroll, J. W., Esq. ..... | Oolite Fossils from Westow and Malton. |
| Cooke, Anthony, Esq., R.E. | Remains of Holoptychius from the Coal of Gilmerton, near Edinburgh. (See page 8.) |
| Johnstone, Rev. Charles ... | Fine Piece of Fossil Wood from Boltby, and Ironstone, from Northampton. |
| Kilby, the Rev. Wm., *(Wakefield)* ..... | Fine Specimen of Plagiostoma gigantea. |
| Mantell, Dr. ..... | Bones of the Iguanodon from the Wealden of the Isle of Weight. (See page 8.) |
| Maxwell, W. C., Esq. ..... | Two slabs of New Red Sandstone, with footmarks upon its surface. (See page 8.) |
| Phillips, John, Esq. ..... | Slab of Red Sandstone, with foot marks upon its surface. |
| Wood, Edw., Esq..... | Specimens of an undescribed Encrinite on slabs of Mountain Limestone, from the neighbourhood of Richmond. (See page 8.) |
| Zetland, Earl of ..... | Plesiosaurus (P. Zetlandi) from the Lias of Lofthouse. (See page 7.) |

## MINERALOGY.

| | |
|---|---|
| Chambers, C., Esq. ..... | Iserine from the Banks of the Dee. |

## ZOOLOGY.

| | |
|---|---|
| Society, British Natural-History ..... | British Marine Shells, including Pleurobranchus plumula from Exmouth, Thracia convexa and Natica solida, dredged on the Irish Coast. |
| Allis, Thos., Esq. ..... | A Skeleton of the Common Mole. |
| Dochon, Mr., *(Whitby)* ... | Carefully preserved Specimens of Star-fish, (Ophiocoma rosula). |
| Ferguson, Thos., Esq., *(Redcar)* ..... | Two Specimens of the Great Pipe Fish (Syngnathus acus,) taken at Redcar. |
| Gould, John, Esq..... | Specimen of Myochama, a rare Australian genus of Shells. |
| Leckenby, John, Esq. *(Scarbro')* ..... ..... .. | Priapulus caudatus, taken alive on the Yorkshire Coast. |
| Meynell, Thos., Jun., Esq... | Bulwer's Petrel, Gorgonia verrucosa, various Shells from Madeira. |
| | A British specimen of Buccinum Humphresianum, and the whole of his very choice Collection of British Libellulæ. |
| Moore, O. A., Esq. ..... | A rare Species of Helix, from South America. |
| Rudd, F. S., Esq. ..... | Specimens of the Hebridal Smelt, Miller's Top-knot, Anglesea-Morris, Argentine and fifteen-spined Stickle-back, from Redcar. |
| Vernon, Lady ..... ..... | Specimen of Ornithorhynchus. |

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## ANTIQUITIES.

| | |
|---|---|
| Airey, M., Esq..... | Impression of the Seal of the Merchant's Company, York, found at Temple Sowerby, Penrith. |
| Browne, Mr. J. ..... | A Stone from the Priory of Hartlepool, curiously marked by the mason. |
| Dawney, Hon. Payan ..... | Coin of William and Mary. |
| Graham, Mr. D. ..... | A Danish Coin. |
| Plows, Mr..... | Portion of Portcullis of Micklegate Bar. |
| | An Ancient Font, found in excavating between Fossgate and Hungate at a place designated the "Holy Priest's Well." |

| | |
|---|---|
| Procter, Wm., Esq. ..... | A Bone Ornament and Urns taken from a Barrow at Hutton Cranswick, near Driffield. |
| Wellbeloved, Rev. C. ..... | A Seal of Kimmeridge Clay or Jet, recently found in the first Water Lane, near the Staith. SIGIL RICARDI DE EBARCVM. |
| | Several Roman Coins found in York. |

## GARDEN.

| | |
|---|---|
| Shipton, Thos., Esq. ..... | A Bag of Refuse—Saltpetre. |
| Simpson, Thos., Esq., M. D. | A Collection of 70 Stove Plants. |
| Standish and Noble, Messrs. *(Bagshot)* .. ..... | A valuable Series of new and rare Plants. |
| Wood, John, Esq. *(London)* | Fifty Papers of Seeds. |

## BOTANY.

| | |
|---|---|
| Hailstone, Edw., Esq., *(Horton Hall, Bradford)* ... | A great number of Botanical specimens. |
| Meynell, Thos., Jun., Esq. | Cone of Banksia. |

## MISCELLANEOUS.

| | |
|---|---|
| Layton, Mr. ..... | A Bust. |
| Turner, Jno., Esq..... | A curious Carved War Club. |
| Wade, Mr. ..... | A curious antique Box which used to contain the Charter, and Writings of the York Merchant Tailors' Company. |

## LIBRARY.

| | |
|---|---|
| Association, British, for the Advancement of Science | Report for 1851. |
| Association, Health of Towns of ..... | Report of the Committee on the Smoke Nuisance. |
| Society, Royal, of Edinburgh | Transactions of the Society, part 3, vol. 20. |

| | |
|---|---|
| | Proceedings of the Society, Session 1851 and 1852. |
| | Astronomical Observations, vol. 10, 1844, 5, 6, 7. |
| Society, Royal, Cornwall Polytechnic ..... | Journal for 1852. |
| Society, Chemical ..... | Journal for 1852. |
| Society, Literary and Philosophical, of Manchester... | Memoirs of, second series, vol. 9. |
| Society of Arts ..... | Lectures delivered before the Society relating to the Great Exhibition. |
| Society, Leicester Literary and Philosophical ..... | Report, 1852. |
| Society, Historic, of Lancashire and Cheshire..... | Proceedings and Papers for 1852. |
| Society, Geological, of London | Quarterly Journal for 1852. |
| Government, British, by direction of ..... | Magnetic and Meteorological Observations made at Hobarton, Van Diemens Island, vol. 11. |
| Northumberland, Duke of... | Memoir by Henry Maclauchlan, during a Survey of the Watling Street from the Tees to the Scottish Border, in 1850—51, accompanied by a Map. |
| Clark, Josh., Esq., *(Cincinnati)* ..... | Cincinnati in 1821, by Chas. Cist. |
| | Catalogue of the Unios, Alasmodontes and Anodontas of the Ohio River, and its Northern Tributaries, adopted by the Western Academy of Natural Sciences of Cincinnati, 2 copies. |
| Ellesmere, Earl of..... | Guide to Northern Archæology, by the Royal Society of Northern Antiquaries of Copenhagen; edited for the use of English Readers by the Right Hon. the Earl of Ellesmere. |
| Hailstone, Edw., Esq. ..... | 114 volumes of valuable Books, principally Botanical, including a complete set of the Linnean Transactions, up to 1851. |
| | Menthæ Britannicæ, by Wm. Sole. |
| Kenrick, Rev. John ..... | Sharpe's Egypt, under the Romans. |
| Londesborough, Lord ..... | An Account of the opening of some |

| | |
|---|---|
| | Tumuli in the East Riding of Yorkshire. |
| | Letter from Thomas Wright, Esq., to Sir H. Ellis, on a leaden Tablet or book Cover, with an Anglo-Saxon Inscription. |
| Mantell, G. A., Esq. *(The Author)* | Notice of the discovery of a Specimen of Notornis, in the Middle Island of New Zealand. |
| Mayer, Joseph, Esq. ..... | Thomas Sprott's Chronicle of Profane and Sacred History. |
| Meynell, Thomas, Jun., Esq. | Tour into Derbyshire and Yorkshire. |
| | Rickman's Gothic Architecture. |
| | Playfair's Outlines of Natural Philosophy. |
| | Dillwyn's Catalogue of Recent Shells. |
| Chevallier, Professor, *(The Author)* | Ephemeris of the Planet Hygeia, by Mr. Chevallier of the University of Durham. |
| Phillips, John, Esq. ..... | A series of Publications of Foreign scientific Societies, consisting of 51 parts or vols. |
| Playfair, Prof. Lyon *(The Author)* | Industrial Instruction on the Continent, being the Introductory Lecture for the Session 1852 and 1853, delivered at the Museum of Practical Geology. |
| Smith, C. Roach, Esq. ..... | Proceedings of the Society of Antiquaries. |
| | Report on Excavations made on the site of the Roman Castrum, at Lymne, in Kent, in 1850. By C. R. Smith, F. S. A. |
| Sorby, Hy. Clifton, Esq. *(The Author)* | On the occurrence of Non-gymnospermous Exogenous Wood, in the Lias, near Bristol. |
| Wood, Jno., Esq. ..... | Journal of the Horticultural Society of London, 1852. |

## SERIAL WORKS SUBSCRIBED FOR.

Churton's Monastic Ruins of Yorkshire, fol., (6 parts published).

Bell's British Crustacea, (8 parts published).

Birds of Asia, folio, by John Gould, Esq., (4 parts published).

Doubleday and Hewitson's Genera of Diurnal Lepidoptera, fol., col. plates, 54 parts published, completing the work.

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Forbes and Hanley's British Mollusca, 8vo. col. plates, (49 parts published).

Illustrated Proceedings of the Zoological Society, for 1848 and 9.

Publications of the Ray Society, (1852): A Monograph on the subclass Cirripedia, with figures of all the Species, by Charles Darwin, F. R. S., &c. Bibliographia Zoologiæ et Geologiæ, by Agassiz and Strickland, vol. 3.

Publications of the Palæontographical Society, for 1852. Fossil Corals of Great Britain, part 3. Fossil Brachiopoda do., Tertiary and Cretaceous Species. Fossil Shells of the London Clay, part 2. Fossil Radiaria of the Crag and London Clay Formations.

Reliquiæ Antiquæ Eboracenses, by Wm. Bowman, (3 parts published).

Scientific Memoirs, edited by Richard Taylor, F. S. A., (20 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (13 parts published).

Waterhouse's Natural History of Mammalia, 8vo., col. plates, (2 vols. published).

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

H. SOTHERAN, BOOKSELLER, CONEYSTREET, YORK.

Presented

Yorkshire Philosophical Society.

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# ANNUAL REPORT

FOR

MDCCCLIII.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

## MDCCCLIII.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1854.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1854.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

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CHARLES WILLIAM, EARL FITZWILLIAM.
THOMAS PHILIP, EARL DE GREY.
HON. AND VERY REV. HENRY HOWARD, D.D.
SIR WILLIAM LAWSON, BART., F.S.A.
FRANCIS CHOLMELEY, ESQ., F.S.A.
ROBERT DENISON, ESQ.
REV. WILLIAM VERNON HARCOURT, F.R.S.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

---

## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F.R.S.

EARL OF CARLISLE, F.R.S.

EARL FITZWILLIAM, F.R.S.

LORD FEVERSHAM.

# OFFICERS OF THE SOCIETY, 1854.

## PRESIDENT:

EARL FITZWILLIAM, F.R.S.

## VICE PRESIDENTS:

LORD LONDESBOROUGH, F.R.S.
REV. C. WELLBELOVED.
JOHN PHILLIPS, F.R.S.
REV. J. KENRICK.
HARRY STEPHEN THOMPSON.
THOMAS MEYNELL, JUN., F.L.S.
JOHN FORD.

## TREASURER:

WILLIAM GRAY, F.G.S.

## COUNCIL:

*Elected* 1852....REV. W. V. HARCOURT, F.R.S.
REV. R. B. COOKE, F.G.S.
ROBT. DAVIES, F.S.A.
THOMAS ALLIS.
*Elected* 1853....FRANCIS CHOLMELEY.
WM. FREDERICK RAWDON.
REV. WM. HEY.
O. A. MOORE.
*Elected* 1854....THOMAS BARSTOW.
WM. WHYTEHEAD.
GEO. DODSWORTH.
WM. PROCTER.

## SECRETARY:

THOS. H. TRAVIS.

## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | Professor Phillips, F.R.S. |
| Comparative Anatomy . . | Thomas Allis. |
| Foreign Ornithology . . | Thos. Meynell, Jun., F.L.S. |
| British Ornithology . . . | W. Rudston Read, F.L.S. |
| Insecta and Crustacea . . | Rev. Wm. Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology, *under the care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F.R.S.<br>Professor Phillips, F.R.S.<br>Wm. Gray, F.G.S.<br>Wm. L. Newman, F.R.Ast.S.<br>John Ford.<br>Rev. Wm. Hey. |

## KEEPER OF THE MUSEUM:

Edward Charlesworth, F.G.S.

## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 7TH, 1854.

---

ALTHOUGH on former anniversaries the Council have congratulated the Society on the retrospect of the preceding year, they have seldom, if ever, been enabled to render a more satisfactory account of its acquisitions than they have now the honour of offering to the Annual Meeting.

In the Geological department, the Plesiosaurus, extracted from the Lias Cliffs, south of Whitby, by Mr. Brown Marshall, and liberally presented by Col. Cholmley, stands first in importance on the list of donations. This fine specimen includes the dentary portion of the lower jaw; a chain of 88 vertebræ, extending nearly 18 feet in length; the pelvic, with other bones of the trunk more or less crushed though but little displaced; the humeri and femora displaced; and two paddles restored, with bones which may perhaps be admitted to belong to the extremities of this Plesiosaurus; although restorations of this kind are in general to be discountenanced, as being seldom satisfactory to the comparative anatomist.

By a curious and happy coincidence the two Plesiosauri, now in the Society's possession, represent extremely opposite types of form, in the relation which the developement of the head and neck bears to the rest of the skeleton. In P. Zetlandicus (Phillips) the head is the most bulky and the neck probably the shortest of any known species; while in the Plesiosaurus

now under consideration, it would appear that the head, judging from what remains of the lower jaw, is reduced to the minimum developement, and that the neck (most of the vertebræ of which have been removed and replaced) exhibits the maximum of elongation.

The vertebral column displays many of the spinous processes in situ, several of them being in an unusual degree of perfection, and it is otherwise remarkable for exhibiting certain structural peculiarities, which may probably prove this Plesiosaurus to be Plesiosaurus Platyspondylus, a species discovered by Professor Owen, since his report to the British Association in 1839.

Among other additions to the Geological Collection, may be noticed a very singular *non-descript* fossil body, from the lias of Whitby, of which the nature has not yet been determined. To Mr. Bunting, of Mansfield, Nottinghamshire, the Society is indebted for this specimen.

Several valuable fossils have been presented by the Committee of the Yorkshire Naturalists' Club. Of these, the most remarkable is a large bivalve shell, from the Chalk, near Flambro', probably of the genus Inoceramus, but distinguished from any known species by very peculiar and strongly marked characters. Some important additions have likewise been made to the tertiary collection, by the British Natural History Society; and Mr. Clark, of Cincinnati, has contributed another series of choice Silurian fossils from America.

In other departments of the Museum, the following are among the most important of the additions.

To Mr. Clark, whose name has already occurred in this report as a liberal contributor, the Society are also indebted for some specimens of North American freshwater shells, of great interest, thus enriching our series of this beautiful group of Mollusca to the extent of nearly one hundred species.

The same gentleman has also kindly undertaken to aid the Keeper of the Museum, in the revision of the arrangement of this portion of our Foreign collection, and is now preparing a Catalogue, with notes, upon all the species of American shells with which, from time to time, he has enriched the Society's Museum.

To the British Natural History Society we are also indebted for the following valuable addition to our collection of British Testaceous Molluscs, now rapidly approaching completion :

Natica delicoides.
Fusus Norvegicus.
„ Turtoni.

Of these, the first is new to the collection, while the other two are more perfect than our previous specimens; and all three having been obtained on the Yorkshire Coast, namely, from Staithes, they have the additional value of belonging to our local Fauna.

Frederick Bell, Esq., of Thirsk, has kindly presented to the Society, a specimen of the Great Auk, in excellent preservation. From its extreme rarity, the specimen thus obtained is a very valuable addition to the Rudston Collection of British Birds.

To the series of Comparative Anatomy no additions have been made, but the Council are glad to be able to hold out a hope, that the Curator of that department (Mr. Allis) will at an early period complete a Catalogue of the specimens now under his charge.

The Library has received several additions of interest and value, amongst which the Council will only notice a few.

A Catalogue of Mediæval rings, &c., in the possession of Lord Londesborough, drawn up by T. Crofton Croker, Esq., presented by Lord Londesborough.

The first and second numbers of Gould's Humming Birds, by Mr. Allis. The subsequent numbers of this beautiful and instructive work have been purchased by the Society.

Walker's Astronomy and Geology, and also Walker's Contributions to Astronomy, &c., from the Board of Admiralty.

London Tradesmen's tokens, from the London Guildhall Library Committee.

Diagrams for Geology of Plants, from the British Association; Wylie's Fairford Graves, from the Author; and Roman Roads &c., between Tees and Swale, from the Archæological Institute.

The Council have also to announce the addition to the Library of the Transactions and Proceedings of several learned Societies.

During the past year some very interesting papers have been read at the Monthly Meetings of the Society. The Council are glad to state, that a number of "The Transactions of the Yorkshire Philosophical Society," will very shortly be published.

In the department of Antiquities, it is a subject of great satisfaction, that the excavations which have been carried on, during the past year, in various parts of the city and suburbs of York, have brought to light many interesting relics of Roman times, several of which have happily found a place in the Museum of the Society. The most important of these is the beautiful tessellated pavement, discovered in Toft Green; which, having been presented to the Society by the Corporation, was carefully removed, and has been skilfully and successfully transferred, under the direction of a Committee, to the lower room of the Hospitium. Another pavement, differing in its design, yet not less beautiful though unfortunately less perfect, together with a large portion of the border of a third, discovered at the same time, in the immediate neighbourhood of the first, have also been removed and deposited in the upper room of the Hospitium, ready to be reconstructed whenever a proper place can be found for that purpose. Beneath the first pavement, a small brass coin was found, inscribed on the obverse DIVO CLAVDIO (Gothico), and on the reverse CONSECRATIO, clearly shewing that the work could not have been executed earlier than the latter part of the third century of the Christian era.

The foundations of a Roman building, composed of large stones of grit, one of which is placed in the Museum, were lately discovered in Micklegate, near St. Martin's Church; determining, as the Curator of Antiquities thinks, the site of the temple of Serapis, re-built, as a tablet of the same material in possession of the Society records, by the Legate of the sixth Legion Claudius Hieronymianus.

The Society is indebted to Mr. Waddington for a deposit of several interesting Roman remains, obtained from recent or former excavations on the Mount. Among them is the Sarcophagus on which is inscribed, in beautifully formed letters, the memorial of Theodorianus by his mother Theodora. The Museum of the Society now contains all the existing inscribed

Sarcophagi known to have been found among Roman remains in York.

The Council, on some former occasions, have had to refer to Floricultural and Horticultural Exhibitions, held in the Museum Gardens during the preceding year. To these the Council still look back with pleasure; but it is with peculiar satisfaction they have now to notice, that during the meeting of the Yorkshire Agricultural Society in York, in August last, an Exhibition of an entirely novel kind, was presented to the Members and the Public, by the Yorkshire Philosophical Society. It was described by the Council, in one of the programmes, to be "An Exhibition of Plants, remarkable for variety, beauty, and utility in the Arts, comprising living plants and preparations of the parts most curious in structure, most instructive in physiology, or most valuable in food, medicine, and the Arts."

To enable them to effect an object of such importance, the Council sought from every quarter likely to afford it assistance and co-operation; and from the Royal Gardens, Kew; the Royal Botanic Society's Garden, Regent's Park; the Royal Society's Garden, Edinbro'; the Honourable the East India Company; the Apothecary's Garden, Chelsea; His Grace the Duke of Northumberland; Dr. Lindley; Professor Balfour; Professor Royle; and numerous other parties, the Council received the most friendly and valuable assistance, for which the Society is under lasting obligation.

The result fully justified the most sanguine anticipations of the Council, as to the success of the Exhibition; and the Council point with pleasure to the Appendix to this Report, containing a detailed account of the specimens exhibited, and an accurate list of the numerous friends who kindly rendered their valuable aid on this occasion.

Observations on the thermometer and barometer have been kept up through the year, and the results have been exhibited in the vestibule of the Museum. Observations have been kept up on the transit instrument, which, with the clocks, is in a satisfactory state.

The following Meteorological Registrar has been received from Mr. Ford, to whom the Society has been indebted on many former occasions for similar annual statements.

## METEOROLOGICAL REGISTER, YORK, 1853.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Nights at or below 32° | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days | Average Maximum. | Average Minimum. | Mean Temp. | Highest. | Lowest. | | |
| Jan. | 30·282 | 29·056 | 29·547 | 1·94 | 22 | 43·8 | 34·0 | 38·9 | 51·5 | 28·5 | 12 | S. |
| Feb. | 30·392 | 28·888 | 29·641 | 2·51 | 24 | 36·8 | 26·0 | 31·4 | 43·5 | 12·0 | 23 | N. W. |
| Mar. | 30·276 | 29·440 | 29·850 | 1·38 | 14 | 42·4 | 29·4 | 35·9 | 50·5 | 22·0 | 23 | N. |
| April | 30·346 | 29·026 | 29·729 | 1·46 | 13 | 55·7 | 38·1 | 46·9 | 62 | 28 | 6 | N. |
| May | 30·380 | 29·594 | 29·902 | ·77 | 5 | 58·7 | 41·1 | 49·9 | 72 | 31 | 1 | E. |
| June | 30·266 | 29·500 | 29·772 | 2·48 | 13 | 65·8 | 51·0 | 58·4 | 72·5 | 43 | — | S. |
| July | 30·210 | 29·014 | 29·742 | 2·51 | 16 | 65·9 | 52·2 | 59·0 | 73 | 45 | — | W. |
| Aug. | 30·420 | 29·086 | 29·851 | 1·23 | 10 | 65·0 | 50·5 | 57·7 | 71 | 41 | — | V. |
| Sept. | 30·512 | 28·768 | 29·871 | 2·20 | 12 | 59·3 | 47·0 | 53·1 | 65 | 37 | — | N. E. |
| Oct. | 30·082 | 29·114 | 29·581 | 3·03 | 20 | 53·8 | 43·2 | 48·5 | 61 | 31 | 2 | E. |
| Nov. | 30·516 | 29·693 | 29·947 | 2·05 | 11 | 43·2 | 33·5 | 38·3 | 54 | 22 | 14 | V. |
| Dec. | 30·523 | 29·422 | 29·919 | ·77 | 14 | 37·0 | 29·8 | 33·4 | 50 | 15 | 20 | N. |
| | | | 29.778 | 22·33 | 174 | | | 45·95 | | | 101 | |

### DIRECTION OF THE WIND.

| N. | S. | E. | W. | N.E. | N.W. | S.E. | S.W. |
|---|---|---|---|---|---|---|---|
| 41 | 51 | 30 | 33 | 63 | 58 | 54 | 35 |

The year 1853 has been the coldest experienced at York for more than twenty years, with the exception of 1838, which was about one-tenth of a degree colder. The temperature of 1838 was 45·83, that of 1853 45·95.

The following table exhibits the months of excess and defect respectively.

| *Excess.* | | *Defect.* | |
|---|---|---|---|
| January .. .. .. | 3·4 | February .. .. .. | 6·5 |
| April .. .. .. .. | 1·8 | March .. .. .. | 4·6 |
| June .. .. .. .. | 0·3 | May .. .. .. .. | 2·5 |
| October .. .. .. | 1·2 | July .. .. .. .. | 1·1 |
| | | August .. .. .. | 1·3 |
| | 6·7 | September .. .. .. | 1·1 |
| | | November .. .. .. | 3·3 |
| | | December .. .. .. | 5·5 |
| | | | 25·9 |
| | | | 6·7 |
| | | | 12)19·2 |
| | | Defect for the whole year .. | 1·6 |

The rain of 1853 was 22·33 being 1·94 inches below a mean of twenty years, and 4·85 below that of 1852, and yet the days on which rain fell were 174 in 1853, against 156 of 1852. A snow-storm commenced in the evening of the 10th of February, and it was not till the 28th of March that the white robe of winter was withdrawn; the average minimum temperature during the whole of that period was below the freezing point. Thunder and lightning were of rare occurrence throughout the year. A single flash and a long heavy peal burst over York, amidst intense darkness, on the afternoon of March 15.

The Gentiana verna, a beautiful native of Teesdale, of remarkably regular habits, was in full blow on the 17th of May, fully two weeks later than its mean time in the latitude of York.

One thunder storm is noted June 6th, one July 22nd. The first two weeks of August, so uniformly marked by electric explosions at York, were entirely free this year. Lightning was seen on the evening of September 1st, and a magnificent auroral arch spanned the heavens, on the evening of the 2nd.

By the kindness of correspondents and from other sources, we have obtained accounts of the fall of rain from the following places:

| | Huggate. | Middleton. | Brandsby. | York. | Ackworth. | Leeds. | Wakefield. | Bradford. | Bedale. | Settle. | Todmorden. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 3·00 | 2·50 | 2·92 | 1·94 | 2·03 | 3·00 | 2·40 | 4·84 | | 4·78 | 7·69 |
| Feb. | 2·02 | 1·82 | 4·09 | 2·51 | 1·28 | 0·40 | 1·20 | 1·61 | | 1·34 | 1·80 |
| Mar. | 1·38 | 1·75 | 1·58 | 1·38 | 1·70 | 0·90 | 2·00 | 1·84 | | 2·54 | 1·67 |
| April | 1·50 | 1·18 | 1·90 | 1·46 | 1·25 | | 1·20 | 2·92 | | 1·09 | 3·40 |
| May | 1·75 | 1·47 | 0·76 | 0·77 | 3·09 | | 2·40 | 1·03 | | 0·24 | 0·77 |
| June | 3·00 | 2·89 | 2·90 | 2·48 | 2·77 | | 3·50 | 3·83 | | 4·47 | 4·24 |
| July | 2·12 | 3·02 | 3·19 | 2·51 | 2·36 | | 2·30 | 2·24 | 2·56 | 3·73 | 5·19 |
| Aug. | 1·25 | 1·82 | 2·01 | 1·23 | 1·36 | | 1·80 | 2·53 | 1·16 | 2·57 | 2·95 |
| Sept. | 1·50 | 1·53 | 2·84 | 2·20 | 2·07 | | 2·80 | 3·84 | 3·18 | 4·05 | 4·85 |
| Oct. | 3·13 | 3·26 | 3·66 | 3·03 | 3·09 | 3·20 | 3·40 | 4·59 | 3·10 | 3·54 | 6·59 |
| Nov. | 2·37 | 2·04 | 2·57 | 2·05 | 1·78 | 2·20 | 2·00 | 2·45 | 1·35 | 2·74 | 5·82 |
| Dec. | 2·50 | 1·14 | 1·16 | ·77 | 1·02 | 0·50 | 0·80 | 1·28 | 1·29 | 0·60 | 0·89 |
| Total | 25·52 | 24·42 | 29·58 | 22·33 | 23·80 | | 25·80 | 33·00 | | 31·69 | 45·86 |

The appointment of Professor Phillips to the Deputy-Readership of Geology, in the University of Oxford, (which requires his presence in Oxford for six months in each future year,) has obliged him to resign the office of joint secretary of the Society, which the Council do not propose to fill up, Mr. Travis having kindly undertaken to perform, for the present, the duties of Secretary alone.

The Council have great pleasure in stating that they have obtained Professor Phillips' sanction to the proposal of his name as one of your Vice-Presidents, and they feel assured, that in this capacity he will still afford the same valuable assistance on all occasions as heretofore, and that his absence from York, for a part of each year, will in nowise diminish his interest in every thing that affects the credit and welfare of the Yorkshire Philosophical Society.

The ordinary income of the Society has exceeded its ordinary expenditure by £102 12s. 7d. The extraordinary net receipts (from the Exhibition) were £153 6s. 10d.; and the extraordinary

expenditure of the year will be found to have been £110 13s. 9d. The Swimming Bath receipts have not this year equalled their usual amount; but with this exception the receipts at the gates, from new members, and from almost every other source of income, are greater than in 1852. Thus the total income exceeds the total expenditure of the year by £145 5s. 8d., which has enabled the Society to pay off a balance of £89 2s. 7d., due to their Bankers on the 1st January, 1853, and has left a sum of £56 3s. 1d., to the Society's credit on the 1st January, 1854.

During the past year the Council have to lament the death of Richard John Thompson, Esq., of Kirby Hall, one of the Trustees of the Society, in whom the Society have lost a liberal friend and patron; Mr. Thompson kindly cancelling the debt of £50 due to him from the Society.

After this review, whether the Council point to the rare acquisitions of the Society, in the Geological and Antiquarian departments, or to the instruction and gratification afforded to thousands during the Exhibition in August last, they trust they may fairly derive from the past year the strongest assurance that the peculiar objects of the Institution are becoming each year more and more appreciated, and that an increasing sympathy in those objects, thus awakened, may lead to the further prosperity of the Society, and extend its sphere of usefulness.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1853.

**Cr.** RECEIPTS.

| 1853. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 524 | 1 | 0 |
| Admission of 12 New Members .... | 60 | 0 | 0 |
| Composition in lieu of Subscription | 25 | 0 | 0 |
| Associates ..... | 7 | 0 | 0 |
| Ladies' Subscriptions ..... | 53 | 0 | 0 |
| Rents ..... | 113 | 18 | 8 |
| Money received at the Gate..... | 200 | 5 | 6 |
| Swimming Bath (deducting expenses) ..... | 48 | 12 | 4 |
| Keys of the Gates ..... | 36 | 15 | 0 |
| Sale of Guide to Antiquities ..... | 21 | 7 | 6 |
| Temporary Subscribers..... | 3 | 0 | 0 |
| Donation from W. E. ..... | 5 | 0 | 0 |
| „ Thomas Allis, Esq., for purchase of Gould's Humming Birds ..... | 6 | 6 | 0 |
| Use of Tent ..... | 7 | 0 | 0 |
| Exhibition—Nett Proceeds ..... | 153 | 6 | 10 |
| Total Income..... | £1264 | 12 | 10 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company ..... | £2000 | 0 | 0 | | | |
| Five Members at £50 each ..... | 250 | 0 | 0 | | | |
| | 2250 | 0 | 0 | | | |
| Balance in hands of the Treasurer .... | 56 | 3 | 1 | | | |
| Total Debt of the Society, Jan., 1854 .. | | | | 2193 | 16 | 11 |
| Surplus of Income, 1853 ..... | 145 | 5 | 8 | | | |
| Debt due R. J. Thompson, Esq., cancelled by him ..... | 50 | 0 | 0 | | | |
| | | | | 195 | 5 | 8 |
| | | | | £2389 | 2 | 7 |

6th Feb., 1854, Audited by us,
ROBT. DAVIES,
HENRY ROBINSON.

EXPENDITURE. **Dr.**

| 1853. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent ..... | 1 | 0 | 0 | | | |
| Rent to Corporation .... | 53 | 8 | 0 | | | |
| Rates and Taxes ..... | 5 | 14 | 2 | | | |
| Insurance and Water Rent | 11 | 7 | 0 | | | |
| | | | | 71 | 9 | 2 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum | 150 | 0 | 0 | | | |
| Sub-Curator ..... | 100 | 0 | 0 | | | |
| Servant ..... | 20 | 0 | 0 | | | |
| Lodge Keeper ..... | 20 | 0 | 0 | | | |
| Labourers ..... | 160 | 15 | 0 | | | |
| Clerk and Collector .. | 25 | 0 | 0 | | | |
| Attendant, Hospitium | 6 | 0 | 0 | | | |
| | | | | 481 | 15 | 0 |
| Interest on Debt: | | | | | | |
| Insurance Company ..... | | | | 77 | 13 | 4 |
| Museum, Gardens, &c.: | | | | | | |
| General Repairs ..... | 135 | 7 | 2 | | | |
| Purchase and preparation of Specimens .. | 48 | 0 | 2 | | | |
| | | | | 183 | 7 | 4 |
| Library, Books and Binding ..... | | | | 49 | 13 | 8 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery ..... | 31 | 4 | 6 | | | |
| Coals and Gas ..... | 52 | 4 | 3 | | | |
| Postage, Carriage, and Sundries ..... | 61 | 6 | 2 | | | |
| | | | | 144 | 14 | 11 |
| Extraordinary Expenses: | | | | | | |
| Weatherley, for removing Pavement ..... | 70 | 3 | 5 | | | |
| Balance against the Society on Sale of Steam Engine ..... | 40 | 10 | 4 | | | |
| | | | | 110 | 13 | 9 |
| Total Expenditure ..... | | | | 1119 | 7 | 2 |
| Surplus of annual Income ..... | | | | 145 | 5 | 8 |
| Total Income ..... | | | | 1264 | 12 | 10 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company ..... | 2000 | 0 | 0 | | | |
| Due to Six Members £50 each ..... | 300 | 0 | 0 | | | |
| Overdrawn Messrs. Swann and Co. .... | 89 | 2 | 7 | | | |
| Total Debt of Society, 1st Jan., 1853 ..... | | | | 2389 | 2 | 7 |
| | | | | £2389 | 2 | 7 |

WILLIAM GRAY, TREASURER.

## MEMBERS

ELECTED SINCE FEB., 1853.

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### 1853.

Col. Tower, *York.*
Andrew Montagu, *Melton Park.*
Thomas Graham, *York.*
Michael Varvill, *York.*
James Scawin Tonge, *York.*
J. G. Smyth, M.P., *Heath Hall.*
Major John Norman, *York.*
Richard Holden, *York.*
Thomas Phillips, *York.*

### 1854.

Michael Charlton, *York.*

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 7TH, 1854.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the thanks of the Meeting be gratefully offered to Donors of Specimens, and all who assisted The Yorkshire Philosophical Society in the Exhibition in August, 1853.

3. That the thanks of the Society be given to the Vice-Presidents, and Members of Council retiring from Office, and to the Secretaries and Curators, for their valuable services.

4. That the Council be empowered to authorize the holding one or more Horticultural Meetings, in the Society's grounds during the present year.

5. That the Council be empowered, on certain days to be selected by them during the present year, to permit free admission to all persons to the Museum and Gardens, the mode of admission to be regulated by the Council.

6. That the Council be empowered to admit Strangers during the present year at the usual rates of payments.

7. That the Council be authorized to admit to the Museum and Gardens, as temporary subscribers, any occasional Visitors to York not residing in the County, at the rate of one pound for four Months for themselves and families, but in no case shall such privilege be granted for a longer period than twelve Months.

## COMMUNICATIONS

OF THE

# MONTHLY MEETINGS

1853.

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JANUARY.—WILLIAM PROCTER, Esq.—On some Antiquities lately added to the Museum.

OCTOBER.—THOMAS ALLIS, Esq.—On Reparation of Injury to the Bony Structure of Vertebrated Animals.

NOVEMBER.—SAML. ANDERSON, Esq.—Letter and Drawing of a remarkable Flint Instrument.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Bell, —, Esq. ..... | Specimen of Fossil Wood. |
| Bunting, Edwd., Esq., *(Mansfield, Notts.)* ..... | Very remarkable nondescript Fossil Body, from the Lias of Whitby. |
| Cholmley, Col., *(Howsham)* | A Plesiosaurus from the Lias of Whitby. (See page 7.) |
| Clarke, Joseph, Esq., *(Cincinnati)*.... ..... ..... | Various Silurian North American Fossils. |
| Fox, Rev. T. H. Lane ..... | Lias Nodule from Whitby, having a curious resemblance to the human foot. |
| Johnstone, Rev. Canon ..... | Specimens of a very interesting undetermined Bivalve, from the Oolite of Hambleton Hill. |
| Club, Yorkshire Naturalists' | Star-fish, from the Calcareous Grit of Newton Dale, and Two Specimens of a remarkable undescribed Bivalve from the Yorkshire Chalk. |
| Society, British Natural-History ..... | Fossils from the Crag and other Tertiary Formations. |

## ZOOLOGY.

| | |
|---|---|
| Barstow, Lieut., R. N. ..... | A young Turtle from Ascension, and a Horned Chameleon from Fernando Po. |
| Bell, Fred., Esq. ..... | Specimen of the Great Auk. (See page 9.) |
| Carpenter, Rev. P., *(Warrington)* ..... | Shell of Spirula, displaying the internal Septa. |
| Clarke, Joseph, Esq., *(Cincinnati)* ..... | A series of American Land and Fresh-water Shells, including Unio spinosus, and other rare species. |
| | Specimens of the seventeen year Locust (Cicada septemdecem). |

| | |
|---|---|
| | Head of a very singular Fish from the Ohio, (Platyrostra edentula). |
| Munby, Giles, Esq. ..... | A Sand Grouse and Heron from Africa. |
| Society, British Natural-History. | Natica helicoides, from Staithes, and several other rare species of British Shells. |

## ANTIQUITIES.

| | |
|---|---|
| Bell, —, Esq., *(Norton)* ... | A Fragment of an inscribed Mediæval Stone. |
| Buckle, Jno., Esq., *(Riggs)* | Celt found at Pocklington. |
| | Coin of Trajan, found on the Manor Shore, 1829. |
| Clarke, Joseph, Esq., *(Cincinnati)* ..... | Series of Antique Flint American Arrow Heads. |
| Goldie, George, Esq., *(Sheffield*..... ..... | Fourteen Impressions of foreign Seals. |
| Kendrick, Jas., Esq., M.D. | Sulphur Casts of Two Ancient Chess Men, found in excavating the Moat Hill, Warrington, and Impression of Seal. |
| Price, Thomas, Esq. ..... | Small Roman Coin, found in a Stone Coffin at Clementhorpe. |
| Whytehead, Rev. Robt. ... | Roman Urns, found on Spalding Moor. |

## GARDEN.

| | |
|---|---|
| Hague, Barnard, Esq. ..... | Packet of Chinese Hemp Seed, with a specimen of the fibre. |
| Oldfield, Joshua, Esq. ..... | Four Loads of Manure. |
| Templeman, S., Esq., ..... | Ninety Sorts of Seeds, from the Botanic Garden. |
| Wood, John. Esq. ..... | A Package of Seeds. |

## BOTANY.

| | |
|---|---|
| Clarke, Joseph, Esq..... | A Collection of Plants made in the vicinity of Cincinnati. |

## MISCELLANEOUS.

| | |
|---|---|
| Fox, the Rev. T. H. Lane... | A Walking Stick, made of the Tusk of the Narwhal. |
| Russell, Lady Frankland, *(Thirkleby Park)* ..... | Casts in Plaster from Autographs and Devices, cut by former distinguished Prisoners on the Walls of Rooms and Cells in the Tower of London. |
| Whytehead, Rev. Robt..... | A Caffrarian Musical Instrument. |

## LIBRARY.

| | |
|---|---|
| Admiralty, Board of..... | Contributions to Astronomy and Geodesy, second series, forming part of vol. 21, of the Memoirs of the Royal Astronomical Society. By Thomas Maclean, Esq., F. R. A. S. |
| | Astronomical Observations made at the Royal Observatory, in 1851, under the direction of Geo. Biddell Airey, Esq., M. A. |
| Association, British, for the Advancement of Science | Report for 1852, Diagrams for the Geography of Plants. |
| Committee, Guildhall Library, *(London)* ..... | London Tradesmen's Tokens. |
| Government, British, by direction of ..... | Observations made at the Magnetical and Meteorological Observatory, at Toronto in Canada, vol. 2, 1843, 4, 5. |
| Société, D'Emulation d'Abbeville ..... | Memoires, 1849, 50, 51. |
| Society, of Antiquaries, of London ..... | Proceedings of, Nos. 18 to 35, vol. 2, and List of Members. |
| | Archæologia or Miscellaneous Tracts relating to Antiquity, vol. 33, part 1 and 2; vol. 34, part 1 and 2; and vol. 35, part 1. |
| Society, Chemical, of London | Journal for 1853. |
| Society, Cornwall, Royal Polytechnic ..... | Report, 1852. |
| Society, Historic, of Cheshire | Proceedings and Papers, 1852 and 1853. |

| | |
|---|---|
| Society, Numismatic, of London ..... | List of Members, 1852. |
| Charlesworth, Edward, Esq. | Lea's Synopsis of the Family of Naides. |
| Chambers, Messrs., *(Edinburgh)* ..... | Memoir of the Right Hon. Sir J. Sinclair, Bart., with an account of his writings and personal exertions. |
| Clarke, Joseph, Esq..... | Catalogue of Flowering Plants and Ferns, in the vicinity of Cincinnati. |
| Haldeman, S. S., Esq., A.M. *(The Author)* | Elements of Latin Pronunciation, for the use of Students. |
| | Crypto-Cephalinarum Borealis Americæ Diagnoses. |
| | Descriptions of North American Coleoptera, chiefly in the Cabinet of I. S. Le Conte, M. D., with references to described Specimens, and history and transformations of Corydalus Cornutus. |
| Kendrick, Jas., Esq., M.D. | Description of Two Ancient Chessmen, discovered in the Moat Hill, Warrington, with Lithographs, &c. |
| Lawton, Geo., Esq. *(The Author)* | The Religious Houses of Yorkshire. |
| Leidy, Joseph, Esq., M.D. | Internal Anatomy of Corydalus Cornutus, in its three stages of existence. |
| Londesborough, Lord ..... | Catalogue of a collection of Ancient and Mediæval Rings, and Personal Ornaments, formed for Lady Londesborough. |
| Lund, — ..... | Leak on English Money. |
| | Museum Meadianum and a Catalogue of Coins, Antiquities, and Relics. |
| Thompson, R. I., Esq. ..... | Principles of Human Physiology, by W. B. Carpenter, F. R. S. |
| Warren, Saml., Q.C., F.R.S. *(The Author)* | The Intellectual and Moral Development of the present Age. |
| Wood, John, Esq. ..... | Journal of the Horticultural Society of London, 1853. |
| Wylie, W. M., Esq., B. A. *(The Author)* | Fairford Graves, a Record of Researches in an Anglo-Saxon Burial Place in Gloucestershire. |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S., (6 parts published).

Churton's Monastic Ruins of Yorkshire, fol., (6 parts published).

Bell's British Crustacea, (completed).

Birds of Asia, folio, by John Gould, Esq., (6 parts published).

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Forbes and Hanley's British Mollusca, 8vo. col. plates, (completed).

Illustrated Proceedings of the Zoological Society, for 1850.

Publications of the Ray Society, (1852): A Monograph on the subclass Cirripedia, with figures of all the Species, by Charles Darwin, F. R. S., &c. Bibliographia Zoologiæ et Geologiæ, by Agassiz and Strickland, vol. 3.

Publications of the Palæontographical Society, for 1853. Fossil Corals of Great Britain, part 4. Fossil Brachiopoda, part 4. Fossil Shells of the Chalk, part 1. Mollusca of the Great Oolite, part 2. Mollusca of the Crag, part 3. Fossil Reptilia, part 4.

Reliquiæ Antiquæ Eboracenses, by Wm. Bowman, (3 parts published).

Scientific Memoirs, edited by Richard Taylor, F. S. A., (20 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (13 parts published).

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

# APPENDIX

CONTAINING A

## LIST OF CONTRIBUTORS AND CONTRIBUTIONS

TO THE

## EXHIBITION OF PLANTS, &c.,

IN THE MUSEUM GARDENS, YORK, AUGUST 1853.

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| | |
|---|---|
| Northumberland, His Grace the Duke of ..... | A Collection of Tropical Fruits. |
| Fitzwilliam, Earl ..... | A Collection of above 100 Ferns. |
| The Royal Botanic Gardens, *(Kew)* ..... | Cut specimens of interesting Plants used in the Arts and for Food. |
| Balfour, Dr., the Royal Botanic Garden, *(Edinburgh)* ..... | Specimens of the Cocoa-nut Palm, Wax Palm, &c. &c. |
| The Hon. East India Company, (per Prof. Royle) | A large Collection of Gums, Resins, Silks and Fabrics, Vegetable Oils, &c., being *a donation* to the York School of Medicine and the Yorkshire Philosophical Society. |
| The Apothecaries' Company | A Collection of Medicinal Plants. |
| The Royal Botanic Garden, *(Regent's Park,)* through R. Marnock, Esq. ..... | A large Collection of curious Plants, and above 200 Grasses. |
| Lindley, Dr. ..... | Original specimens of the Touzelle Wheat, Parasitical Loranthi, &c. &c. |
| Embleton, T., Esq., *(Middleton Hall, near Leeds)* ... | A Collection of interesting Plants, amongst them the Exogonium purga, (The Jalap), Copaifera Balsaminea, &c. &c. |

| | |
|---|---|
| Allis, Thos., Esq. ..... | A Collection of 100 Ferns, amongst them Dicksonia antarctica, Diplazium Seramporense, Marattia Kaulfusia, Cibotium Shiedii, &c. |
| Pease, J., Esq. *(Darlington)* | A fine Collection of Stove and Greenhouse Plants. |
| Moore, O. A., Esq. ..... | Collection of curious Seeds and Seed-vessels. |
| Waterhouse, John, Esq., *(Halifax)* ..... | Fabrics from Pine Apple leaf fibre, from Manilla. |
| Russell, Lady Frankland ... | Specimens of Peat Charcoal prepared for sanitary and agricultural purposes. |
| Pulleine, the Rev. R. ..... | Various Fabrics from the Vegetable Kingdom, and 75 Varieties of Wheat. |
| Creyke, the Ven. Archd. ... | Box of Fruit from China. |
| Simpson, Dr. E. ..... | Portfolio of Ferns gathered in Madeira. |
| Bould, T., Esq. ..... | Several Varieties of Cotton in different stages of manufacture. |
| Marshall and Co., Messrs., *(Leeds)* ..... | Specimens of New Zealand Flax, with common Flax and Hemp in various stages of manufacture. |
| Barber, J., Esq. *(Tang Hall)* | Large specimens of Orange Trees, &c. |
| Vitch, Messrs., *(Exeter)* ... | Specimens of rare Cones, from various Countries. |
| Preston, H., Esq. *(Moreby)* | Flowering Stem of the large American Aloe. |
| Briggs, Mr. J., *(Pavement, York)* ..... | Specimens of Tobacco, Snuffs, Cocoas, Teas, Starch, &c. |
| Tuke, S., Esq. ..... | Collection of specimens of Teas, Cocoas, &c. |
| Fisher and Holmes, Messrs. *(Wandsworth Nursery, Sheffield)* ..... | 100 species of Coniferous Trees, &c. |
| Backhouse and Son, Messrs. | Collection of various Plants. |
| Bainbridge and Hewitson, Messrs.. ..... | Collection of Fuchsias. |
| Rollingson and Tooting, Messrs. ..... | Cephalotus follicularis, &c. |
| Stark, Mr., *(Nurseryman, Edinburgh)* ..... | Collection of Alpine Plants. |

| | |
|---|---|
| Marley, Mr., *(Darlington)* | Three species of Drosera and other British Plants. |
| Richardson & Dennis, Messrs., *(King Street, York)* | Specimens of Roots, Barks, Extracts, &c. |
| Holden, Mr., *(Pavement, York)* ..... | 200 specimens of Drugs, &c., from the Vegetable Kingdom. |

Presented
13 MAR 1886

H. SOTHERAN, BOOKSELLER, CONEYSTREET, YORK.

Yorkshire Philosophical Society.

# ANNUAL REPORT

FOR

MDCCCLIV.

Any of the Society's Annual Reports from 1825 to 1853 inclusive, with the exception of 1826 and 1843, may be had by Members, free of cost, upon application, during 1855, to the Assistant Secretary at the Museum.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLIV.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1855.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1855.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

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THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D.D.

SIR WILLIAM LAWSON, BART., F.S.A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F.R.S.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

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LORD FEVERSHAM.

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JOHN PHILLIPS, F. R. S.
HARRY STEPHEN THOMPSON.
JOHN FORD.
HENRY B. CHOLMELEY.
CHAS. W. STRICKLAND.
REV. W. V. HARCOURT, F. R. S.

## TREASURER:

WILLIAM GRAY, F. G. S.

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*Elected* 1853....FRANCIS CHOLMELEY (deceased).
WM. FREDERICK RAWDON.
REV. CANON HEY.
O. A. MOORE.
*Elected* 1854....THOMAS BARSTOW.
WM. WHYTEHEAD.
GEO. DODSWORTH.
WM. PROCTER.
*Elected* 1855....WM. ANDERSON.
REV. THOS. BAYLY.
REV. THOS. MYERS.
JOHN KITCHING.
DR. LAYCOCK.

## SECRETARIES:

Rev. J. Kenrick.
Thos. Allis.

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## ASSISTANT SECRETARY:

Edw. Charlesworth.

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## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | Professor Phillips, F.R.S. |
| Comparative Anatomy . . | Thomas Allis. |
| British Ornithology . . | W. Rudston Read, F.L.S. |
| Insects and Crustacea . . | Rev. Canon Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology, *under the care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F.R.S.<br>Professor Phillips, F.R.S.<br>Wm. Gray, F.G.S.<br>Wm. L. Newman, F.R.Ast.S.<br>John Ford.<br>Rev. Canon Hey. |

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## KEEPER OF THE MUSEUM:

Edward Charlesworth, F.G.S.

---

## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 6TH, 1855.

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THE Report which the Council have now to lay before the Annual Meeting, though not in all respects so favourable as that of the preceding year, nevertheless presents no features which ought to create misgiving as to the stability and permanent well-doing of the Society. The additions to the collections possess considerable interest, and the number of visitors to the gardens remains undiminished, except by the absence of excursion trains, which have during the past year afforded no influx of strangers. The only discouraging feature in the condition of the Society is the small number of new members who have been recently admitted. To this circumstance reference will be made in a later part of the Report.

Many valuable additions have been made during the past year to the Collections in NATURAL HISTORY.

During a visit to Ely in the summer, the Keeper of the Museum purchased a very interesting series of Saurian Bones and Teeth from the Kimmeridge Clay of that neighbourhood, including remains of three genera, Ichthyosaurus, Plesiosaurus and Pliosaurus. The teeth of the last named genus, of which there are several in the Collection, are very peculiar, and they form an important acquisition, no other examples probably existing in the Museums of the North of England. Accompanying these Saurian remains were many specimens of the

curious and problematical fossil body known as the Aptychus or Trigonellites of Parkinson. Being free from any investing matrix they are more valuable to the Palæontologist than the Yorkshire examples of this fossil previously in the Museum, from the Oolite Quarries at Malton.

In local Geology the Collection has been enriched with a splendid example of the Lepidotus semiserratus, or "scale fish" of the Whitby Fossil-Dealers. This fish, along with many other choice Lias fossils, has been obtained in exchange for the Society's spare duplicates of Foreign Shells, the duplicates consisting almost entirely of specimens that have accumulated from the successive contributions of Mr. Joseph Clark of Cincinnati, with whose cordial approval the exchange in question has been carried out.

Mr. Hailstone has presented the Museum with a Saurian Vertebra from the Lias of Whitby, exhibiting a very remarkable structural peculiarity, the area of one of its articulating surfaces considerably exceeding that of the other. The Society is also indebted to Mr. Robt. Atkinson for a very fine specimen of fossil wood from the Lias of the Coast. Various additions have been made to the general Geological Collection from the British Natural History Society, among the most important of which are a series of choice fossils from the Magnesian Limestone of Humbleton Hill, Durham, and a collection of specimens illustrating the fossils of the upper green sand in the neighbourhood of Cambridge.

At the meeting of the British Association held at Liverpool, in September last, the Keeper of the Museum gave a description of two fossils in the Museum of the Yorkshire Philosophical Society, which are believed to be unique. One of these, a new species of Saurian from Whitby, he described under the name Teleosaurus ischnodon,* and to the other, a new fossil Quadruped from Herne Bay, he gave the name Platychœrops† Richardsonii.

On the same occasion he was able to lay before the Association some highly important additional evidence relating to the

* Ischnodon, feeble-tooth. † Platychœrops, wide-faced Hog.

occurrence of the remains of Mammalia in the Oolitic strata at Stonesfield, a subject of special interest to the members of this Society, from the circumstance that a fossil in our Museum, obtained from those strata,* occupies so prominent a place in a controversy upon this subject made famous by its association with the names of Owen, Agassiz, De Blainville, and other distinguished authorities in the field of Palæontological science.

In the Zoological department of the Museum, the Council have again to notice the continued interest in the prosperity of the Society taken by Mr. Clark of Cincinnati. The suite of North American Shells due to the liberality of Mr. Clark, now forms one of the most beautiful and prominent features of the Museum, and the value of the collection has been greatly enhanced by a manuscript catalogue stating the localities and other information, which Mr. Clark has drawn up at the suggestion of the Keeper of the Museum.

The Society is indebted to the same benefactor for the addition to our Ichthyological collection of a very remarkable Fish, of which but few examples have reached this Country, the Polyodon folium of Lacépède, commonly known in America as the "Paddle-fish" or "Spoon-bill Sturgeon." Mr. Clark has also presented two very choice specimens of the Lepidosteus or Gar-fish, of the American rivers, a species less rare than the Polyodon, but nevertheless a particularly acceptable acquisition to the Society, the Lepidostei being almost the only existing Fishes furnished with resplendent enamelled scales, a structure constantly met with among Fossil Species and well exemplified by the Lepidotus, &c., of the Whitby Lias.

Two very valuable local additions have been made to the collection of British Birds, namely, a little Bustard, shot at Goodmanham, and presented by the Rev. Wm. Blow, jun., and a specimen of Bewick's Swan, shot at Bubwith, mounted at the expense of the Naturalists' Club, and presented by the Committee. A fine example of the Crowned Crane has been given to the Foreign Collection of Birds by H. S. Thompson, Esq., of Moat Hall.

* Exhibited in Case No. 25 of the Geological room, and labelled "Fossil jaw of Quadruped from Stonesfield, presented by the Rev. C. Sykes."

Some additions of great interest have been made to the collection of British Mollusca, through the British Natural History Society; of these the most important are the Egg-capsules containing young of the rare Shells, Fusus Turtonis and Fusus Norvegicus, the possession of which illustrates an important fact in the Natural History of the Mollusca, namely, that species which present a very near approximation in the characters of the animal and shell may yet shew essential differences in the structure of the ova; and hence it would seem that a better acquaintance with the ova of the Mollusca may render important aid to the Naturalist in the determination of problems relating to the discrimination between species and varieties, in the numerous forms of this important division of the animal kingdom. Through the same channel a fine example of a very rare shell, Natica pusilla, from Staithes fishing boats, has been added to the collection, and a specimen of Emarginula crassa from Anglesea. In British Zoophytes the Society is indebted to Mr. Leckenby, of Scarbro', for a series of choice specimens of some of the rare species from the Coast.

The Council regret that the office of Curator of BOTANY still remains vacant; but they trust that before long some member of the Society will undertake the charge of this important part of its Collections. A Supplement to the "Flora of Yorkshire," by the Sub-Curator of the Museum, has lately been published. The materials have been chiefly furnished to Mr. Baines by two able co-adjutors, Mr. John Gilbert Baker and Mr. Nowell, the former of whom has contributed an account of the Flowering Plants and Ferns, and the latter of the Mosses. The Hepaticæ, Lichens, Algæ and Fungi of the county have not yet been sufficiently studied to enable the botanist to exhibit a catalogue of them; but, as far as it goes, the "Flora of Yorkshire" may be received with confidence, as a full and exact enumeration of the productions of this varied and extensive district. To Mr. Baker the Society is indebted for arranging its British Lichens in a form which at once facilitates the use and displays the beauty of the Collection.

Of the additions which have been made during the last year to the ANTIQUARIAN DEPARTMENT of the Museum, the most

interesting and important is a large fragment of an inscribed Roman tablet found at a considerable depth below the surface, by the workmen employed in digging the drain from Monk Bar to the river Ouse, and presented to the Society by the Corporation of the City. The fragment contains so large a portion of the inscription, that the letters which have been lost may, without much difficulty, be supplied. It records the execution of some public work by the ninth Legion, by order of the Emperor Trajan. It is, with one exception, the oldest memorial of the kind that has been discovered in Britain; and being connected with the earliest period of the history of Roman York, it may be justly considered as the most valuable of the ancient local remains by which our Museum is distinguished. A full description is about to appear in the Second Part of the Proceedings of the Society.

During the last year the remains of a Roman villa were discovered in the parish of Collingham, in a field near the road leading from Bramham to Wetherby. In the course of the excavations which were carried on there under the superintendence of Mr. Procter and some other members of the Council, a large portion of a beautiful tessellated pavement was brought to light. This being carefully removed by our sub-curator, Mr. Baines, has been presented to the Society, with a bath, or a cistern, and remains of a hypocaust, by the Rev. B. Eamonson and the other Trustees of Lady Hastings' Charity, to whom the field belongs, and at whose invitation the excavations were undertaken.

Besides the pavement from Toft-green which has been so successfully reconstructed in the lower room of the Hospitium, the Society has in its possession *another* found in the same place, with a large border of a *third:* and this last excavation at Collingham has added to these an interesting portion of a *fourth.* The Society has long had authority to take possession of a *fifth,* buried beneath a saw-pit in Clementhorpe. *Another,* reported to be more beautiful in pattern, and more highly finished than any of the preceding, was lately discovered in the neighbourhood of Easingwold, not far from the line of the Roman road between the station at Malton and Isurium. It

would have been removed to the Museum of the Society three or four months ago, by permission of the late Sir G. Wombwell, on whose estate it was found, and with the sanction of the Council, if the weather had not been so unfavourable. Effectual means have been taken to secure it from injury during the winter; and there is no reason to apprehend that the present owner will revoke the gift of his predecessor; especially as this beautiful specimen of Roman decoration must inevitably be destroyed, if the Yorkshire Philosophical Society abandon it.

It may perhaps be thought not advisable, to incur the expense of adding to our Antiquarian Collections more objects of this description, interesting as they may be, since in the present state of our finances, it is not possible to provide a suitable place for exhibiting them to the public. This is certainly a circumstance to be deeply regretted. But the Council would beg leave to suggest that it is a matter of great importance, not to say, the duty of the Society, even at some inconvenience, to rescue such interesting objects from destruction; and it surely may be hoped, that by the improvement of its finances, or by the revival of that zeal which the public manifested, when the pavements in Toft Green were discovered, the Society will be enabled, at no very distant period, to erect a building in which all these specimens of Roman domestic ornamentation may be preserved and displayed.

Some deficiencies in the series of English coins in the cabinet of the Society, particularly of Hen. V. and Hen. VII., have recently been supplied by Mr. Davies. The Curator has added several denarii to the series of the Roman Families. Mr. Procter has presented five antient brass coins, Greek, and Roman Provincial, not in very good condition, but interesting as having been found by Dr. Layard at Nineveh.

The Rev. John Ward, of Wath, has presented to the Society a large collection of drawings, representing the decorated pavement in encaustic tiles at Jervaulx Abbey, made by order of the late Earl of Ailesbury in 1807, when the ruins of the Abbey were excavated.

The additions made to the LIBRARY by donation or purchase

in the last year have not been numerous. Among the donations may be mentioned the First Part of Miscellanea Graphica, a description, accompanied by beautiful illustrations, of works of mediæval art, in the possession of Lord Londesborough. The Library continues to receive the successive numbers of various publications of high scientific interest for which the Society has subscribed. Among them are two splendid works by Mr. Gould, The Birds of Asia, and the Trochilidæ or Humming Birds.

Among the donations to the Library from public bodies, the Council notice with peculiar satisfaction that of the Volumes of the Archæologia from the Society of Antiquaries, beginning with the year 1853. Various other Literary and Scientific Societies have presented their respective Transactions and Reports of Proceedings. The approaching publication of a Second Part of the Papers read before the Yorkshire Philosophical Society will afford an opportunity of acknowledging these gifts by a return, which the Council trust will not be found of inferior value.*

The Meteorological Register for York presents for the year 1854, considerable departures from ordinary circumstances in the range of the mercurial column, in that of temperature and in the amount of rain. On the 4th of March, at ix a. m., with a north wind, external temperature 39°, temperature of the mercury 63°, the column measured 30·932 inches, a height unprecedented in 25 years' experience. On January 8th, the column measured only 28·824 inches; this is the lowest obtained in the year, making the range 2·108 inches. The range of temperature has also been extraordinary, from —3 on January 3rd to 79° July 22nd, making a range of 82 degrees. The rain amounted only to 18·52 inches, being 5·75 below a mean of 20 years.

The mean temperature of the year has varied very slightly from the mean of 20 years, being ·72 of a degree below that mean.

* Members not residing in York, may have their copies of the Second Part of the Proceedings transmitted by post, by application to Mr. Charlesworth, at the Museum, with an enclosure of six postage stamps.

Eight months of the year exhibited a temperature below a mean; February, March, April, and September were slightly in excess. There was an excess of rain in January, May, June, and November, but a deficiency in each of the other months. The days on which rain fell were 129 against 174 of last year. Westerly winds have been remarkably prevalent, 154 days are marked as W. or S.W.

The Gentiana verna flowered this year on the 18th of April against the 4th of May in 1853. The month of May was distinguished by the unusual frequency of electric displays—nine occurrences of thunder and lightning are noted in that month. The month of August, mostly noted for storms of this character, in York and its neighbourhood, was nearly exempt this year, a slight display on the 16th of that month being the only one recorded. Full of variety and uncertainty, displaying sudden and unlooked for changes, and having a wide range of extremes, nevertheless the phænomena of weather when the records of a few years are taken to form a mean, exhibit a wonderful uniformity. This is one proof among many of the beneficence and wisdom of the Creator. Seed time and harvest, summer and winter still hold on their course. The observers of these phænomena are sometimes questioned as to whether there is not some remarkable change in the lessened severity of winter, the increased or diminished heat of summer, &c. The following table, suggested by a recent inquiry of this kind, presents a striking instance of the uniformity of which we have spoken.

The temperatures of the three winter months, viz., December, January, and February, for the ten years from 1831 to 1840 both inclusive, are as follows:—

| | | | | | |
|---|---|---|---|---|---|
| December | 39·01 | 1845 to 1854 | December | | 38·62 |
| January | 35·74 | | January | | 36·68 |
| February | 38·60 | | February | | 37·96 |
| | 3)113·35 | | | | 3)113·26 |
| Mean winter temp. | 37·78 | | Mean winter temp. | | 37·75 |

In contrast with this exact uniformity, when one series of *years* is compared with another, we present the following table

as illustrative of the wide range of departure from a mean where two series of ten *days* each are compared.

Comparison of temperature for the first ten days of January, 1854 and 1855.

| | 1854. | 1855. | Exc. |
|---|---|---|---|
| Average maximum . . . | 31·2 | 47·3 | 16° |
| Average minimum . . . | 21·5 | 39·7 | 18° |
| Mean temperature . . . | 26·3 | 43·5 | 17° |
| Highest do. . . . | 36 | 50 | 14° |
| Lowest do. . . . | 3— | 24+ | 27 |
| Range . . . . . | 39 | 26 | — |

The following table for which the data have been supplied by various correspondents, shews the monthly fall of rain in the following places for the year 1854.

| | Huggate. | Middleton. | York. | Wheldrake. | Ackworth. | Doncaster. | Bradford. | Sheffield. | Settle. | Todmorden. |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 2·00 | 2·64 | 1·98 | 1·64 | 1·68 | 1·78 | 4·43 | 3·11 | 5·16 | 6·47 |
| Feb. | ·50 | 0·49 | 0·41 | ·66 | 0·75 | 2·94 | 3·11 | 1·40 | 2·42 | 3·12 |
| Mar. | 1·00 | 0·79 | 0·91 | ·90 | 0·49 | 1·83 | 1·51 | 0·71 | 1·34 | 2·47 |
| April | ·37 | 0·86 | 0·50 | ·52 | 0·76 | 0·69 | ·51 | 0·58 | 0·26 | 1·01 |
| May | 3·13 | 2·91 | 2·16 | 2·05 | 1·84 | 1·29 | 2·65 | 2·41 | 2·70 | 3·42 |
| June | 2·25 | 2·07 | 2·90 | 1·90 | 2·57 | 1·97 | 2·58 | 1·74 | 3·19 | 2·59 |
| July | 3·35 | 3·11 | 2·56 | 3·23 | 2·71 | 3·39 | 2·28 | 2·11 | 2·31 | 2·47 |
| Aug. | 1·25 | 1·70 | 1·23 | ·85 | 1·57 | 1·00 | 1·39 | 1·30 | 2·42 | 2·69 |
| Sept. | 1·25 | 1·27 | 0·84 | ·82 | 1·03 | 0·46 | 2·03 | 1·05 | 2·48 | 2·49 |
| Oct. | 1·62 | 1·63 | 1·01 | 1·32 | 0·97 | 0·45 | 1·96 | 1·41 | 2·95 | 3·84 |
| Nov. | 3·00 | 2·95 | 2·53 | 2·87 | 2·51 | 2·51 | 3·42 | 2·85 | 3·68 | 5·01 |
| Dec. | 2·00 | 1·92 | 1·49 | 1·39 | 2·16 | 2·01 | 4·88 | 3·55 | 6·79 | 8·37 |
| | 21·72 | 22·34 | 18·52 | 18·15 | 19·04 | 20·32 | 30·75 | 22·22 | 35·70 | 43·95 |

## METEOROLOGICAL REGISTER, YORK, 1854.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Nights at or below 32° | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days | Aver. Max. | Aver. Min. | Mean Temp. | Highest. | Lowest. | | |
| Jan. | 30·322 | 28·824 | 29·6434 | 1·98 | 7 | 38·5 | 30·0 | 34·2 | 51 | 3 | 19 | S. E. |
| Feb. | 30·600 | 29·245 | 30·0556 | ·41 | 6 | 43·7 | 33·7 | 38·7 | 52 | 26 | 15 | W. |
| Mar. | 30·932 | 29·792 | 30·2073 | ·91 | 9 | 50·6 | 35·9 | 43·2 | 61 | 25 | 9 | W. |
| April | 30·550 | 29·262 | 30·0850 | ·50 | 5 | 55·2 | 37·3 | 46·2 | 65 | 28 | 5 | E. |
| May | 30·317 | 28·977 | 29·6893 | 2·16 | 16 | 57·3 | 41·0 | 49·1 | 64 | 33 | — | W. |
| June | 30·232 | 29·450 | 29·7862 | 2·90 | 14 | 61·6 | 48·3 | 54·9 | 72 | 41 | — | N. E. |
| July | 30·328 | 29·522 | 29·8743 | 2·56 | 11 | 64·6 | 51·3 | 57·9 | 79 | 40 | — | S. |
| Aug. | 30·532 | 29·640 | 29·9023 | 1·23 | 11 | 65·1 | 51·6 | 58·3 | 73 | 45 | — | S. W. |
| Sept. | 30·536 | 29·692 | 30·0590 | ·84 | 8 | 65·9 | 47·0 | 56·4 | 75·5 | 35 | — | S. W. |
| Oct. | 30·552 | 29·120 | 29·7497 | 1·01 | 13 | 53·8 | 38·8 | 46·3 | 63 | 25 | 6 | S. W. |
| Nov. | 30·516 | 28·946 | 29·7670 | 2·53 | 15 | 43·7 | 32·6 | 38·1 | 54 | 19 | 16 | E. & W. |
| Dec. | 30·428 | 29·166 | 29·7246 | 1·49 | 14 | 43·7 | 33·7 | 38·7 | 53 | 26 | 14 | W. |
| | | | 29·8786 | 18·52 | 129 | | | 46·83 | | | 84 | |

DIRECTION OF THE WIND.

| N. | S. | E. | W. | N.E. | N.W. | S.E. | S.W. |
|---|---|---|---|---|---|---|---|
| 28 | 52 | 30 | 73 | 32 | 30 | 39 | 81 |

In the Observatory, the Committee report, that the Equatorial and the Transit Instrument have been kept in working condition by Mr. T. Cooke, and that transits have been taken with sufficient frequency to keep accurate time. The Committee in charge of this department, whilst they regret that the instruments are not more frequently turned to account, remark as some excuse for this, that there are two private observatories in York which absorb some of that time and attention that might otherwise be devoted to the observatory of the Yorkshire Philosophical Society.

The Treasurer's report shews that the annual expenditure has exceeded the receipts by the sum of £12 15s.; the latter being less than usual in the items of "admission of new members," and "admission of strangers," and there having been no extraordinary sources of income during the past year.

The least favorable feature in the financial condition of the Society during the past year, is the diminution of new members. The Council are aware that at the present time a diminution was to be looked for. Local Scientific Institutions must expect, in times of great political excitement, and under circumstances which involve retrenchment in the expenditure of the middle and upper classes, to experience a temporary reduction of that share of support which under ordinary circumstances they receive from the public. If, however, this reduction proceeds to any great extent, it must seriously impair the efficiency of such institutions, and involve them in difficulties. In the case of the Yorkshire Philosophical Society, the Council feel bound to state that the number of members annually elected is not at present such as to enable it to preserve, in a satisfactory condition, the treasures of which it has already become possessed, and to add to its stores those new objects of local and general interest which from time to time present themselves. If we go back ten years in the history of the Society, we find from the annual reports, that from 1844 to 1851 inclusive, the annual average of admissions is 19. During the years 1852—3—4, the average is reduced to nine; and the number admitted during the past year has been only seven. It is perhaps not to be expected that so high an annual average as 19 admissions can be permanently maintained, but it is certain that so low an average as 9 is not sufficient to balance the Society's losses by resignation and death. To this point then the Council desire to call the serious attention of the Society at large. They feel convinced that there are many persons resident in the City of York, and many more in the County, who are not members of the Society, because its claims have not been urged upon them, and because they are not aware that their support is required. It is important that such persons should be reminded that the Yorkshire Philosophical Society holds a position with which

perhaps no other provincial scientific institution can be said to compete, whether we look to its invaluable Collections in Natural History and Antiquities, or to the singular attractions of the site within which these collections have been deposited; that its expenditure necessarily bears some proportion to the extent of the riches of which it is the guardian; and that if it is to go on in that career of usefulness which for more than a quarter of a century has associated it with the progress of science in Yorkshire, it must continue to receive that full measure of support which has hitherto maintained it in efficiency and vigour.

The Council, in considering what means seem most likely to be successful for the improvement of the Society's finances, are of opinion that improvement is to be sought, not so much by retrenchment and inactivity, as by the constant progress of its Collections, and by rendering its resources more attractive and accessible to its members and the public at large. With this object they have made certain alterations, and have others to propose for the consideration of the present meeting, which it is necessary here to mention.

*Orders of Admission.*—At a special meeting held Dec. 4th, 1848, a resolution was passed to the effect that after that month no member should give more than 25 orders in the course of one year, each order not admitting more than 4 persons. The above regulation has continued in force up to the end of last year; and to prevent the admission of parties with fictitious orders, the Council during the above period supplied the members with printed and stamped forms, to the use of which they were restricted. Some inconvenience, however, having arisen from the use of these printed forms, the Council have this year discontinued them, and they have likewise made the number to be admitted by each order optional, it being understood that the limit of one hundred visitors in the course of each year is not to be exceeded.

*Privilege of introducing Strangers by the Wives of Members.* — Complaints have been made by several members that, owing to their engagements, it is not in their power to attend their friends to the Museum, and that consequently the privilege of

introducing their friends personally is one of which they cannot avail themselves. They wish therefore that their wives should have the same privilege with themselves. The Council has no power to grant this privilege, as it involves an alteration in the Society's rules. A month's notice of a motion to make this alteration has been given, and it now remains for the members present to consider its expediency, and to adopt or reject it. Although the Council are not adverse to this alteration, they think that they ought to inform the members that there is probably no Society in England, dependent in part upon money payments from strangers for admission, which grants such extensive privileges in this respect as the Yorkshire Philosophical Society.

*Admission Fees.*—Another alteration which has been suggested, but which cannot be adopted at the present meeting, as no notice has been given, has reference to the fee of £3, in addition to the annual subscription, which has been always paid by members on election. The Council are of opinion that this fee cannot be abolished or diminished without detriment to the finances of the Society, and injustice to those who have already paid it. But it is thought that it might be advantageously spread over three years, if the elected member preferred it, so that instead of paying £5 the first year and £2 a year afterwards, he would pay £3 annually for three years, and afterwards £2 annually.

*Appointment of a paid Assistant Secretary.*—The resignation of the late Secretary, T. H. Travis, Esq., to whose laborious attention to its interests the Society is much indebted, left the Council in a position of great difficulty. No gentleman possessing at once sufficient leisure and proper qualifications for the office of Secretary has been found willing to undertake it. The duties of that office have, since Mr. Travis's resignation, been performed by two gentlemen who avowed their conviction that their engagements were such that they could not possibly bestow upon the Society that time and attention which its affairs demanded, and therefore only consented to act as provisional Secretaries.

In consequence of this state of affairs, a strong feeling has

been expressed in many quarters that a paid Assistant Secretary ought to be appointed, the property of the Society having become so extensive, and its interests so important, that more time and attention are demanded than can be expected from an honorary officer.

If such an appointment was to be made, the attention of the Council was naturally turned to the Keeper of the Museum, as a gentleman whose office already brings him constantly to the Institution, and whose scientific attainments would command the respect of visitors with whom he might have to communicate. As it is impossible, however, to predict whether such an appointment will give an impulse to the Society sufficient to increase its funds to the requisite extent, they do not feel justified in recommending more than a temporary arrangement.

It is recommended that Mr. Charlesworth be appointed Assistant Secretary, at a salary of £50 for the ensuing year, giving a larger portion of his time than hitherto, to the superintendence of the Society's affairs. In this case the services of the present Clerk will be discontinued.

This proposal being adopted, two gentlemen (the Rev. John Kenrick, and Thos. Allis, Esq.) have consented to undertake the office of Honorary Secretaries for the present year.

The Council feel a strong persuasion that the arrangements thus proposed will conduce to the well-being of the Society, and will both promote the interests of science and prove satisfactory to the members.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1854.

**Cr.** RECEIPTS.

| 1854. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 516 | 1 | 0 |
| Admission of 7 New Members .... | 35 | 0 | 0 |
| Composition in lieu of Subscription | 40 | 0 | 0 |
| Associates ..... | 10 | 0 | 0 |
| Ladies' Subscriptions ..... | 53 | 1 | 0 |
| Rents ..... | 109 | 15 | 10 |
| Money received at the Gate ..... | 174 | 2 | 9 |
| Swimming Bath (deducting expenses) ..... | 34 | 16 | 0 |
| Keys of the Gates ..... | 34 | 10 | 0 |
| Sale of Guide to Antiquities ..... | 14 | 0 | 6 |
| Temporary Subscribers ..... | 1 | 0 | 0 |
| Total Income..... | 1022 | 7 | 1 |
| Excess of Expenditure ..... | 12 | 15 | 0 |
| | £1035 | 2 | 1 |

| Permanent Debt: | | | | |
|---|---|---|---|---|
| Yorkshire Insurance Company..... | £1900 | 0 | 0 | |
| Five Members at £50 each ..... | 250 | 0 | 0 | |
| | 2150 | 0 | 0 | |
| Balance due to the Treasurer ..... | 56 | 11 | 11 | |
| Total Debt of the Society, Jan., 1855.... | | | | £2206 11 11 |

**Dr.** EXPENDITURE.

| 1854. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent ..... | 1 | 0 | 0 | | | |
| Rent to Corporation .... | 52 | 11 | 11 | | | |
| Rates and Taxes ..... | 8 | 16 | 11 | | | |
| Insurance and Water Rent | 11 | 7 | 0 | | | |
| | | | | 73 | 15 | 10 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum | 150 | 0 | 0 | | | |
| Sub-Curator ..... | 100 | 0 | 0 | | | |
| Servant ..... | 20 | 0 | 0 | | | |
| Lodge Keeper 1¼ year . | 25 | 0 | 0 | | | |
| Labourers ..... | 149 | 17 | 0 | | | |
| Clerk and Collector .. | 25 | 0 | 0 | | | |
| Attendant, Hospitium | 6 | 0 | 0 | | | |
| | | | | 475 | 17 | 0 |
| Interest on Debt to Dec. 31, 1854: | | | | | | |
| Insurance Company ..... | | | | 84 | 13 | 5 |
| Museum, Gardens, &c.: | | | | | | |
| General Repairs .... | 170 | 19 | 2 | | | |
| Purchase and preparation of Specimens .. | 49 | 4 | 8 | | | |
| | | | | 220 | 3 | 10 |
| Library, Books and Binding..... | | | | 19 | 11 | 3 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery .... | 66 | 12 | 1 | | | |
| Coals and Gas ..... | 60 | 14 | 10 | | | |
| Postage, Carriage, and Sundries ..... | 36 | 13 | 10 | | | |
| | | | | 161 | 0 | 9 |
| Total Expenditure ..... | | | | 1035 | 2 | 1 |

| Permanent Debt: | | | | |
|---|---|---|---|---|
| Yorkshire Insurance Company ..... | 2000 | 0 | 0 | |
| Due to Five Members £50 each ..... | 250 | 0 | 0 | |
| | 2250 | 0 | 0 | |
| Deduct Balance in Treasurer's hand ..... | 56 | 3 | 1 | |
| Total Debt of Society, Jan., 1854 ..... | | | | 2193 16 11 |
| Excess of Expenditure 1854 ..... | | | | 12 15 0 |
| | | | | £2206 11 11 |

3rd Feb., 1855, Audited by us,
ROBERT DAVIES,
WILLIAM PROCTER.

WILLIAM GRAY, TREASURER.

## MEMBERS

ELECTED SINCE FEB., 1854.

### 1854.

Geo. Wilson, (Lord Mayor).
James Christie, *Melbourne Hall.*
Mrs. Shipton, *York.*
Rev. Canon Baillie, *York.*
Wm. Alfred Waddington, *York.*
Francis Cholmeley, *Brandsby.*
Dr. Swaine, *York.*

### 1855.

John Holiday, *York.*

## HONORARY MEMBER

ELECTED AT THE ANNUAL MEETING, 1855.

Charles Roach Smith, Esq., F. A. S., &c.

| | |
|---|---|
| Number of Subscribing Members February 6th, 1855 ... | 275 |
| Do. of Compounding Members ... ... ... | 36 |
| Total ... | 311 |

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 6TH, 1855.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the Rule No. 3, Section 9, Ed. 1839, be amended by inserting the words "and their Wives" so that it shall stand thus: "Members and their Wives shall have the privilege of introducing Visitors to the Gardens and Museum at all times when they are open."

3. That the thanks of the Society be given to the Vice-Presidents, and Members of Council retiring from Office, and to the Secretaries and Curators, for their valuable services.

4. That the special thanks of the Society be given to Thos. H. Travis, Esq., for his services as late Honorary Secretary.

5. That the authority given to the Council last year with respect to the holding one or more Horticultural Meetings in the Society's Grounds, and the admission of Strangers and temporary Subscribers be continued.

## COMMUNICATIONS

TO THE

# MONTHLY MEETINGS

## 1854.

---

JANUARY.—ROBERT DAVIES, ESQ.—Notices of the York Mints and Coinages.

JUNE.—WILLIAM PROCTER, ESQ.—On the Excavation of a Roman Villa near Collingham.

NOVEMBER.—REV. C. WELLBELOVED.—On a Roman Tablet found in Petergate.

DECEMBER.—W. B. RICHARDSON, ESQ.—Description of his Ascent of Mont Blanc.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Atkinson, Mr. Robt. ..... | Fine polished specimen of Fossil-wood from the Lias of Yorkshire. |
| Clark, Joseph, Esq., *(Cincinnati)* ..... | Lepidotus semiserratus, with various other Fossils of the Yorkshire Lias. (See page 8.) |
| Latrobe, J. C., Esq. ..... | Palæozoic Fossils from Australia. |
| Hailstone, Edw., Esq. ..... | Remarkable Saurian Vertebra, with other Lias Fossils from Whitby. |
| Society, British Natural-History ..... | Fossils from the Upper Greensand of Cambridge, and from the Magnesian Limestone of Durham. |

## ZOOLOGY.

| | |
|---|---|
| Blow, Rev. Wm., junr. ... | Specimen of the Little Bustard. (See page 9.) |
| Clark, Joseph, Esq., *(Cincinnati)* ..... | Several rare Fishes from the American Rivers, with additional species of Uniones. (See page 9.) |
| Leckenby, John, Esq., *(Scarbro')* ..... | Various Zoophytes from the Coast. |
| Richardson, Rev. Henry ... | Eggs of the Guillemot from Flambro'. |
| Steele, Rev. Richard ..... | Several Crustacea from Whitehaven. |
| Travis, Thos. H., Esq. ..... | Specimens of the common Squirrel and Stoat. |
| Thompson, Harry S., Esq., *(Boroughbridge)* ..... | Specimen of the Crowned Crane. |
| Society, British Natural-History ..... | Emarginula crassa and various other rare British Shells. (See page 10.) |
| Yorkshire Naturalists' Club | Specimen of Bewick's Swan. (See p. 9.) Various Foreign Birds, given to the Club by Mr. Wm. Thompson. |

## ANTIQUITIES.

| | |
|---|---|
| The Corporation of the City of York ..... | An inscribed Roman Tablet. (See p. 11.) |
| The Trustees of Lady Hastings' Charity ..... | A portion of a Roman Tessellated Pavement, and other remains of a Roman Villa near Collingham. |
| Davies, Robt., Esq. ..... | Seven Half-groats of Hen. VII., Hen. VIII., and James I. 4 Pennies of Hen. II., Hen. VII., and Hen. VIII. An Irish Half-penny of John. |
| Procter, Wm., Esq. ..... | Five ancient brass Coins, brought from Nineveh by Dr. Layard. |
| | One of Sept. Severus, third brass Penny of Wm. I. |
| Wellbeloved, Rev. C. ..... | Twenty Coins of Roman Families. |
| Ward, Rev. J. ..... | A large Collection of Drawings, representing the pavement in encaustic tiles of the Church of the Abbey of Jerveaulx. |

## MISCELLANEOUS.

| | |
|---|---|
| Latrobe, J. C., Esq. ..... | Collection of Weapons, and various other articles of native manufacture from Australia and New Zealand. |

## GARDEN.

| | |
|---|---|
| Allis, Thos., Esq. ..... | Collection of Chrysanthemums. |
| Croskell, Rev. Robt. ..... | Sixty Papers of Seeds, and a valuable Collection of Bulbs, from the Cape. |
| Latrobe, J. C., Esq. ..... | One Hundred Packets of Seeds from New Zealand. |
| Oldfield, Jos., Esq. ..... | Four Loads of Manure. |
| Wetherley, Mr. R. ..... | Two Loads of Manure. |

## LIBRARY.

| | |
|---|---|
| Admiralty, Board of ..... | Greenwich Astronomical and Magnetical Observations, 1852. |
| Association, British, for the Advancement of Science | Report for 1853. |
| Company, the Hon. East India ..... | Catalogue of Birds in the H. E. I. C.'s Museum. |
| Society of Antiquaries, London ..... | Archæologia, vol. 35, part 2. |
| | Proceedings of Society of Antiquaries, vol. 3, No. 37—40. |
| | List of Members of the Society of Antiquaries, 1854. |
| Society, Geological, of London ..... | Quarterly Journal, No. 38. |
| Society, Manchester Literary and Philosophical ... | Memoirs, vol. 2. |
| Society, Chemical, of London | Quarterly Journal, No. 27. |
| Society, Cornwall, Royal Polytechnic ..... | Report of 1853—4. |
| Society, Lancashire and Cheshire, Historic ..... | Proceedings of 1853—4. |
| Society, Literary and Philosophical, of Liverpool... | Proceedings of 1853—4. |
| Society, Leeds Literary and Philosophical..... | Report of 1853—4. |
| Society, Geological and Polytechnical, of W. R. of Yorkshire ..... | Report of Proceedings, 1853. |
| Botfield, B., Esq. ..... | Description of a Roman Villa at Bennavenna. |
| Hoare, Edward, Esq. *(Cork)* | Drawing of an ancient Celto-Irish penannular Brooch. |
| Londesborough, Lord ..... | Wanderings of an Antiquary, by Thos. Wright, F. S. A. |
| | Miscellanea Graphica, No. 1. |
| Mason, Rev. Francis, D.D. | Flora Burmannica. |
| Mayer, Joseph, Esq. *(Liverpool)* ..... | Catalogue of Drawings in the Collection of John Mather, Esq, relating to the Bonaparte Family. |

| | |
|---|---|
| | Wright's Lecture at Liverpool on the Faussett Collection of Antiquities. |
| Smith, C. Roach, Esq. ..... | Remarks on the Faussett Collection of Antiquities. |
| Stillingfleet, Rev. Edward . | Archæologia, 4 vols. |
| | Maurice's Ruins of Babylon. |
| Watson, Mr. Wm. ..... | Dialling Diagrams. |
| Wood, John, Esq..... ... | Journal of Horticultural Society, vol. 9, part 1. |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S., (8 parts published).

Churton's Monastic Ruins of Yorkshire, fol., (6 parts published).

Birds of Asia, folio, by John Gould, Esq., (7 parts published).

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Illustrated Proceedings of the Zoological Society.

Publications of the Ray Society, received in 1854. A Monograph on the sub-class Cirripedia, with figures of all the Species, by Charles Darwin, F. R. S., &c. Bibliographia Zoologiæ et Geologiæ, by Agassiz and Strickland, vol. 4. Nudibranchiate Mollusca, by Alder and Hancock, part 6.

Publications of the Palæontographical Society. No issue in 1854.

Reliquiæ Antiquæ Eboracenses, by Wm. Bowman, (3 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (14 parts published).

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

Presented
MAR 1886

Yorkshire Philosophical Society.

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# ANNUAL REPORT

FOR

MDCCCLV.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLV.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1856.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1856.

# TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

---

CHARLES WILLIAM, EARL FITZWILLIAM.

THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

---

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LORD FEVERSHAM.

# OFFICERS OF THE SOCIETY, 1856.

## PRESIDENT:

EARL FITZWILLIAM, F. R. S.

## VICE-PRESIDENTS:

LORD LONDESBOROUGH, F. R. S.
REV. C. WELLBELOVED.
JOHN PHILLIPS, F. R. S.
HARRY STEPHEN THOMPSON.
JOHN FORD.
REV. CANON HEY.
CHAS. W. STRICKLAND.
REV. W. V. HARCOURT, F. R. S.

## TREASURER:

WILLIAM GRAY, F. G. S.

## COUNCIL:

*Elected* 1854....THOMAS BARSTOW.
WM. WHYTEHEAD.
GEO. DODSWORTH.
WM. PROCTER.
*Elected* 1855....WM. ANDERSON.
REV. THOS. BAYLY.
REV. THOS. MYERS.
JOHN KITCHING.
*Elected* 1856....THE LORD MAYOR.
H. P. CHOLMELEY.
G. F. JONES.
G. H. SEYMOUR.

## SECRETARIES:

Rev. J. Kenrick.
Thos. Allis.

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## ASSISTANT SECRETARY:

Edw. Charlesworth.

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## CURATORS:

| | |
|---|---|
| Mineralogy . . . . . | William Procter. |
| Comparative Anatomy . . | Thomas Allis. |
| British Ornithology . . | W. Rudston Read, F. L. S. |
| Insects and Crustacea . . | Rev. Canon Hey. |
| Antiquarian Department . | Rev. Charles Wellbeloved. |
| Library and Manuscripts . | Rev. J. Kenrick. |
| Observatory & Meteorology, *under the Care of a Committee consisting of* . . . . . | The Rev. W. V. Harcourt, F. R. S.<br>T. S. Noble.<br>Wm. Gray, F. G. S.<br>John Ford.<br>Rev. Canon Hey. |

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## KEEPER OF THE MUSEUM:

Edward Charlesworth, F. G. S.

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## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 5, 1856.

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IN presenting to the Annual Meeting the Report for the past year, the Council will first relate the ordinary operations of the Society, and then advert to the results of some important changes in its Laws, which have been carried into effect within the year.

Numerous and valuable additions have been made during the past year to the NATURAL HISTORY Collections, both by donation and by exchange. Mr. Joseph Clark, of Cincinnati, who seldom allows a twelvemonth to pass without some proof of the interest which he takes in the progress of the Society's Collections, has sent various American fossils and recent fresh-water shells, in extension of the beautiful series of specimens given by him in former years. A cast of the celebrated Plesiosaurus Macrocephalus belonging to the Earl of Enniskillen, has been received from the Hull Philosophical Society in exchange for a duplicate specimen of the skull and horns of the extinct Irish Deer. The Committee of the York Medical School have presented a very perfect specimen of the skull of the Bos longifrons of Owen, found in digging a canal near Pocklington; and Mr. Sharpin, a portion of the thigh bone of the Deinornis, or great extinct wingless bird of New Zealand—a valuable addition to the casts of bones of this bird, previously presented by the Council of the College of Surgeons. From H. P. Cholmeley,

Esq., have been received various teeth and bones from the Kirkdale Cave, which will be very acceptable to the Society, as this celebrated cave has long ceased to furnish specimens to the palæontologist. Mr. Wood, of Richmond, has presented additional examples of the remarkable Encrinite discovered by him in the Mountain Limestone of that district.* An eminent foreign naturalist, M. de Koninck, by whom it has been described and figured, regards it as constituting a new genus, for which he proposes the name Woodocrinus. From Mr. Wood the Society has also received in exchange a remarkable fossil fish, probably of an undescribed species, from the Magnesian limestone of Ferry Hill. To Mr. Leckenby, of Scarborough, the Society is indebted for a beautiful specimen of the rare fossil fern, Orthopteris Beanii, from the oolitic shale of Gristhorpe; to Mr. Bainbridge, junior, for a semi-fossil bone of a large whale from the neighbourhood of Selby; and from the Rev. Geo. Row it has received in exchange a new species of Trigonia from the oolitic iron-stone of Marsk, a locality which promises to yield other novelties to the collector.

The Zoological Department has been enriched by a donation from Wm. Hewitson, Esq., of a beautiful and valuable collection of foreign butterflies, all named and in high preservation. John Lister, Esq., of Doncaster, has presented, through Mr. O. A. Moore, a remarkable specimen of the gigantic sponge (Raphiophora patera) commonly called "Neptune's Cup." This sponge fills an important gap in the Society's collections, as it is a recent species, presenting important points of agreement with some of the fossil sponges of Flamborough contained in the Museum. From W. C. Warren, Esq., of Dublin, the Society has received several rare British marine shells; from Professor Melville, of Queen's College, Galway, fine examples of Caryophyllia Smithii, and from Mr. James Backhouse, the rare and lately discovered British shell Limnæa Burnetti.

It has long been a subject of regret with the Council that the visitor to the Natural History Department of the Museum,

* See Report for 1852.

was not furnished with any printed Guide, to explain its general arrangement, and to point out those objects of special interest with which it abounds. A Catalogue of a collection so extensive and so varied, however valuable for scientific purposes, would be too bulky for general use; but the Council believe that it is practicable to include within the compass of a Manual, a large amount of valuable information. Such a Manual the Keeper of the Museum has kindly undertaken to prepare, in conjunction with the Curators of the different departments, and the Council hope that it will be printed when that season of the year arrives, which usually brings an increase of visitors to the Museum.

To the department of ANTIQUITIES few additions have been made during the past year. Some coins have been added to the cabinet by Members of the Society, but none of such a character as to require particular notice. From Lawrence Williams, Esq., of Pule Hill Hall, have been received the mummy of an ibis and some portions of a human mummy. From Lady Frankland Russell and the Yorkshire Antiquarian Club, the umbo of a shield and the head of a lance, with some remains of Roman and Saxon pottery, found in a tumulus at Sowerby, near Thirsk. To Mr. Thomas, of York, the Society is indebted for the donation of a Roman leaden coffin, lately discovered in his brickyard in Layerthorpe, near the spot in which, a few years ago, a Roman stone coffin was found, now in the possession of the Society, with other Roman remains. It lay seven feet below the surface, and from the nails and fragments of wood found with it, appears to have been enclosed in a coffin of that material. It is 5 feet 6 inches long and very narrow, containing a skeleton, at present enveloped in mud, supposed to be that of a young person. It has a leaden lid, but there is no soldering nor any inscription or ornament in any part of it.

In compliance with the request presented to him by the Council of the Society, George J. Jarratt, Esq., of Doncaster, has deposited in the Museum the Roman altar, dedicated to the Deæ Matres, found at that place in 1781. It bears an inscription which may be read without difficulty, but the

interpretation of one portion of it has exercised, hitherto in vain, the ingenuity of several learned antiquaries.

The Roman pavement at Oulston, near Easingwold, still remains in the state described in the last Report. The death of the late Sir George Wombwell, and the absence of his successor from England, prevented its removal during the favourable season of the year, but when this returns, the Council will proceed to act upon the permission which they have received to transfer it to the Museum of the Society.

Towards the close of the year 1854 the Council were informed that it was intended to destroy the gateway of the ancient Priory of the Holy Trinity, in Micklegate. Desirous to preserve this last relic of the dependent buildings belonging to a religious house, which is connected with the history of York before the Norman Conquest, they addressed a representation to the proprietor of the ground on which it stood; but were informed that its preservation was impossible, except on conditions with which it was not in their power to comply. While the Council deeply regret the destruction of another of those monuments which gave to our city its interesting and characteristic appearance, they may be allowed to congratulate the citizens of York and the lovers of antiquity in general, that so many of these are now secured from destruction, by being included within the precincts of a Society which appreciates their importance and is pledged to their preservation.

Among the additions made to the LIBRARY in the course of the last year, the largest and most valuable is that of the Philosophical Transactions from the year 1835, the donation of the Rev. Wm. Taylor, F. R. S., an honorary member of this Society, who has promised to present the future volumes as they appear. Lord Londesborough has presented five more numbers of the Miscellanea Graphica, containing engravings of works of Mediæval art from his Museum, recently enriched by many valuable additions from the collection of Mr. Bernal. This work is curious not only as illustrating the state of art in the middle ages by many exquisite specimens, but as exhibiting the perfection to which chromolithography has attained. Professor Sedgwick has presented a copy of the beautiful and elaborate

work, by himself and Professor M'Coy, on the fossils of the palæozoic period. The Council have received this present with peculiar pleasure, as an indication of his friendly feeling towards a Society, which has always made it a primary object, to illustrate the Geology of his native county.

Since the preparation of this Report, the Society has been honoured by receiving from H. R. H. Prince Albert, a copy of The Natural History of Deeside and Braemar, by the late Dr. Wm. Macgillivray; the manuscript of which was purchased by the Queen from the family of the author, and has been printed by her Majesty's command.

The publication of a second part of the Papers read before the Society has afforded an opportunity of effecting an exchange with other bodies which publish reports of their proceedings. One of these is the Church Architectural Society of the Counties of York, Lincoln, and the Archdeaconry of Northampton, whose objects, as far they embrace the illustration and preservation of antiquities, correspond with our own. As the papers communicated to the Yorkshire Philosophical Society will not furnish for some time to come, the materials of another volume, it is the intention of the Council to introduce into the Annual Report, instead of the mere titles hitherto given, short abstracts of these papers, which will furnish to non-resident members information respecting the proceedings at our monthly meetings.

The Council have observed, with regret, the limited use made of the Library by the members of the Society, who, as a body, are probably little acquainted with the number and value of the works which it contains. They have therefore determined to print the alphabetical part of the Catalogue, which they hope may appear in the course of the next few months, and which will afford to those members who have no opportunity of personally inspecting the library, the means of exercising a privilege which now is almost nominal.

The following Meteorological Register has been received from Mr. Ford, by whom the series of observations is carried on.

## METEOROLOGICAL REGISTER, YORK, 1855.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Nights at or below 32° | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days | Aver. Max. | Aver. Min. | Mean Temp. | Highest. | Lowest. | | |
| Jan. | 30·636 | 29·734 | 30·1168 | ·97 | 6 | 38·7 | 30·8 | 34·7 | 50 | 22 | 21 | N. & N. W. |
| Feb. | 30·208 | 29·320 | 29·7646 | 1·48 | 9 | 31·2 | 20·7 | 25·9 | 36 | 1·5 | 28 | N. E. |
| Mar. | 30·538 | 28·650 | 29·6062 | 1·18 | 5 | 41·6 | 31·1 | 36·3 | 49 | 23 | 21 | Various. |
| April | 30·634 | 29·098 | 30·0146 | ·18 | 2 | 51·6 | 35·1 | 43·3 | 65 | 26 | 11 | N. & E. |
| May | 30·328 | 29·444 | 29·7987 | ·88 | 9 | 54·0 | 37·7 | 45·8 | 75 | 25 | 7 | N. & N. E. |
| June | 30·464 | 29·154 | 29·9006 | 2·04 | 14 | 63·2 | 46·9 | 55·0 | 78 | 38 | — | Southerly. |
| July | 30·214 | 29·506 | 29·8068 | 4·10 | 15 | 68·0 | 51·7 | 59·8 | 77 | 46 | — | S. & W. |
| Aug. | 30·344 | 29·526 | 29·8735 | 3·20 | 9 | 66·4 | 52·2 | 59·3 | 75 | 43 | — | W. |
| Sep. | 30·624 | 29·472 | 30·0683 | ·26 | 5 | 60·8 | 45·2 | 53·0 | 69 | 33 | — | N. & E. |
| Oct. | 30·210 | 28·592 | 20·5216 | 2·90 | 19 | 53·2 | 40·6 | 46·9 | 67·5 | 28·5 | 8 | S. W. & W. |
| Nov. | 30·414 | 29·438 | 29·9759 | 1·16 | 15 | 43·8 | 35·8 | 39·8 | 52·5 | 23·5 | 7 | N. E. |
| Dec. | 30·358 | 28·926 | 29·7879 | ·95 | 9 | 37·8 | 28·7 | 33·2 | 47 | 19 | 22 | N. & W. |
| | | | 29·8529 | 19·30 | 117 | | | 44.41 | | | 125 | |

The Meteorological Register for the year 1855 exhibits a a lower mean temperature than that of any year in the last quarter of a century. Every month except August was below a mean. The average annual temperature for York, for a period of twenty years, is 47°5; for the last ten years, 47°2, and for the year 1855, 44°4. The day of lowest temperature was Feb. 16, when the thermometer denoted + 1°5. The day of highest temperature was June the seventh, 78°; the range for the year being 76°5.

The mean temperature for February was 25°9, being twelve degrees below a mean, and unprecedented in the registration of the Society.

The amount of rain has again been below a mean. The quantity registered for the year is 19·3 inches.

The annual mean for 20 years is..... 24·2 inches.
„ „ for the last 10 years .. 23·3 „
„ „ for the last 5 years .. 21·5 „

This series might lead to the conclusion that the annual amount of rain was decreasing in the plain of York, were it not for the compensations to be looked for in a longer series. The range in the amount of rain falling at York is very extensive, varying from 36 inches in 1848 to 18 inches in 1850.

The annexed table exhibits a condition in regard to the prevalent winds, quite coincident with the diminished temperature of the year. In 1854, there were 154 days of W. and S. W. winds against only 102 in 1855.

The Gentiana verna flowered on the 18th of May against the 18th of April, 1854.

Two thunder storms were noticed in June; four in July; and one on the 7th and one on the 8th August, a period, as we have formerly observed, of the almost regular occurrence of electrical display.

The instruments in the Observatory have been kept in order by Mr. T. Cooke. Transits have been observed and true time registered.

RAIN TABLE FOR 1855.

| | Scarbro'. | Huggate. | Middleton. | York. | Wheldrake. | Ackworth. | Doncaster. | Bradford. | Sheffield. | Settle. | Todmorden. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 1·19 | 0·75 | 0·90 | 0·97 | 0·43 | 0·44 | 1·66 | 0·77 | 0·59 | 0·63 | 0·28 |
| Feb. | 2·51 | 0·13 | 2·50 | 1·48 | 1·94 | 2·16 | 1·37 | 0·82 | 2·64 | 0·86 | 0·20 |
| Mar. | 1·51 | 0·87 | 1·80 | 1·18 | 1·25 | 1·09 | 1·35 | 0·47 | 1·93 | 2·74 | 1·89 |
| April | 0·33 | 0·50 | 0·39 | 0·18 | 0·32 | 0·76 | 0·41 | 1·05 | 0·74 | 0·98 | 0·75 |
| May | 1·30 | 1·38 | 1·52 | 0·88 | 1·19 | 1·53 | 1·19 | 1·06 | 1·38 | 0·79 | 2·09 |
| June | 3·36 | 2·37 | 2·73 | 2·04 | 1·85 | 1·30 | 1·52 | 3·25 | 3·33 | 4·19 | 1·74 |
| July | 3·03 | 5·13 | 5·79 | 4·10 | 2·95 | 6·06 | 4·56 | 2·73 | 3·50 | 2·97 | 1·42 |
| Aug. | 1·75 | 2·37 | 1·73 | 3·20 | 3·25 | 1·54 | 0·98 | 2·45 | 1·27 | 2·56 | 0·81 |
| Sept. | 0·33 | 0·37 | 0·35 | 0·26 | 0·34 | 0·48 | 0·47 | 0·64 | 0·99 | 0·70 | 0·26 |
| Oct. | 3·93 | 4·25 | 4·12 | 2·90 | 2·96 | 4·53 | 3·91 | 6·68 | 5·32 | 6·58 | 7·89 |
| Nov. | 2·29 | 2·25 | 1·93 | 1·16 | 1·09 | 0·74 | 1·04 | 1·12 | 0·88 | 1·47 | 1·74 |
| Dec. | 3·11 | 2·38 | 1·97 | 0·95 | 0·98 | 0·70 | 0·57 | 1·13 | 0·78 | 1·88 | 1·75 |
| | 24·64 | 22·75 | 25·73 | 19·30 | 18·55 | 21·33 | 19·03 | 22·17 | 23·35 | 26.35 | 20·82 |

The Provincial Medical Association of England met again in York in August last, and on this occasion, as on that of their previous meeting in 1841, the Council gladly acceded to their request to be allowed to hold their sittings in the Library and Theatre of the Yorkshire Philosophical Society. The members of the Association inspected with much interest the Roman surgical instruments which are preserved in the Society's Museum, and which they had an opportunity of comparing with the engravings of similar instruments discovered in Herculaneum, and Pompei, and figured in the dissertation of the Cavaliere Vulpes.* With that friendly feeling which they will always entertain towards every Society which has for its object either the discovery of truth or the diffusion of knowledge, the Council opened its collections to the members of the Yorkshire Union of Institutes, which met here in the month of May under the presidency of Lord Goderich. By an arrangement with the York Horticultural Society, a Flower Show was held in the grounds of the Museum, on the 3rd and 4th of July. The display of flowers was very brilliant, the weather was auspicious, and nearly 4000 persons were present. The Treasurer's accounts will show that the result was in a small degree beneficial to the finances of the Yorkshire Philosophical Society.

From the register kept at the gates it appears that nearly 4000 persons annually pay for admission: 7000 more are admitted by written orders. The strangers introduced personally by members, though their numbers cannot be accurately ascertained, probably exceed those who pay for admission; and if to these be added the multitudes who throng the Museum and Gardens on the days of free admission at Whitsuntide, it will be seen how largely our Institution ministers to the instruction and gratification of the public.

When the new arrangement, sanctioned by the last Annual Meeting, was made with Mr. Charlesworth, he undertook to give some lectures, bearing on those facts in Natural History which could be illustrated by specimens in the Museum. He

* Illustrazione di tutti gli strumenti chirurgici scavati in Ercolano e in Pompei, Napoli 1847.

accordingly delivered four evening lectures in successive weeks in the months of October and November. The numerous attendance, which continued undiminished to the close, attested the interest excited by the subject and the ability and success with which it was treated by the Lecturer. The Museum was lighted up for the inspection of the audience at the close of each lecture, and one evening was specially devoted by the Curators of the several departments of Natural History to the illustration of the collections under their charge. The Council look forward with pleasure to the frequent employment of the beautiful theatre of the Museum, for the purpose of scientific instruction. Mr. Procter has commenced a course of Four Lectures on Water, the Atmosphere and their constituents, with illustrative experiments; other members have promised their assistance, and Mr. Charlesworth is prepared to proceed at the direction of the Council with further lectures in his own branch of science.

The Treasurer's Report shews an excess of £52. 18s. in this year's expenditure above the receipts, which is to be added to the sum of £56 11s. 11d. due to the Treasurer in January, 1855. The receipts at the gate, which have varied in the course of the last ten years between £148 and £212 (not including the year of the Agricultural Meeting), amount this year to £160. The receipts from the swimming bath, from the sale of the descriptive account of the Antiquities and the hire of the tent, exhibit an increase compared with last year. The general financial result would have been much more favourable, but for the heavy items of the cost of the Second Part of the Proceedings, the repairs and painting of the Museum and Cottages in Marygate, and the repairs of the House occupied by Major Mein, amounting together to upwards of £170. It must also be observed that the entrance fee being now spread over three years, the Society will not have derived, till 1857, the whole benefit of the admissions which have taken place in 1855. Although the balance due to the Treasurer, therefore, is large, the Council hope that they shall be able to restore the equilibrium of receipts and expenditure, without neglecting any of the great objects for the promotion of which the Yorkshire Philosophical Society was established.

The result of the changes in the laws which were made at the last annual meeting, and of some new regulations adopted by the Council has been upon the whole very satisfactory. The return to the original plan of receiving written orders of admission at the gate has met with general approbation, and has removed some causes of complaint which formerly existed. By the system of filing the orders it has been found easy to check any infringement of the rule which limits the admissions of each member to one hundred persons. The extension of the hours during which the Museum and Hospitium are kept open through the Summer months, has not only been acceptable to the members of the Society, but has proved a great accommodation to strangers, making a short stay in York.

By far the most important of these changes, however, is that which was adopted at a special general meeting, and which allows the entrance money to be spread over three years, instead of being added to the first year's subscription. To this change, and to the zealous exertions of Mr. Charlesworth, it has been chiefly owing that the accession of new members since the last annual meeting has exceeded the experience of any year, since the first establishment of the Society. Besides Associates and Lady Subscribers, thirty-six new Subscribers (including those elected this day) have been admitted. It is unfortunately true that this increase is in some measure balanced by an unusual number of deaths, resignations and removals during the year 1855; but the true mode of estimating its importance is to consider what the state of the Society's finances would have been, if this decrease had taken place without any countervailing accession. The total number of members at the commencement of 1855 was 311; it is now 328. These accessions have been derived chiefly from residents in York, and the attention of the Council has been anxiously directed to the means of arresting the rapid diminution of county members. For this purpose it was determined to submit to a special general meeting, a proposition that no admission fee should in future be required from candidates residing seven miles from York. This meeting was held on Oct. 3rd, Lord Londesborough in the chair; and the measure

recommended by the Council was unanimously adopted. A circular letter was subsequently addressed to all the members residing in the county, informing them of this change, and earnestly appealing to them to exert their personal influence in order to effect an object, the accomplishment of which the General Meeting had declared to be essential to the well-being of the Society. The time that has elapsed has been too short to allow of a conclusion as to the ultimate success of this appeal; but the election of five or six county members which has already taken place is an auspicious beginning, and appears to the Council to warrant the hope of a revival of that zealous support which the Society formerly enjoyed on the part of the inhabitants of the county, and deprived of which it must contract the sphere of its operations, and abandon the high position which it has hitherto maintained.

The Council consider the arrangement made with Mr. Charlesworth at the commencement of 1855, in other respects very satisfactory, but since its success, as regards the finances of the Society, is still doubtful, they have for the present only extended it to another year. The Honorary Secretaries offer the continuance of their services for the same period.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1855.

**Cr.** RECEIPTS.

| 1855. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 495 | 1 | 0 |
| Admission of New Members | 78 | 0 | 0 |
| Composition in lieu of Subscription | 25 | 0 | 0 |
| Associates | 8 | 0 | 0 |
| Ladies' Subscriptions | 43 | 0 | 0 |
| Rents | 101 | 3 | 6 |
| Money received at the Gate | 160 | 3 | 8 |
| Swimming Bath (deducting expenses) | 45 | 17 | 3 |
| Keys of the Gates | 36 | 15 | 0 |
| Sale of Guide to Antiquities | 15 | 17 | 0 |
| Temporary Subscribers | 3 | 0 | 0 |
| Sale of Proceedings | 0 | 10 | 0 |
| Horticultural Show | 14 | 16 | 7 |
| Use of Tent | 17 | 0 | 0 |
| Total Income | 1044 | 4 | 0 |
| Excess of Expenditure | 52 | 18 | 0 |
| | £1097 | 2 | 0 |

| | | | |
|---|---|---|---|
| Permanent Debt: | | | |
| Yorkshire Insurance Company | £1900 | 0 | 0 |
| Five Members at £50 each | 250 | 0 | 0 |
| | 2150 | 0 | 0 |
| Balance due to the Treasurer Jan. 1856 | 109 | 9 | 11 |
| Total Debt of the Society, Jan., 1856 | £2259 | 9 | 11 |

**Dr.** EXPENDITURE.

| 1855. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent | 1 | 0 | 0 | | | |
| Rent to Corporation | 51 | 11 | 3 | | | |
| Rates and Taxes | 4 | 8 | 6 | | | |
| Insurance & Water Rent | 11 | 6 | 0 | | | |
| | | | | 68 | 5 | 9 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum and Assist. Secretary | 200 | 0 | 0 | | | |
| Sub-Curator | 100 | 0 | 0 | | | |
| Servant | 20 | 0 | 0 | | | |
| Lodge Keeper | 20 | 0 | 0 | | | |
| Labourers | 152 | 17 | 0 | | | |
| Clerk, half year due Feb., 1855 | 12 | 10 | 0 | | | |
| Collector | 5 | 0 | 0 | | | |
| Attendant, Hospitium | 7 | 16 | 0 | | | |
| | | | | 518 | 3 | 0 |
| Interest on Debt to Dec. 31, 1855: Insurance Company | | | | 71 | 2 | 1 |
| Museum Gardens, &c.: | | | | | | |
| General Repairs | 153 | 2 | 9 | | | |
| Purchase and Preparation of Specimens | 11 | 5 | 6 | | | |
| | | | | 164 | 8 | 3 |
| Library, Books and Binding | | | | 32 | 8 | 8 |
| Publication of Proceedings | | | | 83 | 2 | 0 |
| Incidental Expenses: | | | | | | |
| Printing, Advertising, and Stationery | 29 | 5 | 9 | | | |
| Coals and Gas | 75 | 2 | 9 | | | |
| Postage, Carriage, and Sundries | 55 | 3 | 9 | | | |
| | | | | 159 | 12 | 3 |
| Total Expenditure | | | | £1097 | 2 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company | 1900 | 0 | 0 | | | |
| Due to Five Members £50 each | 250 | 0 | 0 | | | |
| | 2150 | 0 | 0 | | | |
| Due to Treasurer Jan., 1855 | 56 | 11 | 11 | | | |
| Total Debt of Society, Jan., 1855 | | | | 2206 | 11 | 11 |
| Excess of Expenditure 1855 | | | | 52 | 18 | 0 |
| | | | | £2259 | 9 | 11 |

Feb. 4th, 1856, Audited by me,
WM. L. NEWMAN.

WILLIAM GRAY, TREASURER.

# MEMBERS

## ELECTED SINCE FEB., 1855.

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### 1855.

Agar, John, *Brockfield.*
Bagley, Richard, *York.*
Bainbridge, John, jun., *York.*
Brown, James, *Rossington, Bawtry.*
Cattle, Miss, *York.*
Collier, William, *York.*
Cookson, Edw. B., *York.*
Coultas, John, *York.*
Dale, Robt., *York.*
Farrar, Jas. W., *Ingleborough.*
Greenwood, Wm., *York.*
Hill, Samuel, *North and East Riding Asylum.*
Hotham, Capt., *York.*
Jackson, Henry, F. R. C. S., *Sheffield.*
Matthews, John, M. D., *York.*
Milbanke, Lady, *York.*
Noble, Thos. S., *York.*
Palmer, Rev. H. V., *York.*
Phillips, Mrs. Thomas, *York.*
Porter, Septimus, *York.*
Prance, Robt. R., *York.*
Pritchett, J. B., *York.*
Robinson, Rev. H. G., *York.*
Simpson, J. H., *York.*
Short, Rev. H., *York.*
Smithson, Robt., *York.*
Swaine, Edwd., *York.*
Thompson, Edwin, *York.*
Thompson, H. S., *Fairfield.*

### 1856.

Copley, Geo., *Nether Hall, Doncaster.*
Creyke, Ralph, *Rawcliffe Hall, Selby.*
Lawson, Andrew S., *Boroughbridge.*
Markham, Hy., Robt.
Tabor, John, *York.*
Wilkinson, Joseph, *York.*
Wightman, John, *York.*

## ALTERATIONS

IN THE LAWS OF THE SOCIETY, MADE AT SPECIAL GENERAL MEETINGS, IN 1855.

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MARCH 6th.—That Rule 1, Section IV., be amended by adding "but a Member, instead of paying £5 on Admission, may pay £3 Subscription for the first three years."

OCTOBER 3rd.—That Rule III., Section IV., be altered so as to stand thus: "Honorary Members and Contributors of fifteen pounds and upwards to the Building Fund, shall, on becoming Subscribing Members, be exempted from the payment of the admission money of three pounds. Subscribing Members residing seven miles and upwards from York, and Widows of deceased Members desirous of continuing their Husbands' Subscriptions, shall also be exempted from the payment of admission money."

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## RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 6TH, 1855.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the thanks of the Society be given to the Vice-Presidents, and Members of Council retiring from Office, and to the Secretaries and Curators, for their valuable services.

3. That the authority given to the Council last year, with respect to the holding one or more Horticultural Meetings in the Society's Grounds, and the admission of Strangers and temporary Subscribers, be continued.

# COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

1855.

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APRIL.—THE REV. JOHN KENRICK read the first part of a paper on Roman Sepulchral Inscriptions. Those which are found in Britain are usually brief and chiefly military, and devoid of any beauty of sentiment, though the Society's Museum contains one of touching simplicity, that on Simplicia Florentina, by her father. The number and length of such records is usually an indication of the extent of the prevalence of the Latin language in any country, and the wealth of its population. Hence, after Rome itself, the North of Italy, the South of Gaul, and the Spanish Peninsula have furnished the largest number of inscriptions. Britain was poor, and the Latin language not widely diffused nor deeply rooted. The Latin sepulchral inscriptions were designed not only to commemorate the age and station of the deceased, but to secure the ground from being claimed by the heirs, to warn passers by against violation, to perpetuate the performance of funereal rites and honours. Besides the light which they throw on manners and sentiments, they illustrate the orthography and etymology of the language, preserving ancient forms, which have been obliterated in MSS., from the tendency of transcribers to accommodate these things to the usage of their own times. Examples were given of the sentiments expressed on Roman tombs, by parents towards children, children towards parents (which are comparatively rare), husbands and wives towards each other; the latter class indicating, that whatever might be the laxity of morals among the higher orders, or the abuse of divorce, mutual affection and happiness were the general characteristics of the conjugal relation among the Romans.

MAY.—THE REV. JOHN KENRICK concluded his observations on Roman Sepulchral Inscriptions, treating particularly of the indications

of religious belief and feeling which they contain. The usual heading of D. M. (Diis Manibus) might seem a proof of the universal belief in the existence of the disembodied spirit, but we know from the Latin writers that such a belief had worn out, and that few had any faith in the separate existence of the soul, or a state of retribution. The sentiment of submission to the Divine will is wholly unknown in the Roman inscriptions. The gods are accused, in no measured terms, for their cruelty in blighting the hopes of parents or interrupting the happiness of matrimony. The only topics of consolation adverted to are, that longer life might have been only a calamity, or that the survivor would soon rejoin those for whom he mourned. Excess of sorrow is forbidden, on the ground that what was suffered was only the common lot of humanity. A remarkable difference is observable between the characters of deceased persons, as delineated on Roman and on Christian monuments. In the former, we find mention made of the erection of a fountain, the dedication of a temple, the bequest of a public legacy; but none of acts of social benevolence, of a life devoted to the alleviation of misery, or the removal of ignorance. The general conclusion drawn from the indications of the state of religious faith and moral feeling, conveyed by the Roman sepulchral inscriptions was, that the time was fully come when Revelation was needed to prevent mankind from being divided between scepticism and superstition. The principal collections of inscriptions were enumerated, with a caution against the forgeries which have been mischievously obtruded upon the world.

June.—A paper by the Rev. John Ward, of Wath, near Ripon, on the encaustic tiles of Jervaulx Abbey, was read by the Rev. J. Kenrick, who prefaced the reading with some remarks on the origin of this manufacture, examples of which have been found at Nemroud, and which was introduced into Spain by the Moors, who may have learnt it from the remains of the Assyrian cities, during the residence of the Caliphs at Bagdad. It was introduced into England in the thirteenth century, and splendid examples of it are found in various churches and chapter houses, but none which equal in beauty and richness those which a few years ago remained at Jervaulx, and of which drawings, on the scale of the original, had been presented to the Society by Mr. Ward. The Abbey was founded in 1166, and the whole pavement had been laid with encaustic tiles of a great variety of design. Eight large patterns had been introduced in various parts, the drawings of which were exhibited to the meeting. It is remarkable,

that there does not appear to be any religious symbolism, either in the design or their arrangement, though Mr. Ward thought that the tiles might contain an allusion to the chequered path of life, and that the narrow course in one part of the church might typify the straight gate and narrow road which lead to heaven.

Mr. Pritchett called attention to the revival of the manufacture of encaustic tiles in modern times, especially by Mr. Minton, of the Staffordshire Potteries, and produced a number of patterns of his workmanship, far exceeding in colour and design any remains of mediæval art.

DECEMBER.—THE REV. J. KENRICK read a paper on the Sarcophagus of a king of Sidon, called Asmunezer, recently discovered in the neighbourhood of that city, and exhibited a facsimile of the inscription, in the Phœnician character, with a transcript in Hebrew and a translation by Dr. Dietrich, Professor at Marburg, in Germany. The first part contains a warning against the violation of the tomb, enforced by a variety of imprecations; the second, an account of the great works which the king had performed for Sidon, and a supplication to the "Lord of kings" on behalf of its inhabitants. The age of the monument is not easily ascertained, as the name of Asmunezer does not occur in any list of kings, and he dates by his own regnal years. But it is probable that he lived between the conquest of Phœnicia by Cambyses, 526 B.C., and that by Alexander, 332 B.C., therefore during the time when the kings of that country enjoyed their titles and power, though dependent on Persia. The language is closely allied to the Hebrew, and several instances of correspondence between this inscription and the Scriptures were pointed out.

JANUARY, 1856.—A drawing was exhibited of an altar, recently deposited in the Museum of the Yorkshire Philosophical Society, by Geo. J. Jarratt, Esq., of Doncaster, in whose house it was found in 1781. By the kindness of the Rev. Joseph Hunter, V.P.S.A., the Society is enabled to give the annexed wood-cut, originally used in his History of the Deanery of Doncaster. This altar is dedicated to the Deæ Matres, goddesses not known in the older Roman Pantheon, but extensively worshipped at a later period in Gaul, Germany and Britain. The inscription has been variously read: MATRIBUS · MAGNIS · NONNIUS · ANTONIUS OB · ROMANORUM · TOTAM · ALAM · VOTUM · SOLVIT · LUBENS · MERITO · or MATRIBUS · MARCUS ·

NANTONIUS · ORBIOTALIS V. S. L. M., or lastly, by a transposition of the fourth line, to follow the first, as suggested by Mr. C. Roach Smith, MATRIBUS · ORBIS · TOTALIS · MARCUS NANTONIUS V. S. L. M.

Mr. PROCTER then read a paper on the result of the examination of a tumulus lately opened at Sowerby, near Thirsk. The investigation was begun by Lady Frankland Russell, and continued by the Yorkshire Antiquarian Club. The tumulus is 140 yards in circumference and 18 feet high. Three male skeletons were found in it, laid E. and W., but two of them with their heads to the E. and one to the W. There were discovered also masses of calcined bones, fragments of Roman pottery, three Roman coins of a late age and a small fragment of Samian ware. Near one of the skeletons was found the boss of a shield of the ordinary Saxon character, seven inches across, composed of iron, the brass rivets still remaining by which it had been attached to the wood. The head of a spear, seven inches in length, lay by the side of this skeleton, and the remains of a knife or dagger of iron across the hip of the second. Portions of broken urns were found

beneath the head of the third skeleton; the jaws of a boar, the antlers of a deer, the tooth of a horse and the bones of other animals were found in different parts of the tumulus. Mr. Procter concluded from the various indications offered by these remains, that the tumulus was neither British nor Roman but Saxon. The boss of the shield was decidedly indicative of a Teutonic tribe; the spear and the dagger are the usual accompaniments of a Saxon interment, as seen in the Driffield graves opened by the Antiquarian Club. It is true the pottery and the coins are Roman, but the Saxons at this time generally used the Roman pottery, and Roman and Byzantine coins are frequently found in graves, which other circumstances prove to be Saxon. The presence of the bones of animals is an indication of the feasts which our pagan ancestors celebrated over the graves of their dead. The Germans, as we learn from Tacitus, committed the warrior's horse along with his own body, to the flames. The Sowerby tumulus presented traces both of cremation and interment, and Mr. Procter was therefore disposed to refer it to the sixth or seventh century, when cremation, which had been the general practice of the Saxons, began to give way to interment, as practised by the Christians and later Romans. The remains found in the tumulus by Lady Frankland Russell and the Yorkshire Antiquarian Club, have been presented to the Society, and will be placed in its Museum, beside the similar objects derived from the Driffield graves.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Committee of York Medical School ..... | Fossil cranium of Bos longifrons. |
| Hull Philosophical Society | Cast of the Earl of Enniskillen's Plesiosaurus macrocephalus (in exchange.) |
| Bainbridge, Mr. John, jun. | Semifossil bone of a large Whale. |
| Cholmeley, H. P., Esq.... | Various mammalian Fossils from the Cave at Kirkdale. |
| Harcourt, Rev. Canon..... | Various Fossils. |
| Leckenby, John, Esq. ..... | Fine example of Orthopteris Beanii from Gristhorpe. |
| Sharpin, Mr. S. ..... | Portion of the femur of the Deinornis, from New Zealand. |
| Statham, Rev. F., *(Walworth)* ..... | Bulimus ellipticus, from the Isle of Wight. |
| Row, Rev. Geo. ..... ... | New Species of Trigonia from the Marsk Iron Stone (in exchange.) |
| Wood, Edwd., Esq., *(Richmond)* ..... | Specimens of the New Encrinite (Woodocrinus, see p. 8.) |
| | Fossil Fish from the Magnesian Limestone (in exchange.) |

## ZOOLOGY.

| | |
|---|---|
| Clark, Joseph, Esq., *(Cincinnati)* ..... | Additional American Land and Freshwater Shells. |
| Hewitson, W. C., Esq..... | Collection of Foreign Butterflies. (See page 8.) |
| Lister, John, Esq., *(Doncaster)* ..... | Fine example of Neptune's Cup Sponge. (See page 8.) |
| Melville, Profr., *(Galway)* | Irish examples of Caryophyllia Smithii. |
| Swaine, Edwd., Esq..... | Specimen of the Blind Worm, in Spirits. |
| Osmant, Miss, *(Cirencester)* | Specimen of the Sea Mouse (Aphrodita). |
| Warren, T. W., Esq., *(Dublin)* | Several rare British Shells. |

## ANTIQUITIES.

| | |
|---|---|
| Davies, Robt., Esq. ..... | Coin of Canute, and one of Edward the Confessor. |
| Harcourt, Rev. Canon ..... | A Coin of Henry II. |
| Club, Yorkshire Antiquarian<br>Russell, Lady Frankland ... | Various objects found in a Tumulus near Thirsk. (See page 9.) |
| Meyers, Rev. Thos. ..... | Small mediæval urn, found at Ipswich. |
| Munby, Joseph, Esq. ..... | A Jetton. |
| Read, Wm. Rudston ..... | Coin of Gallienus III., brass. |
| Shann, Dr..... | Various Coins from near Tadcaster. |
| Thomas, Mr. ..... | Roman leaden Coffin, containing a Skeleton. (See page 9.) |
| Wellbeloved, Rev. C..... | A Penny of Henry III., and a York Half-penny, Samuel Saire, 1669. |
| Williams, Lawrence, Esq. | Mummy of an Ibis, and parts of a human Mummy. |

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## LIBRARY.

| | |
|---|---|
| Admiralty, Board of..... | Greenwich Astronomical and Magnetical Observations, 1853. |
| Association, British, for the Advancement of Science | Report for 1854. |
| Society of Antiquaries, of London ..... | Archæologia, vol. 36. |
| Society, Geological, of London ..... | Quarterly Journal, 1855. |
| Society, Chemical, of London | Quarterly Journal, for 1855. |
| Society, Royal, of Edinburgh | Transactions, vol. 21, part 1. Proceedings, 1853—54. |
| Society, Numismatic..... | Proceedings of, for 1853—54. |
| Society, Literary and Philosophical, of Manchester | Memoirs, vol. 12. |
| Society, Historic, of Lancashire and Cheshire..... | Transactions, vol. 7. |
| Society, Liverpool, Literary and Philosophical ..... | Proceedings, 1854—5. |
| Liverpool Archæological and Architectural Society ... | Vol. 1 and vol. 2, part 1. |

| | |
|---|---|
| Society, Architectural, of York, Lincoln, Northampton, Bedford, and St. Albans ..... | 5 vols. of Reports and Papers. |
| United States, Patent Office | Reports of the Commissioners of Patents for 1854. |
| Albert, H. R. H. Prince ... | The Natural History of Deeside, by the late Wm. McGillivray. (See page 11.) |
| Baker, Mr. J. G. *Thirsk* ... | An attempt to classify the Flowering Plants and Ferns of Great Britain, according to their Geognostic Relations. |
| Charlesworth, Edwd., Esq. | Hope's Coleopterist's Manual. De Koninck on the Encrinites of the Mountain Limestone of Belgium. |
| Christmas, Rev. Hy..... | Letter to the President of the Society of Antiquaries. |
| Clark, Joseph, Esq., *Cincinnati* ..... | Lea's Rectification of the Naides. |
| Cooper, E. J., Esq. ..... | Markree Catalogue of Stars, vol. 3. |
| Forbes, Professor J. D., *Edinburgh* ..... ..... | The Tour of Mont Blanc and of Monte Rosa. |
| Hollings, J.F., Esq., *Leicester* | Roman Leicester. A Paper read before the Leicester Literary and Philosophical Society. |
| Londesborough, Lord ..... | Miscellanea Graphica, parts 2—6. |
| Mayer, Joseph, Esq. ..... | History of the Art of Pottery in Liverpool. |
| Rhind, Hy., F. S. A. ..... | British Antiquities; their present treatment and their real claims. |
| Sedgwick, Professor ..... | British Palæozoic Fossils, by Sedgwick and Mc Coy (See page 11.) |
| Smith, C. R., Esq. ..... | Antiquities of France. On Anglo-Saxon Antiquities, by Thos. Wright, M. A., with a particular reference to the Faussett Collection. |
| Taylor, Rev. Wm., *London* | Transactions of the Royal Society from 1836 to 1854. (See Page 10.) |
| Wood, Edwd., Esq., *Richmond* ..... | Memoir by De Koninck, on a new genus of Encrinites. |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S., (10 parts published).

Birds of Australia, by the same, supplementary parts, (2 published).

Birds of Asia, folio, by the same, (7 parts published).

Churton's Monastic Ruins of Yorkshire, fol., (6 parts published).

Exotic Butterflies, being illustrations of New Species chiefly selected from the Collections of W. Wilson Saunders and W. C. Hewitson. By W. C. Hewitson. (14 Nos. published.)

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Proceedings of the Zoological Society, with Plates.

Publications of the Palæontographical Society, received in 1855. British Cretaceous Brachiopoda, part 2. Reptilia of the Wealden Formations, part 2. Mollusca of the great Oolite, part 3. British Fossil Corals, part 5. British Fossil Balanidæ and Verrucidæ. Fossil Mollusca of the English Chalk, part 2. Fossil Shells of the London Clay, part 3.

Publications of the Ray Society. No issue in 1855.

Reliquiæ Antiquæ Eboracenses, by Wm. Bowman, (3 parts published).

Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (16 parts published).

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.

Annals and Magazine of Natural History, monthly.

The Phytologist, monthly.

London Geological Journal, (3 parts published).

## WORKS PURCHASED.

Conchiologia fossile subapennina con osservazioni geologiche sugli Apenini. By G. Brocchi. 2 vols. 4to.

Ancient Egypt under the Pharaohs. By John Kenrick, M. A. 2 vols. 8vo.

Phœnicia. By the same. 1 vol. 8vo.

Yorkshire Philosophical Society.

# ANNUAL REPORT

FOR

MDCCCLVI.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLVI.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1857.

YORK:

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1857.

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# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 3, 1857.

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THE Annual Reports of a Society which to-day enters on the 35th year of its existence, and whose objects and operations have been long defined, cannot be expected to afford much novelty. Nevertheless, each year that elapses is marked by some special events of which the members at large will be desirous to receive an account; and with each new year some plans for the future suggest themselves, which it is the duty of the Council to communicate. Following the usual order the present Report will first record the operations of the Society during the past year.

To the Geological Department of the Museum, C. W. Strickland, Esq. and Mr. Slater have presented various interesting fossils from the Oolite of Hildenley and Malton; Mr. Wm. Reed, a slab of undescribed encrinites from the Dudley limestone; and Mr. Charles Wilkinson, a curious specimen of the scar of one of the species of fossils plants called Ulodendron. Mr. Charlesworth is at present engaged in shifting the whole of the Geological collection, so as to admit of the ledges upon which the specimens are placed being cleaned and re-painted—an undertaking which when accomplished will effect a most important improvement in the general appearance of this portion of the Museum. At the same time, printed labels will be substituted for those written in ink, which has become

illegible, and such other changes will be introduced as are required by the present state of scientific nomenclature.

Mr. Clark, of Cincinnati, whose name has so often appeared as a donor to the Society's collections, has this year again contributed some beautiful land and fresh-water shells from the district in which he resides: from T. W. Warren, Esq., of Dublin, have been received some rare and choice British shells; and from H. Peckitt, Esq., a fine pair of the gigantic clam shells (Tridacna gigas), placed in front of the Sub-Curator's house. Other donations to this department will be found enumerated in the catalogue annexed to the Report.

The Misses Cheap have presented a valuable collection, consisting principally of the skulls of the larger carnivora and horns of various species of buffalo, deer, &c.; and also a small gavial, or Gangetic crocodile, which is distinguished from all its living congeners by the great elongation of its jaws, and the coalescence of the halves of the lower jaw, throughout nearly their entire length. In this peculiarity the gavial agrees with the earliest known fossil crocodiles, those of the lias of Whitby and the oolite of Malton; while the other forms of living crocodiles are not found in any strata, older than the tertiary. It is thus the only link which connects the forms of ancient periods with those of the present day, and as such will be regarded with peculiar interest.

The collection of insects and crustacea has been increased by the donation of some American and Chinese insects from Mr. H. Watson, and a box of foreign insects, including some very singular and rare forms, from Mr. W. Cooper, of York. As the Society's collections, in this branch of natural history, are of necessity not exposed to public view, the Curator thinks it desirable that the members should be reminded that they are valuable and extensive, and that they may, at any time, be inspected, on application to himself, or the Keeper of the Museum.

Several valuable additions have been made to the ANTIQUARIAN DEPARTMENT of the Museum during the past year. Lord Londesborough has presented to the Society a large portion of a hoard of Roman coins, discovered in January,

1856, at Methall, near Warter, on the Wolds. They are upwards of 1,500 in number, of the age of Gallienus and the so-called Thirty Tyrants, and, with the exception of a few of silver, or plated with silver, are all of the third brass. Before they were presented to the Society they had been examined and carefully classified by Mr. Roach Smith. Fifty-three coins, from the same hoard, have been presented by Wm. Rudston Read, Esq. The Curator has made a selection of the most perfect of all the different types, which he has arranged and catalogued, and placed in separate slides within the cabinet. He has also, with the assistance of Mr. Davies, made a chronological catalogue and abstract of some ancient grants of land to the Priory of Guisborough and other documents of a later age, which form part of a bequest of the late Eustace Strickland. The Society possesses a collection of modern medals, in bronze and silver, which have long remained dispersed in its cabinets. These, the Curator has lately arranged and catalogued, describing, as far as he could, the events which they are severally designed to commemorate.

With these evidences of Mr. Wellbeloved's devotion to the interests of the Society, and his continued power of promoting them, the Council were very reluctant to accept the resignation of his Curatorship, which he recently tendered to them, and they have no doubt that the members will hear, with much pleasure, that he has consented to resume it, relying on the assistance of the Secretaries to supply the want of his personal superintendence and inspection.

A hoard of Saxon silver coins, consisting chiefly of those denominated "Saints," the production of the ancient York mint, was discovered in Walmgate, in April last, and two of them have been deposited in the cabinet of the Society. The Curator has also placed in it twelve of a hoard of silver pennies of the short-crossed money of Henry II. or III. Various articles of Roman pottery have been added to our collection, amongst which the most remarkable is an infant's feeding-bottle, found near the Mount. It was deemed so curious by Professor Simpson, of Edinburgh, that at his request it was lent to him, for the purpose of illustrating a

paper which he was about to read at the Meeting of the Archæological Institute, in that city. Edward H. Reynard, Esq., of Sunderlandwick, near Driffield, has presented to the Museum a coffin, supposed to be British, of unusual dimensions, hollowed from the trunk of an oak, and containing, when discovered, the remains of several skeletons.

Other antiquities, not of a local character, have been received during the year: from the Rev. J. J. Harrison, some fictile vases and other objects from the Museum at Kertch; from the Misses Cheap, a collection made by their late brother during his travels in Egypt.

The Library has received from Lord Londesborough the successive numbers of his Miscellanea Graphica, now approaching completion; from the Spalding Club a beautiful and instructive volume "On the Sculptured Stones of Scotland;" from the Board of Admiralty a volume of Magnetical Observations; and from various Scientific and Literary Societies copies of their Transactions and Proceedings. Some valuable Works have also been added, by purchase, to the Library; in Natural History, the beautiful work "On the Ferns of Great Britain and Ireland," illustrated by the new process of nature printing. In antiquities, the concluding numbers of the Monastic Remains of Yorkshire, published by Mr. Sunter, under the editorship of Archdeacon Churton; Artis's Durobrivæ, and Faussett's Inventorium Sepulcrale, containing an account of those researches among the Kentish Tumuli, which gave the first insight into the proper classification of Saxon antiquities.

The Alphabetical Catalogue has been transcribed, and is ready for printing, whenever it may be thought expedient.

According to the report of the Curator of Meteorological Instruments (Mr. Ford) the amount of rain for York has exceeded, in the last year, a mean quantity of about 2 inches. This excess has not compensated for the defect of the three previous years. The following statement seems to indicate a tendency to a diminished annual fall in the plain of York:—

| | Inches. |
|---|---|
| Mean annual fall, from 1831 to 1851, inclusive .. | 24.423 |
| „ „ for 26 years ..... | 23.940 |
| „ „ for 1853, 4, 5. ..... | 20. 05 |

## RAIN FALL, YORKSHIRE, 1856.

| | Jan. | Feb. | Mar. | April | May | June | July | Aug. | Sep. | Oct. | Nov. | Dec. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 24·10 | 1·60 | ·81 | ·20 | 2·65 | 3·07 | 2·13 | 3·12 | 2·68 | 3·26 | 1·61 | 1·64 | 1·43 | Scarbro'. |
| 29·29 | 2·70 | 2·05 | 0·49 | 2·88 | 4·12 | 1·60 | 2·04 | 3·76 | 4·45 | 1·67 | 1·71 | 1·92 | Middleton, Beverley. |
| 34·42 | 2·75 | 2·25 | 0·37 | 4·00 | 4·12 | 1·50 | 4·37 | 4·00 | 4·06 | 2·50 | 2·50 | 2·00 | Huggate. |
| 28·77 | 2·24 | 1·25 | 0·25 | 3·29 | 3·95 | 1·97 | 2·37 | 2·86 | 4·45 | 1·93 | 1·50 | 2·71 | Langton, near Malton. |
| 27·27 | 2·12 | 1·76 | 0·30 | 2·95 | 3·95 | 1·61 | 1·95 | 3·85 | 3·91 | 1·79 | 1·66 | 1·42 | Wheldrake. |
| 26·11 | 1·94 | 1·31 | 0·24 | 2·74 | 4·06 | 1·73 | 1·65 | 2·60 | 2·87 | 2·36 | 1·96 | 2·65 | Helmsley. |
| 26·19 | 2·17 | 1·45 | 0·35 | 2·70 | 3·98 | 1·45 | 2·25 | 4·15 | 2·98 | 1·67 | 0·97 | 2·07 | York. |
| 24·50 | 2·18 | 1·09 | 0·57 | 2·70 | 2·85 | 1·10 | 1·45 | 4·92 | 2·87 | 2·37 | 1·87 | 0·53 | Doncaster. |
| 30·56 | 2·36 | 1·29 | 0·48 | 2·49 | 5·02 | 2·09 | 2·33 | 5·71 | 4·20 | 2·00 | 1·23 | 1·36 | Ackworth. |
| 36·31 | 3·54 | 2·17 | 0·92 | 3·07 | 3·92 | 2·75 | 2·21 | 8·35 | 3·71 | 2·53 | 0·83 | 2·31 | Sheffield. |
| 40·09 | 4·58 | 3·80 | 0·44 | 3·84 | 4·44 | 3·78 | 1·71 | 4·68 | 4·12 | 3·18 | 1·10 | 4·12 | Bradford. |
| 37·94 | 3·63 | 6·32 | 0·04 | 1·65 | 1·18 | 0·76 | 2·02 | 5·90 | 5·35 | 2·26 | 2·44 | 6·89 | Todmorden. |
| 38·27 | 2·81 | 4·62 | 0·11 | 2·93 | 4·19 | 2·27 | 2·38 | 5·46 | 3·56 | 2·42 | 1·22 | 6·30 | Settle. |

In the foregoing table the rain-fall for the year 1856, is exhibited in a series of places, from Scarbro', in the east, to Settle, in the west; ranging over geological districts from the chalk to the mountain limestone, including the Wolds, the oolitic hills, the upper red sandstone plain, the broad and

lofty undulations of the coal measures, and the still more lofty and abrupt elevations of the mountain limestone in the west and south.

Six of the localities are to the east of York, and six to the west.

The average fall for the thirteen places is .... 31·06

For the six eastern ..... 28·32

„ „ western ..... 34·61

The fall for York 26·19, being less than either of the averages. The Council would be glad to receive returns from many other districts. Such returns made regularly over a series of years, are valuable contributions to one branch of the Meteorology of our county.

## METEOROLOGICAL REGISTER, YORK, 1856.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Frosts. | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days. | Average Max. | Average Min. | Mean Temp. | Highest. | Lowest. | | |
| Jan. | 30·630 | 28·708 | 29·531 | 2·17 | 21 | 39·4 | 30·9 | 35·7 | 48 | 14 | 15 | N. W. |
| Feb. | 30·620 | 29·536 | 29·941 | 1·45 | 12 | 44·1 | 35·7 | 39·9 | 54 | 23 | 10 | S. W. |
| Mar. | 30·692 | 29·820 | 30·161 | ·35 | 4 | 42·6 | 32·2 | 37·4 | 49 | 20 | 18 | N. E. |
| April | 30·354 | 29·212 | 29·768 | 2·70 | 13 | 51·9 | 36·4 | 44·1 | 62 | 27 | 5 | N. E. |
| May | 30·272 | 29·158 | 29·826 | 3·98 | 19 | 54·0 | 40·0 | 47·0 | 65 | 26 | 3 | N. E. |
| June | 30·300 | 29·442 | 29·901 | 1·45 | 8 | 62·4 | 48·5 | 55·4 | 78 | 40 | 0 | S. W. |
| July | 30·320 | 29·396 | 29·859 | 2·25 | 10 | 65·1 | 49·6 | 57·3 | 74 | 41 | 0 | W. |
| Aug. | 30·366 | 29·394 | 29·821 | 4·15 | 13 | 67·8 | 52·6 | 60·2 | 81 | 43 | 0 | W. |
| Sep. | 30·296 | 29·020 | 22·598 | 2·98 | 18 | 57·7 | 46·4 | 52·1 | 65 | 35 | 1 | N. E. |
| Oct. | 30·594 | 29·452 | 30·084 | 1·67 | 12 | 53·0 | 44·8 | 48·9 | 58 | 34 | 2 | S. E. |
| Nov. | 30·680 | 29·472 | 29·977 | ·97 | 13 | 42·7 | 32·8 | 37·7 | 53 | 16 | 18 | N. W. |
| Dec. | 30·534 | 28·838 | 29·663 | 2·07 | 12 | 41·5 | 32·9 | 37·2 | 60 | 6 | 19 | N. W. |
| | 30·692 | 28·708 | 29·844 | 26·19 | 155 | | | 46·09 | 81 | 6 | 91 | |

DIRECTION OF THE WIND.

| N. | S. | E. | W. | N. E. | N. W. | S. E. | S. W. |
|---|---|---|---|---|---|---|---|
| 19 | 31 | 44 | 57 | 58 | 46 | 48 | 53 |

The temperature of the year has been 1°4 below a mean of 20 years. The range of temperature has been considerable, viz., from 6° December 4 to 81° August 2. The range in December was extraordinary, from 6° on the 4th of the month to 60° on the 7th. A severe frost set in November 25th, and lasted till the 5th of December. The extremely sudden and rapid thaw occasioned a flood in the Ouse of 14 feet 3 inches above the summer level. This was the highest flood since February, 1831, when the Ouse rose 17 feet above the summer level. Nine months out of the twelve were below a mean temperature. September, when the interests of the northern harvest were at stake, was 2° below a mean, and the fall of rain nearly one inch above a mean. Thunderstorms were of more frequent occurrence than usual; one of considerable force occurred on the 12th February after a long continuance of S.W. wind. Another on the 4th of April from the S.W. There were five electric displays in May of more or less violence; none in June; three in July; four in August; and two in September.

Immediately after the last Annual Meeting, a Lecture was delivered "On Extinct Animals," by Mr. Waterhouse Hawkins, known by his ingenious restoration of many of them at the Crystal Palace, at Sydenham. It was heard with so much interest that the Council engaged Mr. Hawkins, in the month of November last, to deliver two more lectures on a kindred subject, which were attended by numerous audiences. The Society has to acknowledge its obligations to Mr. Davies for his two Lectures, entitled "An Antiquarian Walk through the Streets of York;" to Mr. Oswald Allen Moore, for a Lecture "On the Poisonous Plants, whose resemblance to those which are good for food often produces fatal results;" and to Mr. Procter, for his "Account of the Manufacture of Iron, with an Explanation of Bessemer's Process." In the month of January, of this year, two very interesting Lectures "On "Zoophytes, their Structure and History," were delivered by the Rev. Thomas Hincks, of Leeds. Mr. Ford, Mr. Moore, Mr. Procter, Rev. Thomas Myers, and Mr. Charlesworth have promised their assistance in this department during the remainder of the present Session.

The Council received an application from the Committee of the Art Treasures Exhibition, which is to take place in Manchester during the approaching Spring and Summer, to contribute from the Museum such articles as might illustrate the progress of art, from the departure of the Romans to its revival after the Middle Ages. To this request the Council willingly acceded; and Mr. Waring, as the Agent of the Manchester Committee, visited York, and selected several objects which seemed suitable for the purpose of the Exhibition. It is probable that some of the remains of Saxon art, in the Museum, may also be sent to Manchester. Every precaution will be taken to secure the safe conveyance and preservation of what is lent; and the Council feel persuaded that the members will not regret the temporary removal of some objects of interest from their collections, when they consider the important national purpose of the Exhibition, and the readiness with which works of art, of inestimable value, have been contributed by their possessors.

The statement of the receipts at the gate will shew that they have recovered from the temporary diminution, caused by the war and the cessation of railway excursions. They exceed those of any previous year with the single exception of that in which the Royal Agricultural Society held its meeting in this city. At the suggestion of several members of the Society, the Council opened the Gardens, on Saturday afternoon, to the working classes, on the payment of a penny. The privilege has not been so extensively used as the Council hoped; but it has been attended with no inconvenience to the members of the Society, nor any injury to its grounds or collections.

It has been customary to open both Gardens and Museum to the public, gratuitously, on Whit-Monday and Tuesday; but the Council propose this year, if approved by the members, to charge a penny for admission on those days.* They suggest this change, not from any desire to make it a source of income to the Society, but to render the privilege really more useful to the class for whose benefit it is designed. An entirely

* It will be seen by the Resolutions passed at the Annual Meeting, that this proposal was adopted with a modification.

gratuitous admission brings a promiscuous crowd to the Museum, by whom the narrow space between the collections is so completely filled, that no one can be allowed to remain long enough to examine any object which may attract his attention; and, as a measure of safety, it has been found necessary to close the staircase which leads to the skeleton-room and the bird-room. It is evident that a large proportion of the visitors come with no purpose of self-improvement, and, that those who do, cannot obtain any considerable benefit from such a hurried and incommodious view. The small sum proposed for admission, while it kept away those who came merely for a holiday stroll, would not exclude any, even in the humblest classes, who desired to gratify a rational curiosity.

From the Treasurer's Report it will appear that the income of the year has exceeded its expenditure; and that after the balance due to him, from the three preceding years, has been fully liquidated, there remains a considerable surplus. The financial position of the Society is, therefore, favourable. Mr. Charlesworth's exertions to obtain new subscribers, alluded to in the Report of last year, have been again eminently successful. In the two years, ending February 1855, only 18 admissions took place; in the two years ending this day, and including the admissions at the present meeting, they are 75, besides two memberships renewed after resignation. It must be remembered, too, that nearly all who have been admitted since the change in the law, pay three pounds during the three first years of their membership. It is certainly not to be expected that this rate of increase should be maintained; but it may be hoped, at least, that the number of members may be kept up to the present amount—358.

When it was proposed to Mr. Charlesworth to add the duties of Assistant Secretary to those of Keeper of the Museum, the salary originally suggested was £250; but the state of the finances at that time rendered it unadvisable to offer him more than £200. The Council are strongly impressed with the conviction, that it is of primary importance to the prosperity and reputation of the Society to possess the services of a man of scientific attainments and liberal educa-

tion; nor do they consider that the sum originally proposed is more than an adequate remuneration. They have, therefore, advanced Mr. Charlesworth's salary to £250, with the understanding that his time is to be exclusively devoted to the objects of the Society.

The Curator of Antiquities has more than once called the attention of the Council to the necessity of providing a permanent place for the preservation and display of the Roman tessellated pavements obtained by the Society. The necessity is become still more urgent in consequence of the acquisition of the pavement from Oulston, removed during the present summer, by the kind permission of Sir George Wombwell, and under the skilful direction of Mr. Baines; and the Curator, in the conclusion of his report, expresses "his earnest hope that this and other similar remains of the ornamentation of Roman dwellings, which have been for some time in the possession of the Society, will no longer be suffered to remain in detached portions, or concealed from view, but be re-laid in some suitable building, for the gratification of the members and of the numerous strangers who visit the Museum." In the wish of their Curator the Council entirely concur, and the subject has been repeatedly under their consideration. The present buildings of the Museum afford no space in which the three pavements, not yet laid down, can be even deposited, much less displayed, and, therefore, some additional erection seems absolutely necessary. In deciding on such an erection it appears to the Council that two conditions are essential—one, that no mean or unsightly structure should be allowed to occupy a conspicuous position, amidst grounds not less admired for their picturesque beauty than for their varied remains of antiquity; the other, that the building, wherever placed, should not be of a merely temporary character. Besides the necessity of providing a place of deposit and exhibition for the pavements, it seems desirable to secure some space for any future increase of the Society's collections. It has, therefore, been resolved to submit to this meeting a Resolution to the effect that the Council be authorized to erect a permanent building for the preserva-

tion and display of the Roman pavements. The expense of such a building will be considerable, probably not less than £250; but the Council believe that it will add a great and permanent attraction to the grounds of the Society, and thus prove a source of additional income by the increased receipts from visitors.*

When the Yorkshire Agricultural Society held its meeting in this city, in 1853, an Exhibition of objects connected with Agriculture, Botany, and the Arts took place in our Museum and grounds. It proved very attractive; and, after all the expenses were paid, left a surplus of £153. The same Society will again hold its meeting here in August of the present year. The interval is too short to render it probable that an Exhibition of exactly the same kind would be successful; but it has been suggested that, by bringing together some of the most remarkable objects in Natural History and Antiquities contained in public and private collections within the County, an Exhibition might be formed which would be attractive to the numerous strangers who will visit York, and produce a surplus to the Society which might be applied to the erection of the building for the Roman pavements. Application has been made to several Societies and individuals for their co-operation, and they have expressed their readiness to furnish such objects as would be suitable for the intended Exhibition. In the event of its taking place, the Council propose, following the precedent of 1853, to suspend the right of admission and of granting written orders during the two days that it will last.

In reviewing the events of the past year, the Council notice, with painful feeling, the death of Dr. Buckland, whose name has long adorned the list of our Honorary Members. The scientific labours of the late Dean of Westminster are closely connected with the history of our Institution. The same event which led to its formation—the discovery of the remains in the Cave of Kirkdale—gave birth to his first great work, the "Reliquiæ Diluvianæ," and not a few of its illustrations

* Since the Report was drawn up a plan has been suggested for a new arrangement of the upper room of the Hospitium, by means of which, it is expected that some space may be gained for the display of the pavements there.

were derived from specimens in our Museum. The Council may be allowed, at the same time, to remark with pride and pleasure, that the talents of his distinguished successor in the Readership of Geology, at Oxford—Professor Phillips—were first made known to the world by his connection with the Yorkshire Philosophical Society.

The lamented decease of Henry Philip Cholmeley, Esq., of Brandsby, the representative of a family from which the Society has always received zealous support and intelligent co-operation, renders necessary the election of a fifth member of Council, in addition to the four who retire according to the law.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1856.

**Cr.** RECEIPTS.

| 1856. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 592 | 0 | 0 |
| *Admission of New Members | 49 | 0 | 0 |
| Composition in lieu of Subscription | 25 | 0 | 0 |
| Associates | 13 | 0 | 0 |
| Ladies' Subscriptions | 49 | 0 | 0 |
| Keys of the Gates | 35 | 15 | 0 |
| Rents | 119 | 12 | 8 |
| Money received at the Gate | 217 | 12 | 2 |
| Swimming Bath (gross receipts) | 114 | 6 | 10 |
| Sale of Guide to Antiquities | 18 | 17 | 0 |
| Temporary Subscribers | 3 | 0 | 0 |
| Horticultural Show | 5 | 0 | 0 |
| Use of Tent | 9 | 0 | 0 |
| For Use of Gas at Evening Meetings | 1 | 10 | 0 |
| Tickets sold for Lectures by Mr. Hawkins | 17 | 11 | 6 |
| Donation from Miss Lloyd | 5 | 0 | 0 |
| Total Income | 1275 | 5 | 2 |

| Permanent Debt: | | | | |
|---|---|---|---|---|
| Yorkshire Insurance Company | £1900 | 0 | 0 | |
| Five Members at £50 Each | 250 | 0 | 0 | |
| | 2150 | 0 | 0 | |
| Balance in Treasurer's hands Jan. 1857 | 78 | 17 | 1 | |
| Total Debt of Society, Jan., 1857 | | | | £2071 2 11 |

**EXPENDITURE.** **Dr.**

| 1856. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent | 1 | 0 | 0 | | | |
| Rent to Corporation | 51 | 11 | 8 | | | |
| Rates and Taxes | 8 | 8 | 8 | | | |
| Insurance & Water Rent | 12 | 16 | 0 | | | |
| | | | | 73 | 16 | 4 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum and Assist. Secretary | 200 | 0 | 0 | | | |
| Sub-Curator | 100 | 0 | 0 | | | |
| Servant | 20 | 0 | 0 | | | |
| Lodge Keeper | 24 | 10 | 0 | | | |
| Labourers | 154 | 1 | 0 | | | |
| Collector | 2 | 6 | 6 | | | |
| Attendant, Hospitium | 7 | 16 | 0 | | | |
| | | | | 508 | 13 | 6 |
| Interest on Debt to Dec. 31, 1856: Insurance Company | | | | 70 | 18 | 8 |
| Museum Gardens, &c.: | | | | | | |
| General Repairs | 100 | 18 | 0 | | | |
| Purchase and Preparation of Specimens | 6 | 3 | 8 | | | |
| | | | | 107 | 1 | 8 |
| Library, Books and Binding | | | | 47 | 0 | 2 |
| Swimming Bath: | | | | | | |
| Keeper's Salary | 30 | 0 | 0 | | | |
| Water Rent | 20 | 0 | 0 | | | |
| Repairs and Incidents | 18 | 1 | 4 | | | |
| | | | | 68 | 1 | 4 |
| Miscellaneous Expenses: | | | | | | |
| Printing, Advertising, and Stationery | 48 | 10 | 0 | | | |
| Coals and Gas | 66 | 12 | 0 | | | |
| Expences connected with Band | 19 | 10 | 0 | | | |
| „ Lectures | 23 | 4 | 3 | | | |
| „ Removal of Roman Pavement | 26 | 16 | 1 | | | |
| Postage, Carriage, and Sundries | 26 | 14 | 2 | | | |
| | | | | 211 | 6 | 6 |
| | | | | 1086 | 18 | 2 |
| Surplus of Income | | | | 188 | 7 | 0 |
| | | | | £1275 | 5 | 2 |

| Permanent Debt: | | | | |
|---|---|---|---|---|
| Yorkshire Insurance Company | 1900 | 0 | 0 | |
| Due to Five Members £50 each | 250 | 0 | 0 | |
| | 2150 | 0 | 0 | |
| Due to Treasurer Jan., 1856 | 109 | 9 | 11 | |
| Total Debt, Jan., 1856 | | | | 2259 9 11 |
| Surplus of Income, 1857 | | | | 188 7 0 |
| | | | | £2071 2 11 |

April 27, 1857, Audited by me,
WILLIAM PROCTER.

WILLIAM GRAY, TREASURER.

* Consisting principally of instalments of £1; the subscription for the first year regarded in former Balance Sheets as part of the entrance fee is now included in the item "Annual Subscriptions and Arrears."

# MEMBERS

ELECTED SINCE FEB., 1856.

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## 1856.

Aitken, Henry, *York.*
Backhouse, Thomas, *York.*
Bland, William, *York.*
Buckle, Joseph, *York.*
Cattley, R., *Chepstow.*
Cleghorn, John, *York.*
Coltman, Joseph, *York.*
Darley, H. B., *Aldby Park.*
Ditmas, Lieut. Col., *York.*
Duncombe, Hon. Ernest, M.P., *Goldsborough.*
Hague, Mrs. Barnard, *York.*
Henderson, George, *York.*
Johnson, Richard, *York.*
Manstead, John, *York.*
Markham, W. T., *Becca Hall.*
Mawdesley, F. L., *York.*
Newman, W. L., *York.*
Newton, Miss, *York.*
Noble, Thos. S., *York.*
Paley, Charles, *York.*
Pearson, John, *York.*
Ransford, Dr., *York.*
Reynard, Edward H., *Sunderlandwick.*
Rowntree, J. S., *York.*
Rudd, J. B., *Guisbro.'*
Russell, Mrs. Henry, *York.*
Saunders, John, *York.*
Smith, Mrs. Thomas, *York.*
Smith, Henry, *York.*
Stead, Mrs. H., *New Laithes Hall.*
Thiselton, Charles, jun., *York.*
Wilson, Mrs., *York.*
Williams, Isaac M., *York.*

## 1857.

Clubbe, W. H., *York.*
Cowling, Charles, *York.*
* Dyson, William, *Howden.*
Marsh, James, *York.*
Reed, William, *York.*
Smith, John, *York.*
Tomlinson, William, *York.*

* Membership renewed after Resignation.

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 3RD, 1857.

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1. That the Report of the Council be adopted and printed for the use of the Members.

2. That the thanks of the Society be given to the Vice-Presidents and Members of Council, and to the Treasurer, Secretaries, and Curators, for their valuable services.

3. That the Council be authorised to erect a permanent Building for the preservation and display of the Roman pavements.

4. That the authority given by the Council, last year, with respect to the holding one or more Horticultural Meetings in the Society's grounds, and the admission of Strangers and temporary Subscribers, be continued.

5. That the thanks of this Meeting be given to Mr. Wellbeloved, for the Catalogue and Transcripts presented this day; along with the expression of their gratification at his having consented to resume his valuable services.

6. That the Council be authorised to admit the Public into the Gardens, on Whit-Monday and Whit-Tuesday, without any payment; but that the sum of One Penny be charged for admission to view the Collections.

COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

1856.

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MARCH.—THE REV. THOMAS MYERS read a paper on the Rev. Charles Forster's Decipherments of some Phœnician Inscriptions. The design of the paper was to show that Mr. Forster's decipherment and interpretation of these inscriptions were more correct than those of Gesenius and other Oriental scholars.

THE REV. JOHN KENRICK exhibited a photographic delineation of the sculpture on the Sarcophagus of the Sidonian King, Asmunezer, (see Report for 1855, p. 23,) which he had received from Mr. Fox, of Trebah, near Falmouth. The annexed wood-cut will show the close resemblance of this relic of Phœnician sculpture to the style of Egyptian art.

May.—The Rev. Charles Wellbeloved, Curator of Antiquities, made a communication to the meeting respecting a hoard of coins, lately discovered in Walmgate, consisting chiefly of those called "Saints'" from their bearing the names of St. Peter, St. Martin, or St. Edmund. Those bearing the name of St. Peter, with the device of the sword, have been called "Peter-pence," and erroneously supposed to have been struck for the purpose of paying to Rome the tribute bearing that name. Their date, and the circumstances under which they were struck, are matter of conjecture; but Mr. Wellbeloved supposes them to belong to the first-half of the tenth century.

The Rev. John Kenrick read a paper "On some Monuments of the Reign of Trajan." From the discovery of a large and finely-executed tablet of his reign in York, near the probable site of one of the gates of the city (see Mr. Wellbeloved's paper in Proceedings of the Y. P. S., vol. I., p. 282), it was argued by the author of the communication, that Eburacum was fortified with a wall in the reign of Trajan, consequently earlier than had been usually supposed. The construction of the Roman wall still remaining in the grounds of the Society, corresponds, very accurately, with the practice of Trajan's age. In a letter from Pliny the Younger to Trajan, (Ep. x. 48,) he reports that the walls of the theatre of Nicæa were giving way, notwithstanding their extraordinary thickness; "quia sine cæmento medio farcti, nec testaceo opere præcincti;" "because they were filled in without squared stone in the middle, and had not a band of brick-work." The architect of our walls has filled them in with rubble, and only faced them with squared stone; but he has not neglected the *præcinctio* of brick-work, which, as appears from the interior of the Multangular Tower, went through, and gave solidity to the structure. An objection to the antiquity assigned to the walls may be derived from the circumstance, that there are inscriptions in the lower compartment of the Multangular Tower, in which mention is made of the Sixth Legion, which did not come to York till the reign of Hadrian. These inscriptions, however, are not records of the building of the tower, but scratchings of their names, centuries, and legion, such as soldiers would naturally make, to enliven the tedium of the guard-room. The mode of building here described prevails generally in the Roman walls in the south, but has not been observed further north than Yorkshire.

October.—First Monthly Meeting of the Session.—Mr. Procter, the Curator of Mineralogy, read a paper in illustration of specimens of the recently discovered deposits of iron ore in Yorkshire. These deposits are found at the base of the oolitic formation which, commencing on the south bank of the Tees, and extending along the coast to Scarborough, stretches in a line, more or less interrupted, through the counties of York, Lincoln, Rutland, Northampton, Oxford, and Dorset. At the summit of the Cleveland hills, where it was first worked in Yorkshire, it has only a thin covering of soil, can be raised at small expense, and is conveyed by railway to Middlesborough, to be smelted. Upwards of 1,000,000 tons of the stone are already extracted. The bed, where now worked, is fifteen feet thick; in some places, twenty. It yields, upon an average, about 30 per cent. of iron. There is an extraordinary deposit of ore of this character, about two miles from the village of Rosedale, and ten or twelve from Pickering. It crops out at the side of the hill, and is, at least, twenty-five feet thick. It consists of large boulder-shaped masses, of an ovoid figure, from a few inches to nine feet in diameter, and divided by numerous fissures, as if deposited in a fluid state, and contracted in the process of drying. Each of these concretions consists of an external shell and an internal nucleus, the external part being brown, the internal bluish black. The structure is evidently oolitic, the grains having the appearance of being infiltrated with iron. Every portion is attracted by the magnet, but it is not, in itself, magnetic. From analysis, it appears that, where richest, it yields 48 to 55 per cent. of iron; it contains no manganese, nor any sulphur or phosphoric acid, the absence of which adds materially to its value.*

The lias formation is also a source of ironstone. Massive beds of it are traceable for miles along the Cleveland hills, with a gradually diminishing thickness, as it is followed towards the south. The great lias bed is best developed at Eston, where it is extensively worked; and also at Grosmont, and other parts in the neighbourhood of Whitby. The paper was accompanied by tables of exact analyses, made by Mr. Procter.

November.—The Rev. John Kenrick read a paper "On the Coins found near Warter," presented to the Society by Lord Londesborough. They are about 1,500 in number, and almost

* The occurrence of ironstone, both in the oolite and lias, is noticed in Professor Phillips' Illustrations of the Geology of Yorkshire, Part I., published in 1829.

entirely of the third brass. The period which they comprehend is from A.D. 253 to 273 or a little later; a period which possesses a sort of epic unity, since the reign of Valerian, with which it begins, exhibits the deepest degradation of the majesty of the Roman empire, and that of Aurelian, who was elected in 270, witnessed the restoration of its unity, temporarily destroyed by the Thirty Tyrants, the subjugation of the barbarians, and the fortification of Rome. The character of Gallienus, and the nature of the usurpations of the Thirty Tyrants, were examined in this paper, with especial reference to the opinion of Sir Francis Palgrave, who regards them as the predecessors of those who founded the Kingdoms of the West. It was pointed out, that whatever the motives or merits of Victorinus, Postumus and Tetricus may have been, we may rejoice that their attempts at establishing independent kingdoms failed. Had the Roman empire been dismembered at this period, the probability is that Paganism would have continued much longer predominant, since the power of Constantine, when sole emperor, was barely adequate to the establishment of Christianity. Independent kingdoms, founded in this age, before the healthful infusion of the Teutonic element into Western Europe, would only have perpetuated the vices of the Roman empire, as the history of the Byzantine empire shows.

The coins of Victorinus and Tetricus are very abundant in Britain, and particularly in York and Aldborough, and their vicinity. It is evident that Britain was subject to the rulers of Gaul during this period. The names of Postumus and Victorinus occur in inscriptions near Brecknock; and two have been found at Clausentum (Bittern, near Southampton,) in honour of Tetricus. It is remarkable, that among the coins found at Warter, there are nine of Quintillus, the brother of Claudius Gothicus, who reigned only seventeen days, and three of Marius, who is said to have reigned only three days. No time seems to have been lost by the new emperors in assuming the prerogatives and titles of sovereignty. Florianus, the half-brother of the Emperor Tacitus, assumed the purple on his brother's death, and died two months after at Tarsus; yet an inscription to him has been found at Durobrivæ, Castor, near Peterborough.

December.—The Rev. John Kenrick read a second paper "On the Coins found at Warter." They exhibit a very debased state of the coinage, natural in a period of confusion, foreign war, and internal insurrection. Great abuses appear to have prevailed in the

Roman mint, and when Aurelian endeavoured to reform them, the consequence was an insurrection of the *monetarii*, to put down which cost the Emperor 7,000 of his soldiers.

The coins of this period attest the increase of the solar worship, caused by the growing influence of Asiatic, and especially Syrian, rites and usages at Rome. It is seen in the legend, Oriens Augusti, with the figure of the Sun, and in the radiated crown which all the emperors wear. The crescent moon, placed beneath the head of Salonina and other empresses, is also a proof of the growth of astral worship.

Although the coins of this hoard are rudely executed, the heads on many of them are sufficiently distinct to be characteristic. We can distinguish the strong bluff features of the hardy warrior Valerian, from the more delicate lineaments of his dilettante son Gallienus. The coarse face and brawny neck of Marius agree with the account that he had been a blacksmith before he became an emperor. Salonina, whose features are not of the Roman cast, is said to have been the daughter of a barbarian.

The period in which these coins were struck was one of great calamity, exciting the superstitious fears of the people. An extraordinary number exhibit figures of the gods, with the legends, Jupiter Conservator, Propugnator and Ultor; Neptunus Conservator, Apollo Conservator, Diana Conservatrix, Liber Pater Conservator, Mars Pacifer, and Sol Conservator Augusti. Segetia, a goddess who presided over the harvest, and was one of the Dii Indigetes, or native gods of Italy, appears on a coin of Salonina, probably struck in apprehension of famine, or in gratitude for deliverance from it. The coins of Postumus are remarkable for the honour paid to Hercules; those of Claudius Gothicus, for the variety of types representing the consecratio or apotheosis of this Emperor, who was cut off by a pestilential disease after a reign of two years, and was deeply regretted by the senate and people.

The coins of the emperors would, of course, be struck at Rome; those of the Gallic rulers at Arles, Lyons, or Treves. It does not appear that Britain had a mint. The legend PLON., on the coins of Constantine, is generally read *Pecunia Londinensis*; but, till the time of the Northumbrian kings, York appears to have had no mint of her own.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Procter, William, Esq. ... | Flint cast of an Echinus. |
| Reed, William, Esq..... | Slab of Dudley Limestone, with undescribed Encrinites. |
| Slater, Mr. John ..... | Echinites and other Fossils, from the Oolite at Malton. |
| Strickland, C. W., Esq. ... | Specimen of Hemicidaris intermedia, from the Oolite at Hildenley. |
| Wilkinson, Chas., Esq. ... | Scar of Ulodendron. |

## ZOOLOGY.

| | |
|---|---|
| Atkinson, Mr. Robert | Sponge attached to a Stone. |
| Brown, Mr. Hy., *(Ousegate)* | A Collection of Foreign Reptiles in Spirit. |
| Cheap, Misses ..... | A young Gavial; and a Series of the Crania of Indian & African Animals. |
| Clarke, Joseph, *(Cincinnati)* ..... | Various North American Land and Fresh-water Shells. |
| | Specimen of the Horned Lizard of Texas (Ceratophris cornuta). |
| Cooper, Mr. Wm. ..... | Case of valuable Insects, from Ceylon. |
| Hey, Rev. Canon ..... | Specimens of Foreign Shells of the genera Melanopsis and Bulimus. |
| Flint, Mr. Richard ..... | Fine Otter, shot at Thornley. |
| Frankland, George, Esq. ... | Fine Specimen of a Gorgonia, from Australia. |
| Hill, Samuel, Esq..... | Specimen of the five-Bearded Rockling, taken at Brighton. |
| Illingworth, Mrs. ..... | Head of a Porpoise. |
| Peckitt, H., Esq. ..... | Pair of the gigantic Clam-shell (Tridacna gigas). |
| Spofforth, Robert, Esq..... | New Zealand Birds. |

| | |
|---|---|
| Warren, T. W., Esq. ..... | Rare Irish Shells. |
| Watson, Hy., Esq. ..... | Collection of Foreign Insects. |
| Yorkshire Naturalists' Club | Tail fins of a Tunny, caught in the Tees. |

## ANTIQUITIES.

| | |
|---|---|
| Brown, Mr. Robert ..... | Fragment of Roman pottery and Dutch tile. |
| Cheap, the Misses..... | Collection of Egyptian Antiquities. |
| Gray, Wm., Esq. ..... | An antique Pistol. |
| Harrison, Rev. J. J..... | Fictile Vases and other articles, from the Museum at Kertch. |
| Londesborough, Lord ..... | 1,500 Roman Coins, found near Warter. |
| Read, Wm. Rudston, Esq. | Fifty-three Coins, found near Warter. |
| Reynard, E. H., Esq. ..... | Ancient British Coffin. (See p. 10.) |
| Tindall, Mr. Edward ..... | Impressions of some Seals. |
| Weatherley, Mr. Ralph ... | Urn, found near the Barracks. |
| Wellbeloved, Rev. Chas. ... | Twelve short cross Pennies (Henry II. or III.), found near Barnsley. |
| York, Corporation of ..... | A stone, marked with a cross, from the building near the Castle Mills, formerly the Guild of St. George. |

## MISCELLANEOUS.

| | |
|---|---|
| Cheap, Misses ..... | Various Weapons and articles of Indian native manufacture. |
| Kendal, I. M., Esq. ..... | Two Flints, one in the form of a fish-hook, presumed to be imitations of ancient British workmanship. |
| Watson, Hy., Esq. ..... | Various articles of native manufacture, from the Feejee Islands. |

## LIBRARY.

| | |
|---|---|
| Admiralty, Board of..... | Greenwich Astronomical and Meteorological Observations, 1854. |
| Association, British, for the Advancement of Science | Report for 1855. |

| | |
|---|---|
| Club, Spalding ..... | Sculptured Stones of Scotland. |
| Society, London Geological | Journal of, for 1856. |
| Society, Manchester Literary and Philosophical ..... | Memoirs, vol. 13. (Life of Dalton.) |
| Society, Royal, of Edinburgh | Transactions, part 3, vol. 21. Proceedings, 1855 — 6. |
| Society, Chemical ..... | Journal for 1856. |
| Society, Cornwall Royal Polytechnic .. ..... | Report, 1855. |
| Society, Lancashire and Cheshire, Historic..... | Transactions of, vol. 8. |
| Society, Literary and Philosophical, of Liverpool ... | Proceedings of, 1854 — 5. |
| Society, Geological and Polytechnic, of W. R. of Yorkshire ..... | Proceedings of, 1855. |
| Society, Scarborough Philosophical & Archæological | Twenty-fourth Report of. |
| Institution, Royal, of London..... | Proceedings at the Meetings, with Abstracts of the Discourses, 1851 — 56. |
| Allen, James, Esq. ..... | Plan of the City of York, (1750.) |
| Bateman, T., Esq..... | Catalogue of his Museum. |
| Londesborough, Lord ..... | Miscellanea Graphica, Nos. 7 — 10. |
| Mayer, Joseph, Esq..... . | Catalogue of Fejérváry Ivories. |
| Read, W. Rudston, Esq. ... | Linnean Transactions, vol. 21, p. 3, 4. |
| Thurnam, John, M.D. ..... | Notice of Tumulus at Stanton Drew. |
| Yates, James, Esq. ..... | Vol. 2 of Lea on Genus Unio. |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S., (12 parts published).

Birds of Australia, by the same, supplementary parts, (2 published).

Birds of Asia, folio, by the same, (8 parts published).

Churton's Monastic Ruins of Yorkshire, fol., (complete).

Exotic Butterflies, being illustrations of New Species chiefly selected from the Collections of W. Wilson Saunders and W. C. Hewitson. By W. C. Hewitson. (18 Nos. published.)

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills, in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, large folio, and part 1 of Letterpress, 8vo.)

Proceedings of the Zoological Society, with Plates.
Publications of the Palæontographical Society.
Publications of the Ray Society.
Reliquiæ Antiquæ Eboracenses, by Wm. Bowman, (complete).
Sowerby's Thesaurus Conchyliorum, 8vo. col. plates, (16 parts published).

## PERIODICALS.

London and Edinburgh Philosophical Magazine, monthly.
Annals and Magazine of Natural History, monthly.
London Geological Journal, (3 parts published).

## WORKS PURCHASED.

The Ferns of Great Britain and Ireland, delineated by the new process known as "Nature Printing," edited by Dr. Lindley and Thos. Moore.

The Durobrivæ of Antoninus, identified and illustrated in a series of Plates, exhibiting the excavated Remains of that Roman Station in the vicinity of Castor, Northamptonshire, by Edmund T. Artis.

Inventorium Sepulchrale; an account of some antiquities dug up at Gilton, Kingston, &c., in the County of Kent, by the Rev. Bryan Faussett; edited from the original MS. by Charles Roach Smith.

Natural History of the Tineina, by H. T. Stainton.

Presented
13 MAR 1886

H. SOTHERAN, BOOKSELLER, CONEYSTREET, YORK.

Yorkshire Philosophical Society.

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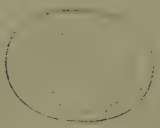
# ANNUAL REPORT

FOR

MDCCCLVII.



# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLVII.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1858.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1858.

# TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

---

THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

EARL OF CARLISLE, F. R. S.

LORD FEVERSHAM.

# OFFICERS OF THE SOCIETY, 1858.

## PRESIDENT:

THE EARL OF CARLISLE, K.G., F.R.S.

## VICE-PRESIDENTS:

LORD LONDESBOROUGH, F.R.S.
REV. C. WELLBELOVED.
WM. RUDSTON READ, F.L.S.
JOHN PHILLIPS, F.R.S.
REV. W. V. HARCOURT, F.R.S.
CHAS. W. STRICKLAND.
REV. CANON HEY.
WILLIAM PROCTER.

## TREASURER:

WILLIAM GRAY, F.G.S.

## COUNCIL:

*Elected* 1856....JAMES MEEK, JUNIOR.
G. F. JONES.
G. H. SEYMOUR.
*Elected* 1857....ROBERT DAVIES, F.S.A.
JOHN FORD.
REV. HENRY SHORT.
EDWD. SWAINE.
GEO. WILSON.
*Elected* 1858....REV. ISAAC SPENCER.
J. P. PRITCHETT.
S. W. NORTH.
T. S. NOBLE.

## SECRETARIES:

Rev. J. Kenrick, F. S. A.
Thos. Allis, F. L. S.

## ASSISTANT SECRETARY:*

Edw. Charlesworth, F. G. S.

## CURATORS:

| | |
|---|---|
| Mineralogy | William Procter. |
| Comparative Anatomy | Thos. Allis, F. L. S. |
| British Ornithology | W. Rudston Read, F. L. S. |
| Insects and Crustacea | Rev. Canon Hey. |
| Antiquarian Department | Rev. Charles Wellbeloved.<br>Rev. John Kenrick, F. S. A. |
| Library | Rev. Thomas Bayly. |
| Observatory & Meteorology, *under the Care of a Committee consisting of* | The Rev. W. V. Harcourt, F. R. S.<br>T. S. Noble.<br>Wm. Gray, F. G. S.<br>John Ford.<br>Rev. Canon Hey. |

## KEEPER OF THE MUSEUM:

Edward Charlesworth.

## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

* Mr. Charlesworth has resigned his offices of Assistant Secretary and Keeper of the Museum.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCETY,

FEB. 2, 1858.

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THE Report for the year 1857, which the Council now present to the Members of the Yorkshire Philosophical Society, will show that during the past year, the objects for the promotion of which the Society was instituted have been steadily pursued. Additions of great permanent value and extent have been made to its Collections, and the number of its Members has been considerably increased.

At the Monthly Meeting in April last, Mr. Allis, the Curator of Comparative Anatomy, called the attention of the members to the recent discovery of a very remarkable specimen of the Ichthyosaurus Platyodon in the lias of Whitby, and urged that it should not be allowed to go out of the County of York, or pass into any private collection, but be secured for the Museum of the Yorkshire Philosophical Society. This suggestion having been enforced by Professor Phillips, a subscription was begun for its purchase; but its prosecution was rendered unnecessary by the liberality of the Rev. Danson Richardson Roundell, who presented the Society with £110, the price ultimately fixed by the discoverers. The Keeper of the Museum, Mr. Charlesworth, who had exerted himself greatly in procuring this specimen for the Society, and had taken on

himself the risk of the purchase, states in his Report, that it is not only the largest known example of the *genus*, but that the *species* is so rare that he knows only of one other specimen, which is to be found in the British Museum; which, however, is one-third less in size, and by no means so complete, as that now in the possession of the Society.

Our collection of Yorkshire fossils has also been enriched through purchases made by funds voted by the Committee of the Yorkshire Naturalists' Club. They include many specimens of high scientific interest, and one especially, which determines a Whitby fossil, the nature of which has been hitherto problematical, to be an appendage to the vertebral column of an enormous osseous fish. A slab of mountain limestone from Richmond, covered with the beautiful new encrinites (Woodocrinus of De Koninck), has been added to the collection by an exchange with Mr. Wood.

In the department of recent natural history the most valuable addition received during the year is a specimen of the rare and beautiful Opah or King-fish (Lampris guttata), taken at Redcar and purchased from C. Oxley, Esq. Lieut. Cholmeley has presented a valuable collection of shells, dredged by himself, principally at Ports Philip and Jackson. P. Hague, Esq., has given several valves of a species of river Mussel (Unio) illustrating a secret possessed by the Chinese of stimulating the animal to deposit shelly matter upon extraneous bodies, artificially inserted within the shell, and thus forming pearls of a coarse quality in any required number.

During 1857 the whole of the interior of the cases in the Geological room has been repainted, and a large proportion of the specimens washed, to clear them from the dust, which had greatly obscured the beauty of some of them, especially those from the Malton Oolites. An arrangement made with the Rev. P. P. Carpenter, of Warrington, to print labels in exchange for duplicate specimens, has been so far carried out, that labels for the whole of the plants of the Coal Measures and Yorkshire Oolites have been supplied to us. They are not limited to the species in possession of the Society, but embrace all yet published as British. Every label combines with the

name a reference to a standard work, in which the species is figured and described; a plan which is carried out in labelling our Marine shells, and if generally adopted, would be of the greatest assistance to those who consult a public collection for the purpose of scientific study.

In accordance with the wishes of many members of the Society, the Council have constructed a Marine Aquarium, which is placed near one of the hothouses, and furnished it with a variety of zoophytes, crustacea and fishes. Considerable difficulty was experienced at first in keeping the water in a proper state of purity; but by the exertions of Mr. Pumphrey and Mr. Baines this difficulty has been overcome. At the present moment the Marine Aquarium is an object of especial attraction to all who take an interest in Natural History, whether they are satisfied to admire the beauty of colour and form which many of these productions of nature exhibit, or desire to study the structure and functions by which they are adapted to their peculiar conditions of life.

No additions of importance have been made to the COLLECTION OF ANTIQUITIES during the past year. Such as have been received will be found noticed in the List of Donations. The design of erecting a building for the reception of the Roman pavement, alluded to in the last Report, was subsequently laid aside, and a new arrangement made of the upper room of the Hospitium. By this means space has been gained for laying down and displaying to advantage the remarkable pavement brought from Oulston; the appearance of the whole apartment has been improved, and room has been provided for future additions. At the same time all the cases have been cleaned and some repainted. The expense of these alterations and of laying down the pavement has been great; but considerably less than the erection of a new building would have cost. The Council avail themselves of this opportunity of acknowledging their obligations to Mr. Fowler Jones for the liberal manner in which he has given his professional assistance in carrying out these changes. The second edition of the Descriptive Catalogue of the Antiquities being exhausted, another is about to be printed, adapted to the new arrangement of the room.

The objects of Antiquity and Mediæval Art, selected by the Commissioners from the Art-Treasures Exhibition at Manchester, were sent in the Spring and have since been returned without loss or injury.

The Library has received from Lord Londesborough the two concluding Nos. of his Miscellanea Graphica, and from various Societies copies of their Proceedings and Transactions. Among these is to be mentioned, for the first time, the Smithsonian Institution, at Washington. This Institution, founded by an Englishman for the increase and diffusion of knowledge, and endowed by him with half a million of dollars, embraces every branch of Science, and its Reports not only contain information respecting the Natural History and Antiquities of America, but take a survey of the progress of scientific discovery in all parts of the world.

The Council have also subscribed for the Crania Britannica, published by Mr. J. B. Davies, and Dr. Thurnam, formerly Medical Superintendent of the Retreat near this city. This work is intended to elucidate the Ethnology of Britain by drawings and measurements of skulls, found in ancient tumuli and sepulchres, and to illustrate them by an antiquarian commentary. The subjects engraved and illustrated have been in part derived from Roman York, or from barrows in Yorkshire which have been opened by members of this Society, and the contents of which are deposited in our Museum.

The numerous demands made in the past year upon the Funds of the Society have prevented the printing of the Catalogue, which has been prepared for some time, but it is the intention of the Council immediately to proceed with it.

The Mineralogical Collection has not been augmented this year by any considerable donations or purchases, but its utility has been much increased by the labelling of the specimens, a work which previously had been imperfectly performed.

According to the Report of the Curator of Meteorological Instruments, the temperature of the year 1857 was 1·3° above the mean of twenty years, and higher than that of any year since 1846, of which year the mean temperature was 50°. In

the year 1857 eight months out of the twelve were above a mean. January, February, April and May were below. March, June and July were less than one degree above a mean. The excess in August was 2·8°, September 1·4°, October 3·2°, November 8·6°, and December 5·5°. The highest temperature was on the 28th of June, 83·5°, and the lowest, on the 1st of February, 17°.

Five months of the year had a fall of rain below the mean of twenty years, viz., February, May, October, November, and December. The remaining months exceeded the mean. The greatest departure from an average fall was in August, when the quantity was 6·59 inches, the largest amount registered in this month during the last twenty-five years. The total for the year, 26·44 inches, exceeds a mean by 2·16 inches.

The excess of rain in 1856 and 1857 amounts conjointly to 4·07 inches. This fact seems to show a tendency to a restoration of equilibrium in the annual fall. In the ten years from 1846 to 1855 inclusive, the mean annual fall was 23·302. From 1848 to 1857 inclusive, 23·796. In the twenty years from 1838 to 1857, 24·25.

Thunder and lightning have been rare during the year. Two occurrences are noted in July and three in September. From the 6th of August to the 15th, 6·5 inches of rain fell, but unaccompanied by the electrical displays which almost uniformly mark these days at York.

The mean height of the barometrical column for the months of November and December was remarkably high, 30·06 in the former month and 30·11 in the latter, accompanied by rain 3·93 inches less than the mean quantity.

## METEOROLOGICAL REGISTER, YORK, 1857.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Frosts. | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days. | Average Max. | Average Min. | Mean Temp. | Highest. | Lowest. | | |
| Jan. | 30·410 | 28·926 | 29·692 | 2·58 | 10 | 37·9 | 29·7 | 33·8 | 48 | 17·5 | 21 | S. W. |
| Feb. | 30·538 | 29·452 | 29·962 | 0·58 | 10 | 40·7 | 31·0 | 35·8 | 49 | 17 | 14 | ? |
| Mar. | 30·590 | 28·846 | 29·771 | 2·13 | 16 | 43·8 | 35·6 | 39·7 | 56 | 27 | 10 | N. E. |
| April | 30·252 | 28·936 | 29·690 | 2·75 | 15 | 50·1 | 37·6 | 43·8 | 65 | 28 | 7 | N. E. |
| May | 30·342 | 29·444 | 29·742 | 1·47 | 10 | 57·0 | 43·2 | 50·1 | 66·5 | 32 | 1 | N. E. |
| June | 30·502 | 29·430 | 29·933 | 2·73 | 10 | 67·9 | 49·3 | 58·6 | 83·5 | 37 | 0 | Various. |
| July | 30·362 | 29·644 | 29·853 | 2·96 | 9 | 68·2 | 52·8 | 60·5 | 78 | 45 | 0 | W. |
| Aug. | 30·383 | 29·710 | 29·952 | 6·59 | 10 | 68·0 | 55·6 | 61·8 | 77 | 55 | 0 | E. |
| Sep. | 30·520 | 29·500 | 29·843 | 2·03 | 13 | 62·8 | 50·4 | 56·6 | 70·5 | 39·5 | 0 | S. W. |
| Oct. | 30·340 | 29·068 | 29·773 | 1·19 | 17 | 56·3 | 44·7 | 50·5 | 68 | 33·5 | 0 | S. E. |
| Nov. | 30·790 | 29·254 | 30·064 | 1·11 | 16 | 53·6 | 46·8 | 50·2 | 55·5 | 23 | 8 | S. E. |
| Dec. | 30·714 | 29·600 | 30·113 | 0·32 | 9 | 50·5 | 38·2 | 44·4 | 54 | 25 | 6 | S. W. |
| | | | | 26·44 | 145 | | | 48·8 | | | 67 | |

Important improvements have been made in the Observatory. The object glass of the Telescope, presented by the Rev. Dr. Pearson, for which the Observatory was built, was found, upon examination, to have been altered so as to be out of form, and a new one having been supplied by the liberality of one of the Curators of the Observatory, William Gray, Esq., it has been remounted, in a new tube provided with eye-pieces, and the instrument has thus been rendered very perfect. It has been tested several times, and clearly shows the minute companion stars to $\alpha$ Ursæ Minoris, $\alpha$ Lyræ and $\beta$ Orionis, and other stellar objects usually employed as tests of first-class instruments; most of the satellites of Saturn have been clearly seen; various double stars appear distinctly defined. The Observatory has been repaired and painted, and in the course

of the last four months several meetings have been held there for the purpose of exciting an interest in the study of Practical Astronomy. Mr. Noble, from whom this Report of the Observatory proceeds, expresses a wish that the number of members attending these meetings should be increased, a wish in which the Council entirely concur.

From Lady Chatterton, as executrix of her late sister, Miss Atkinson, has been received a most valuable bequest, the portrait of her late father, James Atkinson, Esq. Mr. Atkinson was a surgeon of high professional eminence in this city, active and liberal in all public undertakings, and one of the Founders of the Yorkshire Philosophical Society. To the citizens of York, this portrait will have a great additional interest, from its being the work of their eminent fellow-citizen, William Etty, R.A., and an admirable specimen of his skill in a department of his art, in which his pencil was rarely employed. The celebrity which Mr. Etty attained as a painter has shed lustre over his native city; his simple manners and amiable temper have endeared his memory to many of our members who were his private friends; York was the chosen retreat of his declining years; he took a lively interest in the success of our Society, which early enrolled him among its Honorary Members; and his last resting place, selected by himself, is almost within the walls of our venerable Abbey. In the new arrangements consequent upon the enlargement of the Museum the Council hope to find a place for this portrait, where it may be at once secure from injury, and open to the view of every Visitor to the Museum. The Meeting will no doubt cordially join in a vote of thanks to Lady Chatterton for carrying into effect the wishes of her sister.

It was announced in the last Report that the Council intended to make an Exhibition of objects of Natural History and Antiquity, in the Society's Museum and Grounds, during the Agricultural Meeting in the month of August. The weather after the first day was exceedingly unfavourable, and the pecuniary results consequently much smaller than had been hoped for, amounting only, after all expenses were paid, to about £18. It was visited, however, by several thousand

persons, and it has probably been the means of making the contents of our Museum and the objects of our Society more extensively known among the inhabitants of the County. The admission of the public on Whitmonday and Tuesday was regulated by the Resolution passed at the last Annual Meeting, a penny being charged for entering the Museum, while admission to the Gardens and the Hospitium was free. The object of the Council in proposing this distinction was completely answered. Nearly three thousand persons visited the Museum during the two days, without the inconvenient crowding which had been experienced in former years. The Council propose to continue this regulation.

The acquisition of the Whitby Icthyosaurus has led to an extension of the buildings of the Museum, which has already advanced so far as to enable the members to judge of its adaptation to the purposes for which it is designed. The size and weight of this specimen precluded its being deposited on the floors of the present building, and if it had been consigned to the basement story both light and space would have been wanting for its advantageous display. It was determined therefore to make an appeal to the members of the Society, and to the County of York generally, for the means of providing room not only for this but for other additions which may be reasonably expected. The Council have much pleasure in announcing that this appeal has been very successful. Of £1000, the calculated expence of the building and fitting up, £876 has been already subscribed. The founders of this Society announced their intention of establishing a Central Museum for the county, and gave their new institution the name of the Yorkshire Philosophical Society. It is gratifying to find by the liberal contributions of the gentlemen of the county, that it is still recognized by them in this comprehensive character. In announcing the success of their appeal, the Council have great pleasure in acknowledging the zealous exertions of one of their Vice-Presidents, W. Rudston Read, Esq., which have materially contributed to this result. They hope that the sum still required to meet the estimated expence will speedily be raised, and that they shall be thus enabled to carry out their entire

design. As the British Association will meet this year in Leeds, no doubt many of its members will pay a visit to its birth-place; and it is much to be desired that not only our present collections should be in perfect order, but that the additional rooms should be so far finished as not to offend the eye by the appearance of incompleteness. The central room is designed to receive the Ichthyosaurus platyodon and the other Saurian remains, in which our Museum is so rich; while the two smaller apartments and the galleries will afford the means of more conveniently displaying our present specimens and of receiving the additions of many future years.

The account which has been given of the operations of the Society during 1857 will show that it has been a year of large expenditure. The expenses of the alterations in the upper room of the Hospitium, with the laying down of the pavement; of the repairs of the Observatory; of the construction of the Aquarium; and of putting the house at the gate into tenantable condition, and compensating a former tenant for fixtures and other things, have amounted to upwards of £230. There has been at the same time the loss of a year's rent on the house; the Exhibition at Manchester has directed the stream of tourists and excursion trains in that direction, and reduced the receipts at the gate; no profit has been received from the Horticultural Exhibition, nor from the hire of the tent. But, on the other hand, the number of subscribers has been increased, and several compositions for annual subscriptions have been received in 1857; so that there is a small balance in favour of the Society. The present number of Subscribing Members, independently of Lady Subscribers and Associates, is 376, and it is evident that if this number can be maintained the Society has in itself the elements of permanent prosperity.

The late Earl Fitzwilliam had held the office of our President since the year 1831, in which capacity he presided at the establishment of the British Association in that year. The monthly meeting of October last recorded its sense of his eminent public and private virtues, and of the honour and benefit the Society had derived from his long tenure of that office. In this sentiment the present meeting will no doubt

heartily concur. Though seldom seen among us in later years, he was always desirous to promote the welfare of our Society, and he headed with a munificent donation the list of contributors to the extension of the Museum. The Council have conveyed to the EARL OF CARLISLE the expression of their unanimous wish, that he would allow himself to be nominated for the Presidentship, and they have the pleasure of announcing that his Lordship has acceded to their request. They hope that when this amiable and accomplished nobleman has ceased to fill the high office which he now holds, and has returned to his ordinary residence, our Meetings may often be graced by his presence.

The Council have also to propose to this Meeting, to mark their sense of the liberality of the Rev. Danson Richardson Roundell, by electing him an Honorary Member of the Society.

Four Members of the present Council, Mr. Wm. Anderson, the Rev. Thos. Bayly, the Rev. Thos. Myers, and Mr. Kitching, retire by rotation and are ineligible for the present year.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1857.

**Cr.** RECEIPTS.

| 1857. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 621 | 0 | 0 |
| *Admission of New Members | 67 | 0 | 0 |
| Composition in lieu of Subscription | 111 | 0 | 0 |
| Associates | 11 | 0 | 0 |
| Ladies' Subscriptions | 48 | 0 | 0 |
| Keys of the Gates | 33 | 0 | 0 |
| Rents | 40 | 14 | 6 |
| Money received at the Gate | 180 | 16 | 8 |
| Swimming Bath (gross receipts) | 147 | 13 | 7 |
| Sale of Guide to Antiquities | 13 | 10 | 0 |
| Temporary Subscribers | 3 | 0 | 0 |
| Net proceeds of Exhibition | 20 | 8 | 10 |
| Total Income | 1297 | 3 | 7 |
| Permanent Debt: | | | |
| Yorkshire Insurance Company £1900 0 0 | | | |
| Five Members at £50 Each 250 0 0 | | | |
| 2150 0 0 | | | |
| Balance in Treasurer's hands Jan. 1858 96 19 0 | | | |
| Total Debt of Society, Jan., 1858 | 2053 | 1 | 0 |

**Dr.** EXPENDITURE.

| 1857. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent | 1 | 0 | 0 | | | |
| Rent to Corporation | 52 | 12 | 4 | | | |
| Rates and Taxes | 11 | 12 | 7 | | | |
| Insurance & Water Rent | 12 | 17 | 0 | | | |
| | | | | 78 | 1 | 11 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum and Assist. Secretary | 250 | 0 | 0 | | | |
| Sub-Curator | 100 | 0 | 0 | | | |
| Servant | 20 | 0 | 0 | | | |
| Lodge Keeper | 26 | 0 | 0 | | | |
| Labourers | 145 | 12 | 0 | | | |
| Collector | 4 | 17 | 6 | | | |
| Attendant, Hospitium | 8 | 14 | 0 | | | |
| Temporary Assistant, Museum | 15 | 13 | 6 | | | |
| | | | | 570 | 17 | 0 |
| Interest on Debt to Dec. 31, 1857: Insurance Company | | | | 73 | 0 | 7 |
| Museum Gardens, &c.: | | | | | | |
| General Repairs | 110 | 6 | 0 | | | |
| Purchase and Preparation of Specimens | 35 | 10 | 3 | | | |
| | | | | 145 | 16 | 3 |
| Library, Books and Binding | | | | 23 | 19 | 0 |
| Swimming Bath: | | | | | | |
| Keeper's Salary | 30 | 0 | 0 | | | |
| Water Rent | 20 | 0 | 0 | | | |
| Repairs and Incidents | 13 | 6 | 11 | | | |
| | | | | 63 | 6 | 11 |
| Miscellaneous Expenses: | | | | | | |
| Printing, Advertising, and Stationery | 43 | 9 | 6 | | | |
| Coals and Gas | 63 | 18 | 5 | | | |
| Expences connected with Band | 15 | 3 | 0 | | | |
| „ Lectures | 8 | 7 | 9 | | | |
| Hospitium | 95 | 12 | 8 | | | |
| Aquarium | 39 | 16 | 1 | | | |
| Observatory | 34 | 4 | 1 | | | |
| Postage, Carriage, and Sundries | 23 | 8 | 6 | | | |
| | | | | 324 | 0 | 0 |
| | | | | 1279 | 1 | 8 |
| Surplus of Income | | | | 18 | 1 | 11 |
| | | | | £1297 | 3 | 7 |
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company £1900 0 0 | | | | | | |
| Due to Five Menmbers £50 each 250 0 0 | | | | | | |
| 2150 0 0 | | | | | | |
| Due from the Treasurer Jan., 1857 78 17 1 | | | | | | |
| Total Debt, Jan., 1857 | | | | 2071 | 2 | 11 |
| Surplus of Income, 1857 | | | | 18 | 1 | 11 |
| | | | | £2053 | 1 | 0 |

March 5th, 1858, Audited by us,
H. SHORT, EDWD. SWAINE.

WILLIAM GRAY, TREASURER.

* Consisting principally of instalments of £1; the subscription for the first year regarded in former Balance Sheets as part of the entrance fee is now included in the item "Annual Subscriptions and Arrears."

# MEMBERS

ELECTED SINCE FEB., 1857.

## 1857.

Agar, Benjamin, *York.*
Aldam, William, *Frickley Hall.*
Beattie, Henry, *York.*
Bolton, Lord, *Bedale.*
Briggs, Major, *York.*
Briskham, Miss, *York.*
Carter, Rev. John, *York.*
Cayley, Digby, *Brompton.*
Cholmeley, Lieut. Thos. Chas., R. N., *Brandsby.*
Croft, Capt., *Stillington.*
Day, Edward, *Eastdale.*
Donkin, Edward, *Malton.*
Groves, John, *York.*
Holmes, Henry Tuke, *Norfolk.*
Knapton, William, *York.*
Lane, John, *York.*
Long, Ven. Archdeacon, *Settrington.*
Lowrie, W. F., *York.*
Mann, John W., *York.*
Middlewood, George, *York.*
Millne, Charles, *York.*
Oxley, C. C., *Redcar.*
Pearson, Rev. George, *York.*
Phillips, William, *York.*
Prescott, Robert, *The Yorkshire Club.*
Prest, Mrs. Jno., *York.*
Radcliffe, Sir Joseph, Bart., *Wetherby.*
Robinson, William, *Richmond.*
Rooke, Edward, *York.*
Salt, Titus, *Saltaire.*
Sanderson, Thomas, *York.*
Simpson, Rev. Philip, *Metham Hall.*
Spark, Chas. W., *York.*
Steward, Henry, *York.*
Westhead, J. P. Brown, *Lee Castle, Kidderminster.*
Woodall, John W., *Scarborough..*

## 1858.

Cholmley, Miss, *Fulford Lodge.*
Pulleyn, Thomas, *York.*
Thorp, Fielden, *York.*
Walker, James, *York.*

# RESOLUTIONS

PASSED AT THE ANNUAL MEETING, FEB. 2ND, 1858.

1. That the Report of the Council now read be adopted and printed for circulation among the Members, Lady Subscribers and Associates.

2. That this Meeting return their cordial thanks to Lady Chatterton, for carrying into effect the Bequest by her late sister Miss Atkinson, of the portrait of her father, James Atkinson, Esq.

3. That the thanks of the Meeting be given to the Vice-Presidents, to the Members of the Council retiring from office, and to the Treasurer, Secretaries, and Curators, for their services during the past year.

4. That the Council be empowered to give free admission to the Grounds and Hospitium, on Whit-Monday and Tuesday; and to the Museum, on those days under the same regulations as last year.

5. That authority be given to the Council to hold Horticultural Meetings, and to admit temporary Subscribers, on the usual terms.

6. That the Rev. D. R. Roundell be elected an Honorary Member of this Society.

7. That the thanks of this Meeting be given to the Rev. Canon Harcourt, for so ably presiding over this Meeting.

# LECTURES

DELIVERED DURING THE YEAR 1857.

JANUARY 19 and 21.—On Zoophytes, their structure and history; by REV. THOMAS HINCKS, Leeds.

MARCH 3.—On the Sinaitic Inscriptions; by the REV. THOMAS MYERS.

FEB. 3.—On the Fossil Saurians of Yorkshire; by MR. CHARLESWORTH.

MARCH 10.—On the esculent and poisonous species of the Mushroom tribe; by MR. O. A. MOORE.

MAY 12 and 19.—On Shells and their inhabitants; by MR. CHARLESWORTH.

NOVEMBER 25.—On Ship-building and the Great Eastern Steamship; by CAPT. O'BRIEN.

DECEMBER 9.—On Magnetism; by MR. PROCTER.

DECEMBER 21.—On Teeth; by MR. CHARLESWORTH.

COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

1857.

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MARCH 3.—An analysis was read, made by MR. PROCTER, of the bronze handle of an Etruscan patera in the Museum of Antiquities. It appeared to contain in 100 parts—

| | |
|---|---|
| Copper ..... | 88·72. |
| Tin ..... | 8·04. |
| Lead ..... | 3·13. |
| | 99·89. |
| Loss..... | 11. |
| | 100. |

In the older analyses of ancient bronze no lead had been noticed, but in the later ones by Davy and Wilson a small amount of this metal is mentioned.

APRIL 6.—ROBERT DAVIES, ESQ., F. S. A., read a paper "On the Origin of the Great Council of the North." The object of the paper was to show that the germ of this Council might be traced to an earlier period than 1537, and that its real prototype was the Council which accompanied Henry the eighth's illegitimate son, the Duke of Richmond and Somerset, into Yorkshire in 1525, when he was appointed Lieutenant General of the North, and Warden General of all the Marches towards Scotland. A certain number of persons, some of them holding office in the Duke's household, and others especially selected for their professional qualifications, were appointed to be a Council for the management of the Duke's affairs, and under that designation they were clothed with extensive powers of an arbitrary and inquisitorial character, extending over all the Northern

counties. By virtue of this authority they held sessions of oyer-and-terminer and gaol-delivery alternately at York, Newcastle and Pontefract, heard and decided causes between party and party, and pronounced judgment in criminal cases without the intervention of a jury. Even at the ordinary assizes some of the members were present and took part in the proceedings. The Duke returned to the South in 1527, but the Council continued to exercise the same powers as before. When the insurrection called the Pilgrimage of Grace broke out, in 1536, it was still in existence and exercising its powers; but in 1537 the king converted it into a standing court, which bore the title of the Great Council of the North, and by its arbitrary and almost irresponsible powers, exercised an iron rule for more than a century over that part of England which lies between the Trent and the Tweed. Henry VIII., when he remodelled the Council and gave it a permanent character, might wish to have the credit of being its author, but it really originated from the master mind of Wolsey.

May 9.—Mr. Charlesworth, Keeper of the Museum, read a paper respecting the Ichthyosaurus Platyodon from the alum strata at Kettleness, lately presented to the Museum by the Rev. D. R. Roundell. The Whitby district has long been known for its Saurian remains, and within the last ten or fifteen years has produced no less than five perfect, or nearly perfect, Plesiosauri; but of the allied genus, the Ichthyosaurus, no large or remarkably perfect specimen has been found there until now. The largest previously known, tolerably complete Ichthyosaurus is the I. platyodon from Lyme Regis in the British Museum. Its absolute length is 18 feet; its computed length, when perfect, 20 feet. The Whitby specimen is 23 feet long, and its computed length 28 feet. It therefore surpasses in total length any skeleton, of corresponding completeness, yet discovered. From the structure of the paddles, form of the teeth, vertebræ, &c., Mr. Charlesworth considered it to agree more nearly with I. platyodon than any other described species; but as a large proportion of the saurians and other fossils found in the Yorkshire Lias are distinct from those found in the South of England, its character should be very rigorously investigated, before it is confidently referred to this or any other published species.

JUNE 3.—THE REV. JAMES RAINE, JUNIOR, read a paper entitled "Illustrations of Life and Manners from Wills," especially the class called *nuncupative* or word-of-mouth wills. In an age when writing materials could not readily be found, such wills were frequently made in cases of emergency. These documents afford much information respecting the times in which the testators lived and the little world of the hearth and the home; they are also characterized by their truthfulness, being made at a moment when they were about to exchange one state of existence for another. Those which were quoted were chiefly of the sixteenth and seventeenth centuries, and related to this and the neighbouring county of Durham. One was that of a female of Richmond, who was compelled to make her will out of a chamber window, the house being locked up as its inhabitants were stricken with the dreadful plague. Richmond suffered terribly from this visitation, three-fourths of the population being carried off by it and buried on the north side of the church, where the people, even to the close of the last century, refused to bury for fear of letting out the plague. Archbishop Mountain, who was a native of Cawood, made a nuncupative will in 1628, some of the bequests of which were mentioned. The paper concluded with an observation that literary men, before they undertook to treat of history and biography, would do well to pay attention to these humble but authentic records.

NOVEMBER 3.—A paper, by MR. EDWARD TINDALL, of Bridlington, was read, containing an account of the opening of some tumuli in that neighbourhood since the beginning of the year. In one of these, three articles of bronze had been found, which the author of the paper considered to be Roman; in another, flint chisels and other implements of the same material, along with fragments of burnt bone. In another, which was 100 yards in circumference and 100 feet in diameter, two urns of clay were found, which had been made on the wheel and afterwards ornamented by hand; a broken axe head, finely polished at the edge, and a remarkable implement of flint, combining the uses of a knife and a saw. Pieces of leather were also found, which had been pierced by an instrument like a cordwainer's awl, and seemed to have been worn as an ornamental part of dress by the persons interred. Branches of trees, in a remarkable state of preservation, were strewed over the ashes of the dead. In this tumulus both urns and skeletons were found, and one of the urns exhibits a rude imitation of Samian ware, which appears to indicate that the tumulus belonged to the time of the Roman occupation. Several

implements of flint were exhibited, obtained from these researches, so fresh in their appearance, that but for the evidence of their antiquity they might have been concluded to be recent fabrications.

December 1.—A communication was read from John Phillips, L. L. D., F. R. S., F. G. S., on a recent discovery of Roman remains at Filey. The unusually heavy rain-storm of August in the present year, laid open to view some traces of construction on the narrow neck of land above the rocky promontory called Filey Bridge. On further examination it appeared, that four squared stones, set in clay with which boulders had been mixed, had stood at the corners of a rectangular space, probably supporting angle posts and horizontal tie-beams, on which a roof of straw or turf had been placed. The floor, above the clay and boulders, was an irregular thin layer of concrete, on which lay a mass of rubbish, pottery, bones and charred oak, with coins in considerable numbers. The pottery was Romano-British without any Samian; the coins were all Roman without the admixture of any work of later generations; and hence the author of the communication concluded, that the erection had been intended as a shelter to a detachment of Roman soldiers, appointed to guard this coast. The coins, as far as seen by him, were of Constantius and Constantine.

A paper was also read by the Rev. John Kenrick, "On the Rise, Progress and Suppression of the Order of Knights-Templar in the County of York." The ample possessions which this order obtained in our county were owing to the patronage of the noble families of De Brus, Mowbray, De Lacy, De Ros, De Stutevile and Hastings, whose own domains were immense. From the survey made of the Ballia of Eborascire in the year 1185 it appears that the lands of the Templars began at the northern verge of the county, and extended both into the East and West Riding. Their chief preceptory in this county was at Newhusum, now Temple Newsome near Leeds; and they had another at Ribston. Nearer York they possessed lands at Copmanthorpe, where a field still retains the name of Temple-garth. In York itself they had only some small tenements and the mills near the Castle, which have lately been destroyed. Altogether upwards of eighty places are mentioned in the survey of 1185 in which they had possessions or rights, and doubtless these would be much increased in the course of the next century. The sources of their revenues were various; besides lands they had tolls in fairs and

markets, multure from windmills and watermills, advowsons of churches, services from tenants of so many days' ploughing, harrowing, haymaking, sheepshearing and sheep washing. Even tributes of fowls and eggs are not overlooked. The order possessed also many valuable immunities; they were exempt from tythes; service might be performed in their churches when the rest of the parish was under an interdict; no Templar could be required to take an oath. They had courts of separate jurisdiction, and endeavoured to compel those with whom they or their tenants had disputes, to bring their causes before these courts, instead of the established tribunals. They were an important element in the state. The Master of the Temple was summoned to parliament with bishops and priors, and Amaric de St. Maur joined the great barons in urging on King John the signature of Magna Charta. In the thirteenth century they had attained the maximum of their prosperity and power; yet towards its close, causes were in operation which in the beginning of the fourteenth brought about their suppression. The circumstances attending this event in Yorkshire, the author reserved for another communication.

January 5.—The Rev. John Kenrick read the conclusion of his paper, begun at the preceding monthly meeting. Among the causes which led to the suppression of the Order of the Templars he mentioned, the failure of the Crusades, which showed the hopelessness of the recovery of Palestine; the jealousy of their power entertained both by Church and State, and their own wealth, pride and luxury. The charges of immorality and impiety which were made the ground of the cruel measures taken against them, were not supported by satisfactory evidence, and though individuals might be guilty, were no sufficient ground for the destruction of the order. Edward II., when solicited by Philip the Fair of France, to co-operate with him in his measures against them, at first declined, not believing the crimes imputed to them, but a letter from the Pope seems to have altered his views, and as he was at the time a suitor for the hand of the French Princess, Isabella of Valois, a desire to gain the favour of Philip may also have influenced him. He accordingly ordered an investigation to be made. Archbishop Grenefeld, who then filled the see of York, commenced the trial of twenty-four Templars who had been seized and committed to the Castle, on the 19th of May, 1310. He was attended by his suffragans, the Bishops of Durham, and Whithern in Galloway, and by a numerous assemblage of ecclesiastics, from the different deaneries and archdeaconries, and the

monastic establishments of the province. To these were added some learned lawyers. The Templars denied all the most odious of the charges against them; but they appear to have been aware that their suppression was predetermined, and when, after various proceedings, they were brought up before a Council which again met at York in May 1311, they confessed that they could not clear themselves respecting the accusations contained in the bull of the Pope, and prayed, on their bended knees, that they might be restored to the communion of the Church. They abjured all heresies, and promised to keep holy the catholic and orthodox faith, and to observe the Church's mandates; and proceeding from the Chapter House to the south door of the Minster, they there received absolution from the Bishop of Whithern. The possessions of the Templars in Yorkshire were partially transferred to the Knights of St. John, but the Crown retained some of the most valuable, and granted them to the nobility. It is probable that much light might be thrown on this subject by documents, yet unpublished, among the national Records, and Mr. Kenrick expressed a hope that on some future occasion he should be able to lay a list of these before the Society, if not copies at full length.

# DONATIONS TO THE MUSEUM.

## GEOLOGY.

| | |
|---|---|
| Yorkshire Naturalists' Club | Various remarkable Specimens from the Lias of Whitby. |
| Cholmeley, Lieut. ..... | Auriferous Quartz, from Australia. |
| Dayrell, Rev. Thos. ..... | Two teeth of Fossil Elephant from the Chalk Drift of Cambridgeshire. |
| Denison, Robt., Esq..... | Various Minerals. |
| Long, Ven. Archdeacon ... | Imperfect Cranium of Horse, found in Alluvium near Settrington. |
| Marshall, Mr. Wm. ..... | Specular Iron Ore, from Cumberland, and Volcanic Rocks from South America. |
| Norman, Lieut. Col. ..... | Fossil Wood, from Trivatoor. |
| North Eastern Railway, Directors of ..... | Horns of the Red Deer, found in making the Docks at Jarrow. |
| Parsons, Miss ..... | Portion of curious encrinital Stem. |
| Roundell, Rev. D. R. ..... | Ichthyosaurus Platyodon, from the Lias of Whitby. |
| Tindall, Mr. Edwd. ..... | Fossils from the Chalk of Bridlington. |
| Wood, Edwd., Esq., F. G. S. | Slab of Mountain Limestone covered with Specimens of Woodocrinus (in Exchange). |

## ZOOLOGY.

| | |
|---|---|
| Cholmeley, Lieut. ..... | Shells dredged by the Donor at Port Jackson and Port Philip, and a rare Trigonia from Bass's Straits. |
| Collings, Mr. ..... | Skull of the Albatross. |
| Clifford, —, Esq. *(Deighton Grove)* ..... | Swans' Eggs. |

| | |
|---|---|
| Hague, Patrick, Esq. ..... | Shells of a species of Unio, from China, enclosing Pearls the result of artificial stimulus. |
| Hotham, Captain ..... | Bones of the Albatross. |
| Jackson, Mr. Wm., *(Hull)* | Fine Skull of Walrus. |
| Lukis, C. F., Esq..... | Choice specimens of Cardium echinatum, from Guernsey. |
| Marshall, Mr. Wm. ..... | Specimens of Unio margaritiferus. |
| Procter, Wm., Esq. ..... | Voluta Musica. |
| Storey, E., Esq..... | A Bird of Paradise. |
| Straubenzee, Major ..... | Fine example of the Solan Goose (Sula Bassana). |

## ANTIQUITIES.

| | |
|---|---|
| Cheap, The Misses ..... | Fragments of Pottery, from Egypt. |
| County, Magistrates of..... | Two Skulls, from sarcophagi, dug up in the Castle Yard, York, in 1835. |
| Denison, R., Esq. ..... | Two Silver Pieces (Charles I.), found at Pocklington. |
| Farsyde, W. J. G., Esq. ... | Gold Brooch, found at Fylingdales. |
| Kenrick, Rev. J. ..... | Leaden Coin of Commodus, found at Clifton. |
| Melrose, Mr. ..... | Coin of Septimus Severus. |
| Read, Wm. H. Rudston, Esq. | Two Roman Coins. |
| Spurr, Mr..... | Several Roman Antiquities, found at the corner of Aldwark. |
| Warren, T. W., Esq., *(Dublin)* ..... | Gun Money of James II., Ireland. |
| Short, Rev. H. ..... | Roman Bronze Spoon, found in sinking for the foundation of a house on Lord Mayor's Walk. |

## MISCELLANEOUS.

| | |
|---|---|
| Jackson, Mr. Wm., *(Hull)* | Seal skin Dress of the Esquimaux. |
| Ruddock, Mr., *(Whitby)* | Specimens of Forgeries of Flint Implements. |

## LIBRARY.

| | |
|---|---|
| Admiralty, Board of ..... | Greenwich Astronomical and Meteorological Observations, 1855. Toronto. Magnetical and Meteorological Observations, 1846—48. |
| Antiquaries, Society of..... | Proceedings of, Nos. 43—46. Archæologia, vol. 36, p. 2, vol. 37. p. 1. |
| Association, British, for the advancement of Science | Report for 1856. |
| Club, Tyneside Naturalists' Field .....:..... | Transactions of, vol. 3. p. 1—3. |
| Company, Hon. East India | Geological Survey of India, vol. 1. p. 1. |
| Institution, Royal, of Great Britain ..... | Meetings of the Members of, part 7. |
| Observatory, Royal, Edinburgh ..... | Astronomical Observations, vol. 11. 1849—54. |
| Society, London Geological | Journal of, for 1857. |
| Society, Royal, of Edinburgh | Transactions of, vol. 21. p. 4. Proceeding, 1856—7. |
| Society, Chemical ..... | Journal for 1857. |
| Society, Cornwall Royal Polytechnic ..... | Report for 1855—6. |
| Society, Liverpool Literary and Philosophical ..... | Proceedings of, 1855—6. |
| Society, Manchester Literary and Philosophical ... | Dalton's Chemistry and Meteorology. Memoirs of, vol. 14. |
| Society, Geological and Polytechnic, of W. R. of Yorkshire ..... | Proceedings of, 1856—7. |
| Society, Boston, of Natural History *(America)* ..... | Journal of, vol. 6. p. 1—3. |
| Do. do. ... | Proceedings of, vol. 5. 1854 to 1856. |
| Smithsonian Institution, *(Washington, U. S. America)* ..... | Reports of, for 1855—6. |
| | Smithsonian Contributions to Knowledge, viz:— |
| | The recent secular period of the Aurora Borealis, by Dr. Olmsted. |

| | |
|---|---|
| | Archæology of the United States, by Saml. F. Haven. |
| | Researches on the Ammonia-Cobalt Bases, by Wolcott Gibbs and Fred. Aug. Genth. |
| | Chemical and Physiological Investigations, relative to certain American Vertebrata, by Dr. Jones. |
| | Mexican History and Archæology, by Brantz Mayer. |
| | Record of Auroral Phenomena in the higher Northern Latitudes, by Peter Force. |
| | Publications of learned Societies and Periodicals in the Library of the Smithsonian Institution. |
| The Author ..... ... | On the Use, Properties and Products of the Bitumen and Petroleum of Trinidad, by the Earl of Dundonald. |
| The Author ..... ..... | A Lecture on the Malvern Hills, delivered before the Royal Institution, by John Phillips, F. R. S. |
| The Author ..... | Catalogue of the Reigen Collection of Mazatlan Mollusca in the British Museum, by Rev. P. P. Carpenter. |
| Londesborough, Lord ..... | Miscellanea Graphica (completed). |
| Read, W. H. Rudston, Esq. | Journal of the Proceedings of the Linnean Society, vol. I. 1856—57. |
| Sumner, Gillyatt, Esq., *(Beverley)* ..... | List of Books, Deeds and Papers in manuscript in his possession. |
| Taylor, Rev. Wm. *(London)* | Philosophical Transactions of the Royal Society of London, 1855—56. |
| Treherne, Rev. John..... | Lithographic Drawing of Monument erected to Sir Edwd. Carne, in the Atrium of the Church of San Gregorio, in Monte Celi. |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S. (14 parts published).

Birds of Australia, by the same, supplementary parts (2 published).

Birds of Asia, by the same (9 parts published).

Exotic Butterflies, being illustrations of New Species chiefly selected from the Collections of W. Wilson Saunders and W. C. Hewitson. By W. C. Hewitson. (23 Nos. published.)

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills, in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of Illustrations, and part 1 of Letterpress.)

Proceedings of the Zoological Society, with Illustrations.

Publications of the Palæontographical Society.

Publications of the Ray Society.

Sowerby's Thesaurus Conchyliorum, col. plates (17 parts published).

Crania Britannica, or Delineations and Descriptions of the Skulls of the Aboriginal and early Inhabitants of the British Islands, by J. B. Davis, F. S. A., and J. Thurnam, M. D.

## WORKS PURCHASED.

The Runic and other Monumental Remains of the Isle of Man, by Rev. Joseph George Cumming.

A History of British Fossil Mammals and Birds, by Richard Owen, F. R. S.

Catalogue of the Antiquities of Stone, Earthen and Vegetable Materials, in the Museum of the Royal Irish Academy, by W. R. Wilde, M. R. I. A.

# YORKSHIRE MUSEUM ENLARGEMENT FUND.

## SUBSCRIPTIONS ALREADY ANNOUNCED.

| | £. | s. | d. |
|---|---|---|---|
| The Right Hon. the late Earl Fitzwilliam, Wentworth House (President) .... | 50 | 0 | 0 |
| Aitken, Mr. Henry, York ..... | 1 | 1 | 0 |
| Agar, John, Esq., Brockfield ..... | 5 | 0 | 0 |
| Akroyd, Edwd., Esq., M.P., Denton Park | 5 | 0 | 0 |
| Allis, Thos., Esq., Osbaldwick ..... | 2 | 2 | 0 |
| Backhouse, Thos., Esq., York ..... | 1 | 1 | 0 |
| Balme, E. B. Wheatley, Esq., Cote Wall | 5 | 0 | 0 |
| Barlow, Miss, York ..... | 5 | 0 | 0 |
| Bayly, Rev. Thos., York ..... | 1 | 1 | 0 |
| Beckett, Wm., Esq., Kirkstall Grange | 5 | 0 | 0 |
| Bell, Fred., Esq., Thirsk ..... | 2 | 2 | 0 |
| Bower, Robt., Esq., Welham House.. | 5 | 0 | 0 |
| Boynton, Sir H., Bart., Burton Agnes | 5 | 0 | 0 |
| Brancker, Miss, York ..... | 2 | 2 | 0 |
| Briggs, Major, York ..... | 2 | 2 | 0 |
| Brown, James, Esq., M. P., Rossington | 10 | 0 | 0 |
| Butterfield, I. M., Esq., York ..... | 2 | 2 | 0 |
| Cator, Rev. T., Womersley ..... | 2 | 0 | 0 |
| Charlesworth, I. C. D., Esq., M. P. .. | 5 | 0 | 0 |
| Childers, J. W., Esq., Cantley Hall .. | 5 | 0 | 0 |
| Cholmley, Col. (the late), Howsham | 5 | 0 | 0 |
| Cholmley, Miss, Fulford Lodge..... | 5 | 0 | 0 |
| Christie, Jas., Esq., Melbourne Hall .. | 5 | 0 | 0 |
| Clayton, T. G., Esq., Bessingby Hall | 5 | 0 | 0 |
| Collins, Rev. Thos., Knaresboro' .... | 5 | 0 | 0 |
| Cooke, C. E. S., Esq., Greenhammerton Hall ..... | 5 | 0 | 0 |
| Cooke, Rev. R. B., Wheldrake ..... | 2 | 2 | 0 |
| Cooke, Miss Louisa, South Dalton .. | 1 | 1 | 0 |
| Coore, H., Esq., Scruton ..... | 2 | 0 | 0 |
| Copley, Geo., Esq., York ..... | 5 | 0 | 0 |
| Creyke, R., Esq., Rawcliffe Hall .... | 5 | 0 | 0 |
| Croft, Stephen, Esq., Stillington Hall | 5 | 0 | 0 |
| Crompton, Joshua, Esq., Azerley Hall | 2 | 0 | 0 |
| Cromptons, the Miss ..... | 2 | 0 | 0 |
| Crossley, John, Esq., Halifax ..... | 5 | 0 | 0 |
| Davies, Robt., Esq., The Mount, York | 5 | 0 | 0 |
| Dawnay, Hon. Payan, Beningbrough Hall ..... | 2 | 2 | 0 |
| De Grey, Earl, Studley Park ..... | 10 | 0 | 0 |
| De L'Isle, Lord, Ingleby Manor .... | 5 | 0 | 0 |
| Dent, Joseph, Esq., Ribstone Hall .. | 10 | 0 | 0 |
| Dent, John Dent, Esq., M. P., Do. .. | 5 | 0 | 0 |
| Dodsworth, Geo., Esq., York ..... | 5 | 0 | 0 |
| Duesbury, W. D. T., Esq., Beverley | 5 | 0 | 0 |
| Duncombe, Hon. Admiral, Kilnwick Percy ..... | 5 | 0 | 0 |
| Duncombe, Hon. Octavius, Waresley Park ..... | 5 | 0 | 0 |
| Duncombe, Hon. W. E., Aiskew .... | 5 | 0 | 0 |
| Dundas, Hon. J. C., Oran ..... | 5 | 0 | 0 |
| Dyson, Wm., Esq., York ..... | 1 | 1 | 0 |
| Ellis, Thos., Esq., York ..... | 2 | 2 | 0 |
| Ellison, Richard, Esq., Sudbrooke Holme, Lincoln ..... | 10 | 0 | 0 |
| Elsley, C. H., Esq., York ..... | 5 | 0 | 0 |
| Farrer, Jas., Esq., Ingleborough .... | 5 | 0 | 0 |
| Feversham, Lord, Duncombe Park .. | 20 | 0 | 0 |
| Fox, Geo. Lane, Esq., Bramham Park | 5 | 0 | 0 |
| Fullerton, John, Esq., Thrybergh Park | 5 | 0 | 0 |
| Garforth, Wm., Esq., Wiganthorpe .. | 5 | 0 | 0 |
| Gascoigne, F. C. T., Esq., Parlington Hall ..... | 10 | 0 | 0 |
| Goderich, Lord, Newby Hall..... | 5 | 0 | 0 |
| Gott, Wm., Esq., Leeds..... | 5 | 0 | 0 |
| Graham, Mr. David, York ..... | 1 | 1 | 0 |
| Gray, William, Esq., York ..... | 5 | 0 | 0 |
| Greenock, Lord, Wood End ..... | 5 | 0 | 0 |
| Greenwood, John, Esq., M. P., Swarcliffe Hall ..... | 2 | 2 | 0 |
| Grimston, H. E., Esq., Etton, Beverley | 5 | 0 | 0 |
| Guy, Mr. James, York ..... | 1 | 1 | 0 |
| Hailston, Edwd., Esq., Horton Hall.. | 1 | 0 | 0 |
| Hall, Rev. C., Terrington ..... | 5 | 0 | 0 |
| Hall, James, Esq., Scorboro'..... | 5 | 0 | 0 |
| Harcourt, Rev. Canon, Bolton Percy | 5 | 0 | 0 |
| Harcourt, Egerton, Esq., St. James' Place, London ..... | 5 | 0 | 0 |
| Harcourt, Oc. Vernon, Esq., Swinton Park ..... | 5 | 0 | 0 |
| Harland, W. C., Esq., Sutton Hall .. | 5 | 0 | 0 |
| Harrison, W. H., Esq., Beverley .... | 2 | 2 | 0 |
| Hawke, Lord, Womersley Park .... | 5 | 0 | 0 |
| Higgins, Godfrey, Esq., Skellow Grange | 5 | 0 | 0 |
| Hildyard, John R. W., Esq., Hutton Bonville ..... | 5 | 0 | 0 |
| Hodgson, Ellis, Esq., Skelton ..... | 1 | 1 | 0 |
| Hotham, Lord, South Dalton Hall .. | 5 | 0 | 0 |
| Ingham, Joshua, Esq., Blake Hall .. | 5 | 0 | 0 |
| Johnstone, Sir J. V. B., Bart., M. P., Hackness ..... | 5 | 0 | 0 |
| Johnstone, Rev. Canon, Sutton Hall | 5 | 0 | 0 |
| Johnson, Mr. Richard, York ..... | 1 | 1 | 0 |
| Jones, Heywood, Esq., Badsworth Hall | 5 | 0 | 0 |
| Kenrick, Rev. John, York ..... | 5 | 0 | 0 |
| Key, Rev. S., Water-Fulford ..... | 5 | 0 | 0 |
| Lawley, Hon. Robt., Hutton Hall .. | 5 | 0 | 0 |

| | £. | s. | d. |
|---|---|---|---|
| Lawley, Hon. and Rev. Stephen W., Escrick | 5 | 0 | 0 |
| Lee, W. T., Esq., Grove Hall, Ferry-bridge | 5 | 0 | 0 |
| Leeds, Duke of, Hornby Castle | 5 | 0 | 0 |
| Leeman, Geo., Esq., York | 5 | 0 | 0 |
| Legard, Sir Thos., Bart., Ganton | 5 | 0 | 0 |
| Lloyd, Miss, York | 5 | 0 | 0 |
| Lloyd, Edwd., Esq., Holtby | 5 | 0 | 0 |
| Lloyd, Geo., Esq., Stockton Hall | 5 | 0 | 0 |
| Londesborough, the Right Hon. the Lord, Grimston Park, (V. President) | 10 | 0 | 0 |
| Lowther, Sir J. H., Bart., Swillington | 10 | 0 | 0 |
| Markham, W. T., Esq., Becca Hall | 5 | 0 | 0 |
| Mason, Thos., Esq., Copt Hewick | 5 | 0 | 0 |
| Mason, Thos., Esq., York | 5 | 0 | 0 |
| Mawdesley, Fredc., Esq., York | 5 | 0 | 0 |
| Maxwell, W. C., Esq., Everingham Park | 5 | 0 | 0 |
| Meek, Jas., Esq., Middlethorpe Lodge | 5 | 0 | 0 |
| Meek, Jas., Jun., Esq., York | 5 | 0 | 0 |
| Middleton, Lord, Birdsall House | 10 | 0 | 0 |
| Mills, J. R., Esq., York | 5 | 0 | 0 |
| Mitford, Admiral, Hunmanby | 5 | 0 | 0 |
| Monkhouse, Mr. Wm., York | 1 | 1 | 0 |
| Montagu, Andrew, Esq., Melton Park | 5 | 0 | 0 |
| Moore, Mr. Frank, York | 1 | 1 | 0 |
| Musgrave, Ven. Archdeacon, Halifax | 5 | 0 | 0 |
| Newman, W. L., Esq., York | 2 | 2 | 0 |
| Northumberland, Duke of, Alnwick Castle | 10 | 0 | 0 |
| Oldfield, George, Esq., York | 5 | 0 | 0 |
| Oldfield, Joshua, Esq., York | 5 | 0 | 0 |
| Phillips, Prof. John, Oxford | 2 | 2 | 0 |
| Prescott, Robt., Esq., Yorkshire Club | 5 | 0 | 0 |
| Preston, T. H., Esq., Moreby Hall | 5 | 0 | 0 |
| Pulleine, James, Esq., Crake Hall | 5 | 0 | 0 |
| Radcliffe, Sir J., Bart., Rudding Park | 10 | 0 | 0 |
| Raines, Wm., Esq., Wyton | 2 | 0 | 0 |
| Rawdon, W. Fred., Esq., Stockton, York | 5 | 0 | 0 |
| Read, Wm. H. Rudston, Esq., Hayton | 5 | 0 | 0 |
| Reed, Wm., Esq., York | 2 | 2 | 0 |
| Reynard, E. H., Esq., Sunderlandwick | 2 | 2 | 0 |
| Richardson, Hy., Esq., Cherryhill, York | 1 | 0 | 0 |
| Richardson, Wm., Esq., York | 5 | 0 | 0 |
| Robinson, Henry, Esq., York | 5 | 0 | 0 |
| Roundell, Rev. Danson R., Gledston | 5 | 0 | 0 |
| Rowntree, Joseph, Esq., York | 5 | 0 | 0 |
| Rutson, Wm., Esq, Newby Wiske | 5 | 0 | 0 |
| Salt, Titus, Esq., Saltaire, Bradford | 5 | 0 | 0 |
| Simpson, Thos., Esq., M. D., York | 5 | 0 | 0 |
| Slingsby, Sir Chs., Bart., Scriven Park | 5 | 0 | 0 |
| Smyth, Col. J. G., M. P., Heath Hall | 5 | 0 | 0 |
| Sotheran, Mr. H., York | 1 | 1 | 0 |
| Sotheran, Mr. Wm., York | 1 | 1 | 0 |
| Stanhope, Spencer, Esq., Cannon Hall | 5 | 0 | 0 |
| Stansfield, Wm. Rookes Crompton, Esq., Esholt Hall | 5 | 0 | 0 |
| Stillingfleet, Rev. E. W., Hotham | 2 | 0 | 0 |
| Stourton, Lord, Allerton Park | 5 | 0 | 0 |
| Stourton, Hon. P., Holme Hall | 5 | 0 | 0 |
| Swaine, Edw., Esq., York | 2 | 2 | 0 |
| Swann, Clough, & Co., York | 20 | 0 | 0 |
| Swire, Rev. John, Manfield | 2 | 2 | 0 |
| Sykes, Rev. Christr. (the late), Roos | 5 | 0 | 0 |
| Telford, H., Esq., York | 5 | 0 | 0 |
| Tempest, Colonel, Tong Hall, Leeds | 5 | 0 | 0 |
| Tempest, Sir Charles, Bart., Broughton Hall | 5 | 0 | 0 |
| Thompson, Mr. Edwin, York | 2 | 2 | 0 |
| Thompson, H. S., Esq., Kirby Hall | 10 | 0 | 0 |
| Thompson, Leonard, Esq., Sheriff Hutton Park | 5 | 0 | 0 |
| Toulson, S. P., Esq., Skipwith Hall | 2 | 0 | 0 |
| Tower, Col., Middlethorpe Manor | 5 | 0 | 0 |
| Wade, Edwin, Esq., York | 1 | 1 | 0 |
| Walker, Jas., Esq., Sand-Hutton | 5 | 0 | 0 |
| Watt, Francis, Esq., Bishop Burton | 5 | 0 | 0 |
| Webb, Wm., Esq., Sion Hill | 5 | 0 | 0 |
| Wellbeloved, Rev. C., York | 3 | 0 | 0 |
| Wenlock, Lord, Escrick Park | 5 | 0 | 0 |
| Wentworth, Godfrey, Esq., Woolley Park | 5 | 0 | 0 |
| Westhead, J. P. Brown, Esq., M. P., Lee Castle | 5 | 0 | 0 |
| Wharncliffe, Lord, Wortley Hall | 10 | 0 | 0 |
| Wharton, J. T., Esq., Skelton Castle | 5 | 0 | 0 |
| Wharton, J. T., Esq., Aberford | 2 | 0 | 0 |
| Wickham, H. W., Esq., M.P., Kirklees Park | 5 | 0 | 0 |
| Wilson, John, Esq., Seacroft Hall | 5 | 0 | 0 |
| Wilson, R. B., Esq., Cliff, Darlington | 5 | 0 | 0 |
| Woodd, Basil T., Esq., M. P., Conyngham Hall | 5 | 0 | 0 |
| Woodall, John, Esq., Scarboro' | 5 | 0 | 0 |
| Yarburgh, Geo. J., Esq., Heslington Hall | 5 | 0 | 0 |
| York, Edwd., Esq., Wighill Park | 5 | 0 | 0 |
| York, His Grace the Archbishop of | 10 | 0 | 0 |
| Yorke, John, Esq., Bewerley Hall | 3 | 3 | 0 |
| Zetland, the Right Hon. the Earl of, Aske Hall | 10 | 0 | 0 |
| | £874 | 11 | 0 |

*** Lord Bolton, and Wm. Aldam, Esq., being applied to for a Subscription to the Museum Enlargement Fund, replied by becoming Life Members of the Society.

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*Members of the Society or others willing to assist in raising the Subscription to the required amount (£1000), are requested to communicate with the Secretaries, Museum, York.*

Yorkshire Philosophical Society.

# ANNUAL REPORT

FOR

MDCCCLVIII.

# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLVIII.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1859.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1859.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

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THOMAS PHILIP, EARL DE GREY.

HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

## PATRONESESS

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

EARL OF CARLISLE, K. G., F. R. S.

LORD FEVERSHAM.

# OFFICERS OF THE SOCIETY, 1859.

## PRESIDENT:

THE EARL OF CARLISLE, K. G., F. R. S.

## VICE-PRESIDENTS:

LORD LONDESBOROUGH, F. R. S.
WM. RUDSTON READ, F. L. S.
JOHN PHILLIPS, F. R. S.
REV. W. V. HARCOURT, F. R. S.
CHAS. W. STRICKLAND.
REV. WILLIAM HEY.
WILLIAM PROCTER.
THOMAS ALLIS, F. L. S.

## TREASURER:

WILLIAM GRAY, F. R. A. S., F. G. S.,

## COUNCIL:

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JOHN FORD.
REV. HENRY SHORT.
EDWD. SWAINE.
GEO. WILSON.
*Elected* 1858....REV. ISAAC SPENCER.
J. P. PRITCHETT.
S. W. NORTH.
*Elected* 1859....THE HON. & VERY REV. THE DEAN OF YORK.
WILLIAM REED, F. G. S.
O. A. MOORE.

## SERCETARIES:

Rev. J. Kenrick, F. S. A.
T. S. Noble, F. R. A. S.

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## CURATORS:

| | |
|---|---|
| Geology, and Mineralogy . | William Procter. |
| Comparative Anatomy . . | Thomas Allis, F. L. S. |
| British Ornithology . . | W. Rudston Read, F. L. S. |
| Insects and Crustacea . . | Rev. William Hey. |
| Antiquarian Department . | Rev. John Kenrick, F. S. A. |
| Library . . . . . | Rev. Thomas Bayly. |
| Botany . . . . . | Oswald Allen Moore. |
| Observatory & Meteorology, *under the Care of a Committee consisting of* | The Rev. W. V. Harcourt, F. R. S.<br>W. Gray, F. R. A. S., F. G. S.<br>John Ford.<br>Rev. William Hey.<br>T. S. Noble, F. R. A. S. |

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## KEEPER OF THE MUSEUM:

William S. Dallas, F. L. S.

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## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 1, 1859.

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THE Report for the year 1858, which the Council of the Yorkshire Philosophical Society now lay before the Members, has not to announce increased numbers, or large additions to its Collections, such as have distinguished some former years, but they present it in the confident belief, that any apparent diminution in its activity has been owing to temporary causes, and that its actual position affords the promise of permanent prosperity and extended usefulness.

In consequence of the resignation of the Keeper of the Museum at the beginning of the year, the duty devolved upon the Council of appointing a successor. Testimonials in favour of several candidates of scientific attainments were laid before them, and after a careful examination of these, they elected Mr. Wm. S. Dallas, F. L. S., a gentleman known by his writings on the subject of Zoology, and strongly recommended by some of the officers of the British Museum, where he had been employed in arranging and describing the entomological collection. Mr. Dallas is engaged to give his constant attendance at the Museum, from ten o'clock till four, with the exception of a vacation of six weeks, and he will in future years deliver Lectures illustrative of the collections placed under his care.

He entered on his duties on the first of January in the present year. During the vacancy of the office of Keeper of the Museum, the Council appointed Mr. Charles Wakefield, Associate of the Yorkshire Philosophical Society, to assist the Secretaries; an appointment which has proved satisfactory in its results.

As both the arrangement and nomenclature of the geological collection were imperfect, it appeared desirable to the Council, especially with a view to the Meeting of the British Association at Leeds, in September last, that the whole of it should be carefully examined, and the specimens classified and named. Mr. Woodward of the British Museum undertook this work, in conjunction with Mr. Dallas, and spent three weeks in York for this purpose. On the completion of their task, they presented a report to the Council, containing their remarks upon the condition of the Society's geological collection, and important suggestions for its increase and arrangement. To this report the Council will have occasion to refer again.

The fitting up of the new rooms has proceeded more slowly than the Council anticipated, when they presented their last report. It was not easy to determine in what manner the magnificent saurian remains, for the reception of which chiefly the extension has been made, could be most effectually preserved and displayed, whether by being placed horizontally on tables, or encased in the wall. The latter mode has been adopted, with one exception, in conformity with the practice of the British Museum. It was necessary also that the heating apparatus should first be fixed; and no extensive arrangement could be satisfactorily made in the absence of a Keeper of the Museum. These causes of delay no longer exist, and the Council will proceed immediately to complete the work, as far as the means at their disposal enable them. The Meeting of the British Association at Leeds procured for the Society the advantage of a visit from the President of the year, Professor Owen, who spent many hours in the examination and measurement of its saurian remains. This examination enabled him to ascertain that they are specifically different from those which the corresponding strata in the South of England have

furnished.* It was at his suggestion, that the Council determined to protect them by a screen of glass, from the injury to which their projecting portions might be exposed. The structure of the *Plesiosaurus Zetlandicus* appeared to him so curious, as to induce him to recommend that it should not be encased in the wall, so as to conceal its inferior surface, but deposited in a horizontal case, having been first carefully cleared of extraneous matter and arranged, by Mr. Dew of the British Museum, to whom he kindly undertook to give the necessary instructions. The Council have engaged Mr. Dew to visit York, but as the time during which he can be absent from his duties in London is limited, it has been thought desirable that he should come when the increased length of the days would enable him to work longer in the Museum. The table for its reception is in preparation, and along with the Plesiosaurus will be deposited fossils belonging to the formation from which it was extracted. The space now vacant on the wall in which the two large saurians are encased, will be filled, it is hoped, hereafter by some similar remains, which time will no doubt bring to light in the rich strata of Whitby. The opposite side of the room will for the present be devoted to casts of saurians, which may hereafter be replaced by real specimens, if we should be so fortunate as to obtain them.

The members of the Society will be desirous to know, what are the plans of the Council for the occupation of the two remaining rooms of the new building. With the approbation of Mr. Rudston Read, the valuable collection of British birds presented by him, will be removed from the upper room of the original building, in which it is now kept, and placed under the gallery, in the room which is entered from the zoological collection. Its position can easily be changed and

* In a letter to the Rev. W. V. Harcourt, Professor Owen says:

"I retain Professor Phillips's name *Zetlandicus*, attached to the short-necked Plesiosaurus from Whitby in the York Museum. The long necked Plesiosaurus" (Col. Cholmley's) "is Pl. *homalospondylus;* the Ichthyosaurus" (Mr. Roundell's) "is Ichth. *crassimanus*. The one represents the Pl. *dolichodeirus* of the Dorset Lias, the other, the Ichth. *platyodon* of the same Lias; but both are distinct species, peculiar to Whitby."

the space not occupied by the birds may be devoted to the reception of specimens of the few mammalia which are found in Britain. Two table cases in the centre will, according to the calculation of Mr. Dallas, furnish adequate room for a collection of shells, echinodermata, polypes and crustacea, together with a small typical collection of insects.

In the corresponding room on the other side, into which a door is about to be opened, the Council propose to begin the formation of a collection of the fossils of Yorkshire. Almost every geologist from a distance, who visits the Museum, expresses a wish, that by means of such a collection he could at once see the identity or diversity of the productions of the Yorkshire strata, and those which he has studied in his own district. The great extent of the county and the variety of its formations, from the tertiaries of its eastern coast to the palæozoic remains in its western hills, will furnish abundant means of gradually filling the cases of such a special Yorkshire Museum. It is not, however, the intention of the Council to interfere with the stratigraphical arrangement of the present geological room. Nothing can be more interesting and instructive to the student of geology and palæontology than the series here presented to him, whether he proceeds from the latest and most superficial deposits, through the long succession of strata, till he reaches those in which hitherto no traces of organic life have been found; or follows the ascending scale, from its simplest to its most complex forms. The collection in the geological room could hardly continue to serve this purpose, if the greater number of Yorkshire specimens were at once withdrawn, to be placed in a separate series. Many duplicates, however, are in the Society's possession, by means of which the commencement of a separate Yorkshire collection may be made, and the Council feel persuaded that when once this design is known, contributions of specimens will flow in from various quarters. The importance of such a special exhibition of the palæontology of Yorkshire is evident; and if it is to be formed any where within the limits of the county, it will not be denied that the Museum of the Yorkshire Philosophical Society is its most appropriate place. To whatever extent this special collec-

tion may be increased, it is not probable that it will occupy the whole of this room, and the galleries will afford ample space for the augmentations of many future years.

The Council wish to call the particular attention of the Members to a part of the report of Messrs. Woodward and Dallas, relative to the present stratigraphical collection. After mentioning the number of exhibited fossils, which amounts to 8,181, and its richness in some departments, they notice its entire deficiency in others, as the Devonian corals and shells, the fossils of the Bath oolite of the South of England, of the fish palates of the carboniferous limestone and the "lias bone bed"; of shells from the magnesian limestone; specimens from the rich quarries of inferior oolite in the South of England, and the Oxford clay of Chippenham; the fossils of the gault, and the greensand of Faringdon in the Isle of Wight. The Council draw attention to these *desiderata*, in the hope that the notice of them may induce the members of the Society to supply what is wanting. At the late Meeting of the British Association at Leeds, a plan was suggested for an annual assembling of delegates from the different Philosophical and Literary Societies of Yorkshire, at various places in succession, for the purpose of mutual communication and instruction. York was fixed upon as the most suitable place for a general meeting, at which the projected Union should be organized. The Council gladly offered the use of rooms in the Museum for such a Meeting, and expect soon to receive notice of the time when it will be held. Should the suggestion of an annual Meeting be carried out, it will, among other advantages, enable the curators of different Societies to become acquainted with the natural history of the district in which the meeting is held, and with the contents of each other's Museums; and by an interchange of specimens to supply the deficiencies of one from the superabundance of another.

Of the £1000 which it was proposed to raise for building and fitting up the new room, £893 has been subscribed, and this sum will be exhausted by the expences already incurred. It is much to be desired that at least the amount originally contemplated should be raised: the fitting up of the lower

rooms, without the galleries, is estimated to cost £250; and if this is to be provided for out of the annual income of the Society, it will advance but slowly, and the rooms will remain in an unfinished state.

The principal addition which has been made to the LIBRARY this year, has been of a number of numismatic works, amounting to 40 volumes, presented by the family of the late Rev. Charles Wellbeloved, in pursuance of his request. The Catalogue has been printed and may be had of the Keeper of the Museum; the price is sixpence. The Library contains many works of high scientific value; and with the exception of costly volumes of plates, which cannot safely be allowed to circulate, they may be obtained from it by members every day during the hours of the Keeper's attendance; three volumes may be taken out at a time; a month is allowed for reading them. The Council believe that neither the valuable contents of the Library, nor the liberal terms on which its use is granted, are generally known; they have published the Catalogue that the members be more generally acquainted with them, and they hope a more extensive use of it will be made.

Respecting the OBSERVATORY, Mr. Noble and Mr. Gray report, that the new telescope has been carefully and severely tested, that every expectation with respect to its performance has been realized, and that the instrument will bear comparison with any other of similar size and aperture. The old equatorial mounting has been retained, and as the adjustments are now tolerably correct, the instrument answers every useful purpose, and a considerable outlay has thus been saved to the Society.

The Comet, which has attracted the notice of every one by its brilliancy, and engaged philosophers in speculations on the nature of cometary phænomena, was seen from the Observatory of the Society to the greatest advantage, in the latter part of September and the early part of October. The nucleus, with a power of about 50, presented the following appearance. First, an outer disc of a parabolic form. Superimposed upon this were two circular, concentric, luminous discs; and in the centre of the inner disc appeared the bright part of the nucleus. The outer parabolic disc, at the point whence the tail emanated,

had the appearance of an ellipse partly cut away, the outer portion of the tail being bright, whilst an absence of light was generally noticed in the centre of the tail. The tail was upwards of 40° in length and at its extremity was diffused with a bend towards the North-west. The Astronomer Royal, Professor Challis and Mr. Gray observed on the inner disc of the nucleus, and a little to the left of it, a dark, well defined spot; and it appeared to Mr. Gray that a similar spot existed on the outer disk. It was probably this appearance which gave rise to the opinion that the comet was attended by a satellite; and led some observers to announce that the comet presented the appearance of a division, similar to that which took place in Biela's comet in 1846. Neither of these speculations had any foundation, and no theory has been proposed which accounts for this singular appearance.

The Curator of ENTOMOLOGY reports, that the insects in the cabinets are in good condition, but that no additions of importance have been made to the collection during the past year. He suggests that the type-specimens of the different genera should be exhibited in table cases, and that those which are reserved for the cabinets should be re-arranged according to the present state of science; and he hopes that by the assistance of the Keeper of the Museum, considerable improvement may be made during the present year.

The collection of MINERALS also has received no addition during the past year. At the request of the Council Mr. Procter will add the Curatorship of Geology to that of Mineralogy which he has hitherto held.

In the department of ANTIQUITIES there is nothing to be noted, except that the blocked up arches of St. Leonard's Hospital, towards the Multangular Tower, have been opened and strengthened, and the two forced entrances, made when it was occupied as a wine cellar, have been closed. By these changes the original arrangement of the building has been rendered more evident, and the appearance of the ruins improved. At the request of the British Museum, specimens of tiles, with the stamp of the 8th and 9th legion, have been furnished to the national collection of Roman Antiquities.

The Lectures delivered in the Hall of the Museum have been more numerous than usual during the past year. Two Lectures, one on Fossils and their teaching, the other on Corals, were given by Professor Morris, of University College, London; and two by Dr. Cobbold, one on Skeletal forms, the other on the more attractive forms of Animal Life. The Rev. James Raine, jun., gave an interesting Lecture on the Border Counties of England and Scotland; Mr. O'Callaghan, on Autographs, illustrating the subject by the exhibition of his large collection; Capt. O'Brien on the Currents of the Atmosphere; and Mr. North on the Nervous system in man and animals. In the month of December two Lectures were given by the Rev. Thomas Myers, on the Planetary and Astral Systems of the Heavens. An abstract of the papers read at the Monthly Meetings of the Society will be annexed to the Report.

The Curator of Meteorological instruments reports that the range of the mercurial column for 1858 was 1·74 in., that of the temperature 68°. The mean temperature was $46\frac{6}{10}°$ or $\frac{9}{10}$ of a degree lower than a mean of twenty years. August and September, the harvest months, were above a mean. The rain of 1858 was 3·79 in. below a mean of twenty years: 1·75 below a mean of the last ten years: 1·69 below a mean of the last five years. From the 12th of February to the 13th of March, both inclusive, the thermometer was at or below freezing point every night, 30 in regular succession. Thunder and lightning occurred three times in April; three times in May; four times in June, and once in August, viz. the 12th. A display of Aurora was seen on the evening of the ninth of April.

The table of the Rainfall of 1857, which was received too late to be inserted in the Report of that year, is here given, along with the corresponding table for 1858.

## RAIN FALL, YORKSHIRE, 1857.

| | Wheldrake. | Huggate. | Near Helmsley. | York. | Ackworth. | Sheffield. | Bradford. | Todmorden. | Settle. |
|---|---|---|---|---|---|---|---|---|---|
| Jan. | 2·35 | 3·50 | 2·95 | 2·58 | 2·00 | 3·00 | 3·10 | 3·75 | 3·01 |
| Feb. | 0·66 | 1·00 | 0·74 | 0·58 | 0·69 | 1·78 | 1·19 | 2·14 | 2·32 |
| Mar. | 0·93 | 2·25 | 2·37 | 2·13 | 2·30 | 2·79 | 3·21 | 3·38 | 3·64 |
| April | 3·47 | 2·75 | 3·08 | 2·75 | 2·62 | 3·31 | 2·82 | 3·28 | 2·16 |
| May | 0·91 | 0·37 | 1·03 | 1·47 | 1·70 | 1·28 | 1·72 | 2·34 | 1·68 |
| June | 2·45 | 2·50 | 1·38 | 2·73 | 2·74 | 2·30 | 2·58 | 4·21 | 3·98 |
| July | 3·87 | 3·88 | 2·39 | 2·96 | 1·98 | 2·46 | 2·29 | 1·80 | 2·84 |
| Aug. | 5·99 | 6·75 | 4·50 | 6·59 | 5·43 | 7·41 | 4·74 | 5·00 | 1·28 |
| Sept. | 1·95 | 2·37 | 2·86 | 2·03 | 2·36 | 2·96 | 3·17 | 3·76 | 2·91 |
| Oct. | 1·21 | 1·00 | 1·19 | 1·19 | 1·31 | 2·20 | 1·55 | 1·49 | 1·18 |
| Nov. | 1·40 | 1·50 | 1·05 | 1·11 | 1·27 | 1·72 | 2·24 | 3·05 | 2·21 |
| Dec. | 0·26 | 0·25 | 0·23 | 0·32 | 0·19 | 0·91 | 2·03 | 1·67 | 3·06 |
| | 25·45 | 28·12 | 23·77 | 26·44 | 24·59 | 32·12 | 30·64 | 35·87 | 30·27 |

## RAIN FALL, YORKSHIRE, 1858.

| | Middleton, Beverley. | Huggate. | Wheldrake. | York. | Ackworth. | Sheffield. | Bradford. | Todmorden. | Arncliffe, E. of Settle. | Settle. |
|---|---|---|---|---|---|---|---|---|---|---|
| Jan. | 0·89 | 0·75 | 0·42 | 0·48 | 0·65 | 0·99 | 1·14 | 1·74 | 4·91 | 2·09 |
| Feb. | 0·64 | 0·50 | 0·43 | 0·65 | 0·31 | 0·31 | 0·59 | 0·20 | 0·48 | 0·26 |
| Mar. | 1·48 | 0·25 | 1·06 | 1·10 | 1·12 | 1·52 | 0·86 | 1·59 | 1·88 | 1·49 |
| April | 0·94 | 2·75 | 1·29 | 1·22 | 1·94 | 4·36 | 2·56 | 3·46 | 3·66 | 2·70 |
| May | 2·37 | 2·50 | 1·75 | 1·72 | 1·95 | 2·19 | 2·00 | 3·09 | 5·25 | 1·81 |
| June | 1·00 | 1·25 | 1·32 | 0·89 | 1·60 | 3·03 | 1·98 | 2·65 | 2·34 | 3·11 |
| July | 2·93 | 3·87 | 3·16 | 2·59 | 1·43 | 1·83 | 1·85 | 2·23 | 1·96 | 1·59 |
| Aug. | 3·70 | 3·25 | 2·43 | 3·37 | 1·99 | 2·29 | 1·19 | 3·06 | 4·15 | 2·92 |
| Sept. | 3·28 | 2·50 | 2·58 | 3·25 | 2·79 | 3·79 | 2·32 | 4·16 | 7·16 | 3·54 |
| Oct. | 3·00 | 3·50 | 2·11 | 3·41 | 3·61 | 4·98 | 4·97 | 5·56 | 7·36 | 5·04 |
| Nov. | 1.72 | 2·00 | 1·33 | 1·34 | 1·11 | 0·93 | 1·67 | 2·82 | 2·74 | 2·88 |
| Dec. | 1·50 | 2·00 | 1·66 | 1·47 | 1.34 | 2·27 | 2·98 | 5·15 | 3·28 | 3·07 |
| | 23·45 | 25·12 | 19·54 | 20·49 | 19·84 | 28·49 | 24·11 | 35·71 | 45·17 | 30·50 |

## METEOROLOGICAL REGISTER, YORK, 1858.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | Frosts. | Dew Point. | Prevailing Wind. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days. | Average Max. | Average Min. | Mean Temp. | Highest. | Lowest. | | | |
| Jan. | 30·704 | 29·680 | 30·192 | 0·48 | 4 | 40·4 | 30·4 | 35·4 | 53 | 21 | 22 | 378 | S.E. |
| Feb. | 30·526 | 29·352 | 29·993 | 0·65 | 6 | 38·7 | 28·5 | 33·6 | 47 | 17 | 24 | 341 | E. |
| Mar. | 30·582 | 29·040 | 29·825 | 1·10 | 3 | 46·7 | 33·3 | 40·5 | 64 | 18 | 13 | 380 | N.W. |
| April | 30·500 | 28·994 | 29·888 | 1·22 | 7 | 54·1 | 37·7 | 45·9 | 70 | 28 | 4 | 414 | E. |
| May | 30·530 | 29·000 | 29·810 | 1·72 | 20 | 57·2 | 43·1 | 50·1 | 67 | 33 | 0 | 464 | W. |
| June | 30·414 | 29·760 | 30·006 | 0·89 | 9 | 71·1 | 51·6 | 61·3 | 85 | 40 | 0 | 559 | W. |
| July | 30·248 | 29·408 | 29·840 | 2·59 | 9 | 64·8 | 49·6 | 57·2 | 71 | 41 | 0 | 524 | W. |
| Aug. | 30·475 | 29·594 | 29·899 | 3·37 | 14 | 66·7 | 51·6 | 59·2 | 76 | 44 | 0 | 552 | E. |
| Sep. | 30·470 | 29·514 | 29·907 | 3·25 | 15 | 61·9 | 49·1 | 55·5 | 72 | 37 | 0 | 546 | W. |
| Oct. | 30·656 | 29·148 | 29·866 | 2·41 | 16 | 52·0 | 41·4 | 46·7 | 65 | 32 | 1 | 453 | W. |
| Nov. | 30·548 | 28·962 | 29·873 | 1·34 | 15 | 44·4 | 33·4 | 38·9 | 51 | 17 | 13 | 374 | E. |
| Dec. | 30·420 | 29·126 | 29·771 | 1·47 | 16 | 40·4 | 31·3 | 35·8 | 51 | 22 | 17 | 366 | W. |
| | | | 29·905 | 20·49 | 133 | | | 46·6 | | | 94 | | |

The receipts of the year have fallen short of those of 1857. The sums taken at the Gate and at the Swimming Bath have been greater, but the general amount of last year was swelled by the large number of Life Memberships and the proceeds of the Exhibition. The expenditure, however, has been less than in that year, and a balance of £40 7s. appears on the year's account in favour of the Society.

The Council have received, with regret, from Mr. Allis an intimation that the state of his health, and his occupations, will not allow him to retain the office of Honorary Secretary, which he has filled for the last four years. By proposing him as one of the Vice-Presidents, the Council desire at once to mark their appreciation of his services, and to secure to the Society the benefit of his advice and co-operation. They have the satisfaction of announcing that Mr. T. S. Noble will undertake

the office of Honorary Secretary in the room of Mr. Allis, if it be the pleasure of the Annual Meeting to elect him.

The scientific eminence of Professor Owen renders it unnecessary for the Council to say anything, in support of the Resolution which they will submit to the meeting, for placing his name in the list of Honorary Members.

It only remains for the Council to notice some losses which the Society has sustained by death during the past year. They have already placed among their proceedings a Resolution, expressive of their regret at the decease of their highly esteemed member and Vice-President, Mr. Wellbeloved, and their sense of the benefit which the Yorkshire Philosophical Society derived from his talents, zeal and learning; and his services, continued to the latest period of his lengthened life. In this tribute to his memory they have no doubt that the members of the Society will cordially concur. Mr. Robinson had filled the office of Secretary, from the year 1837 to 1842; he had been frequently a member of the Council, and had always manifested a lively interest in the welfare of the Society. The list of its original members, already become so limited, has been further diminished by the death of the late Dean of York, Sir Wm. Cockburn; and among our Honorary Members, the distinguished names of Mr. Warburton and Dr. Peacock will no longer appear. In Mr. Joseph Clark of Cincinnati we have lost a foreign member who, in his remote locality, was ever mindful of our interests, and has enriched our Museum with many valuable specimens of Natural History.

Three Members of Council—Mr. James Meek, junior, Mr. Fowler Jones and Mr. Seymour retire by rotation, and are ineligible for the present year.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1858.

**Cr.** RECEIPTS.

| 1858. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 663 | 11 | 0 |
| Admission of New Members ..... | 53 | 0 | 0 |
| Ladies' Subscriptions ..... | 39 | 1 | 0 |
| Associates ..... | 15 | 0 | 0 |
| Keys of the Gates ..... | 37 | 5 | 0 |
| Rents ..... | 72 | 9 | 4 |
| Money received at the Gate..... | 207 | 7 | 4 |
| Swimming Bath ..... | 152 | 13 | 2 |
| Sale of Guide to Antiquities ..... | 16 | 4 | 0 |
| Temporary Subscribers..... | 3 | 0 | 0 |
| Use of Tent ..... | 9 | 0 | 0 |
| Geo. Wilson (don. for Garden) .... | 5 | 0 | 0 |
| Total Income..... | | | 1273 10 10 |
| Permanent Debt: | | | |
| Yorkshire Insurance Company .....£1900 | 0 | 0 | |
| Five Members at £50 Each ..... 250 | 0 | 0 | |
| | 2150 | 0 | 0 |
| Balance in Treasurer's hands Jan. 1859.... 137 | 6 | 0 | |
| Total Debt of Society, Jan., 1859 ..... | | | £2012 14 0 |

**Dr.** EXPENDITURE.

| 1858. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent ..... | 1 | 0 | 0 | | | |
| Rent to Corporation .... | 53 | 17 | 7 | | | |
| Rates and Taxes ..... | 10 | 3 | 3 | | | |
| Insurance & Water Rent | 12 | 14 | 0 | | | |
| | | | | 77 | 14 | 10 |
| Salaries and Wages: | | | | | | |
| Keeper of the Museum and Assist. Secretary | 250 | 0 | 0 | | | |
| Sub-Curator ..... | 100 | 0 | 0 | | | |
| Servant ..... | 20 | 0 | 0 | | | |
| Lodge Keeper ..... | 26 | 0 | 0 | | | |
| Labourers ..... | 149 | 17 | 0 | | | |
| Collector ..... | 6 | 17 | 6 | | | |
| Attendant, Museum .. | 18 | 12 | 0 | | | |
| Temporary Attendant, Hospitium ..... | 8 | 14 | 0 | | | |
| Woodward and Dallas, arrangement of Geological Collection .... | 50 | 0 | 0 | | | |
| C. Wakefield ..... | 50 | 0 | 0 | | | |
| | | | | 680 | 0 | 6 |
| Interest on Debt to Dec. 31, 1858: | | | | | | |
| Insurance Company ..... | | | | 74 | 5 | 2 |
| Museum Gardens, &c.: | | | | | | |
| General Repairs..... ..... | | | | 105 | 3 | 1 |
| Library, Books and Binding ..... | | | | 28 | 6 | 7 |
| Swimming Bath: | | | | | | |
| Keeper's Salary..... | 30 | 0 | 0 | | | |
| Water Rent..... | 30 | 0 | 0 | | | |
| Repairs and Incidents | 9 | 6 | 6 | | | |
| | | | | 69 | 6 | 6 |
| Miscellaneous Expenses: | | | | | | |
| Printing, Advertising, &c. ..... | 64 | 9 | 1 | | | |
| Coals and Gas ..... | 61 | 4 | 7 | | | |
| Expences connected with Band ..... | 15 | 7 | 6 | | | |
| „ Lectures .... | 4 | 16 | 3 | | | |
| „ St. Leonard's Hospital ..... | 30 | 0 | 0 | | | |
| „ Observatory.. | 5 | 0 | 0 | | | |
| Postage, Carriage, and Sundries ..... | 17 | 9 | 9 | | | |
| | | | | 198 | 7 | 2 |
| | | | | 1233 | 3 | 10 |
| Surplus of Income ..... | | | | 40 | 7 | 0 |
| | | | | £1273 | 10 | 10 |
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company .....£1900 | 0 | 0 | | | | |
| Due to Five Members £50 each ..... 250 | 0 | 0 | | | | |
| | 2150 | 0 | 0 | | | |
| Due from the Treasurer Jan. 1858 ..... | 96 | 19 | 0 | | | |
| | | | | 2053 | 1 | 0 |
| Surplus of Income, 1858 ..... | | | | 40 | 7 | 0 |
| | | | | £2012 | 14 | 0 |

Feb. 9th, 1859, Audited by us,—EDWARD SWAINE.
HENRY SHORT.

W. GRAY, TREASURER.

## MEMBERS

ELECTED SINCE FEB., 1858.

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### 1858.

Alfred Ball, *York.*
E. Charlesworth, 1, *De Grey Street.*
H. Cowling, *Park Place.*
The Dean of York.
J. W. Lancaster, 9, *New Bridge Street.*
Rev. T. H. Morgan, *Gilling.*
T. C. Paley, 23, *High Petergate.*
H. Peckitt, *Carlton, Husthwaite, Thirsk.*
C. H. Peirse, *Minster Yard.*
Jas. Robinson, *Micklegate.*
D. H. Tuke, M. D.

### 1859.

Robt. Varvill, *Mount.*
H. Preston, *Parliament Street.*
Wm. Robinson, *Stonegate.*
John Walker, 16, *Gillygate.*

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## ASSOCIATES.

### 1858.

R. R. Blyth, *Lendal.*
Rev. T. Falkner, 54, *Clarence Street.*

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## LADY SUBSCRIBERS

ADMITTED 1858.

Miss Belcombe, 1, *Lord Mayor's Walk.*
Mrs. Biddulph, *Museum Street.*
Miss Field, 4, *Clifton.*
Miss R. Oldfield, 31, *Bootham.*
Miss Pole, *High Ousegate.*

# LECTURES

## DELIVERED DURING THE YEAR 1858.

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FEB. 10.—On the Manners and Customs of the Border Counties of England; by REV. JAMES RAINE, JUN.

FEB. 24.—On Autographs and their connections with History, illustrated by Specimens; by P. O'CALLAGHAN, Esq.

MARCH 24.—On the Currents of the Atmosphere; by CAPT. O'BRIEN.

APRIL 7.—On Fossils and their teachings; by PROFESSOR MORRIS.

APRIL 9.—On Corals; by PROFESSOR MORRIS.

APRIL 21.—On Skeletal Forms; by DR. T. SPENCER COBBOLD.

APRIL 22.—On some of the more attractive forms of Animal Life; by DR. T. SPENCER COBBOLD.

APRIL 28.—On the structure and functions of the Nervous System in Man and Animals; by MR. NORTH.

DEC. 8.—On Sir Isaac Newton, and the Planetary System; by REV. THOMAS MYERS, M. A.

DEC. 22.—On Sir William Herschel, and the Astral System; by REV. THOMAS MYERS, M. A.

# COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

# 1858.

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MARCH 2.—MR. T. S. NOBLE read a paper on the great solar eclipse predicted for the 15th, pointing out its course and amount, and the phænomena which might be expected to accompany it.

APRIL 6.—ROBERT DAVIES, ESQ., read a paper on "The King's Manor and King's Palace at York." The object of the paper was to show that these were not, as Drake and others following him had supposed, the same building. The King's Manor was originally the house of the Abbot of St. Mary's, and was appropriated to the use of the Lord President of the North and his Council, within a year after the dissolution of the Abbey. The King's Palace, if it were ever assigned as a residence to the Lords President of the North, which may be doubted, was deserted and demolished within a few years after the death of the monarch who had ordered it to be erected. It stood on that part of the grounds of the Abbey on which the Museum of the Yorkshire Philosophical Society stands; and it was the erection of the palace which chiefly contributed to the speedy and almost total overthrow of the church and offices of the Monastery. The terraces, sloping towards the river, which existed before the Society began its excavations, formed the ornamental grounds of the palace. A small part of an exterior wall and one angle of the east front of the palace, yet visible in the court behind the Wilberforce School for the Blind, are the only remains of it above ground; but in the spacious vaults, popularly called "The King's Cellars," we have a highly interesting portion of the basement story of the palace still existing in an almost perfect state. They were no part of the monastic buildings, but were built on the site of the Chapterhouse and other apartments belonging to the Abbey, of the wreck of which they were composed. The

precise period of the erection of this palace cannot be positively determined; but it was probably ready for the King's reception in 1541, when he visited York, and resided, according to the records of the Corporation, "within his Grace's palace at St. Mary's." When Archbishop Holgate, the President of the Council of the North, visited York in 1545, it appears by the same records, that he was entertained at the King's palace. It is probable that one of the rapacious courtiers of the King, who had obtained a licence to convert to his use the remains of the Abbey, laid his hands upon the newly-built palace of the King and made spoil of this also, so that within ten or twelve years of its erection, this splendid edifice became a mass of ruins.

May 4.—A paper, by the Rev. Charles Wellbeloved, was read, respecting the supposed seal of St. Mary's Abbey, figured in Hargrove's History of York (2,583), and in the fifth volume of the Vetusta Monumenta, published by the Society of Antiquaries. The matrix of the seal was presented in 1824 to the Yorkshire Philosophical Society by Mr. Richd. Dalton, with an inscription declaring it to be the seal of St. Mary's Abbey; but by whom this inscription was placed upon it is not known. He gave no account of the place where or the time when it was found; Mr. Hargrove speaks of him as being the possessor of it in 1818. There is nothing in the device or inscription to warrant the appropriation of it to any particular religious community or house, and in Poulson's Holderness (2,213) a seal exactly similar is given as that of the Abbey of Melsa or Meaux in Holderness. It is there said that the matrix of the seal had been found about June 1834, by a labourer, in a stone coffin, beneath a portion of the brick pavement of the floor of the Abbey of Meaux, not previously disturbed, and sold to an itinerant vendor of plaster images, on condition that a plaster cast, gilded and framed, should be part of the bargain. From this cast the engraving in Poulson's work had been made, but what had become of the original had not been ascertained. Greenwood, the engraver, had obtained the cast from the Rev. Mr. Dennis, of Beverley, who also communicated to him the particulars respecting its discovery. No seal corresponding with it has ever been found appended to any deed or document proceeding from the Abbey of Meaux; but there is in existence an agreement between the Abbey and the Hospital of St. Leonard's, York, touching a well at Wharrham-le-Street, which is quite different from that said to have been discovered in the coffin. But it has as

little claim to be considered as the seal of the Abbey of St. Mary, York. It has never been found attached to any ancient deed of this Abbey. That which is exhibited by Drake was appended to a deed of 13 Edw. IV. A cast, presented at this Meeting by Mr. Davies, and considerably more perfect, was derived from an ancient deed of the Abbey, found in the records of the Duchy of Lancaster. Mr. Wellbeloved, from all these circumstances, concluded that this had been the common seal of the Abbey, during the whole period of its existence, and that the matrix presented by Mr. Dalton had no claim to be considered as the seal of the Abbey of St. Mary, York.

Mr. Procter read a paper on the Archæology of Bronze. After noticing the division of the prehistoric times, made by the Scandinavian antiquaries, into the stone and bronze periods, he observed on the importance of metallurgy in connection with the history of civilization. Its commencement indeed is lost in the earliest antiquity, but the remains of art in Egypt, Babylon and Nineveh indicate an advanced state of metallurgic skill. Copper took the lead of iron, and attempts were early made to give it additional hardness, by mixing it with other metals. By alloying it with tin, bronze is produced, the hardest of the compounds of copper; and as bronze has been found among the remains of the ancient Assyrians and Egyptians, it is evident that the use of tin was known to them. This metal is easily fusible, and appears on the surface in the detritus of primitive rocks; so that it would be early discovered and easily worked. Cornwall and Spain are the European countries in which it is most abundant; in Asia it is found in the island of Banca and the straits of Sumatra; it was probable, however, as the Phœnicians had intercourse 1000 years B. C. with western Europe, that it was thence the Egyptians and Assyrians derived the tin which went to form their bronze. Copper is a metal found in great abundance, sometimes even native; but though the aboriginal Americans are said to have been in possession of the secret of giving it a temper equal to bronze, yet it is in fact too soft for cutting instruments, and hence the necessity for an admixture. A question had been raised whether the bronze objects so generally found in barrows, &c. were the manufacture of the countries in which they were found, or diffused from some common centre. The analysis of bronzes shows considerable differences in their composition, and in nearly every country in which they have been found, moulds have also been found, whence the conclusion seems natural that these articles were manufactured there, and not imported. Mr. Procter

said he had detected traces of lead in almost every analysis of one class of ancient bronze, and had come to the conclusion that it had been purposely added to give toughness to the metal, an effect which it produces if the quantity be small.

The following table exhibits the results of Mr. Procter's analysis of various articles in the Museum of the Yorkshire Philosophical Society.

| | ZINC. | COPPER. | TIN. | LEAD. |
|---|---|---|---|---|
| Celts from Westow ..... | | 83·02 | 11·66 | 5·12 |
| Celt not labelled ..... | | 82·37 | 15·23 | 3·30 |
| Celt from Riggs ..... | | 84·52 | 13·42 | 1·66 |
| Celt from Ireland ..... | | 86·97 | 10·90 | 1·50 |
| Bronze Vessel ..... | | 88·4 | 10·5 | 1·4 |
| Anglo-Saxon fibula, Driffield ... | 7·13 | 79·56 | 9·25 | 3·61 |
| Styca (Eanred-Monne)..... | 20 | 70·5 | 4·5 | SILVER. 5 |
| Styca (Eadrin-Monne)..... | 25 | 62·4 | 1·11 | SILVER. 10·2 GOLD. 1·1 |
| Styca (Eanred-Fordred) ..... | 6·1 | 89·7 | 4·3 | GOLD TRACE. |
| Roman Armlet ..... | 13·64 | 80·34 | 5·87 | 0·50 |
| Coin of Constantine ..... | 5·1 | 86·4 | 4·2 | 3·5 |
| Coin of Antoninus Pius ..... | | 86·42 | 10·80 | 3·80 |
| Ancient Mexican Idol ..... | | 79·82 | 12·18 | 8·60 |
| Arrow-head, Egyptian ..... | | 77·6 | 21·4 | |
| Bronze Axe ..... | IRON. 0·28 | 91·99 | 6·73 | 0·69 |

For the analysis of the bronze handle of an Etruscan patera, see Report for 1857.

# DONATIONS TO THE MUSEUM.

## GEOLOGY AND MINERALOGY.

| | |
|---|---|
| Bolton, Lord ..... | Fossil Plant from Gatherley Moor. |
| Tennant, Professor ..... | Specimens of Cryolite from Greenland. |

## ZOOLOGY.

| | |
|---|---|
| Brooksbank, B. Heywood, Esq. ..... | A Double Duck's Egg. |
| Cooke, Rev. Robt. B., *(Wheldrake)* ..... | Female Silver Crested Pheasant. |
| Hale, H., Esq., *(Acomb)*... | One large and three small Snouts of Saw Fish.<br>Two Bottles containing Snakes from Java and Chinese Sea.<br>One Bottle of Small Fish.<br>One Shark's Jaw. |
| Thompson, H. S., Esq., *(Kirby Hall)* ..... | Ornithorhynchus Paradoxus. |
| Wakefield, Mr. C. ..... | Land and Fresh Water Shells collected in and near York. |
| Wenlock, Lord ..... | White Mole. |

## AQUARIUM.

| | |
|---|---|
| Fergusson, D., Esq., *(Redcar)* ..... | A portion of a Haul Rope covered with Zoophytes, Polyzoa, Balani and Seaweeds inhabited by numerous specimens of Mollusca, Echinodermata, and Crustacea, &c. |
| North, S. W., Esq. ..... | Sea Anemones and Mollusca. |

## ANTIQUITIES.

| | |
|---|---|
| Davies, Robt., Esq., F.S.A. | A Cinerary Urn, found in digging for the foundation of his house on the Mount. |
| | A Glazed Earthenware Vessel, found in St. Leonard's Place. |
| | Twelve Sulphur Casts of Seals of the Abbey of St. Mary and the Hospital of St. Leonard. |
| Dawnay, Hon. Payan ..... | An Article in Bronze, supposed a Candlestick, found at Beningbrough. |
| Graham, Mr. D. ..... | Clay Vessel, found in Peter Lane. |
| Sunter, Mr. Robt. ..... | Monument of Sir Wm. Tod. |
| Swaine, Edwd., Esq. ..... | Supposed Stone Halter-Weight. |
| Temple, Mr. ..... | Three Roman Urns, found in Burton Lane. |
| Walker, Mr. C. ..... | Coin of Vespasian. |

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## MISCELLANEOUS.

| | |
|---|---|
| Hale, H., Esq., *(Acomb)*... | One War Club, from New Zealand. |
| | Bow and eleven Arrows, from Calcutta. |
| | Malay Crease, from Java. |
| Taylor, Rev. Wm., F. R. S., *(London)* ..... | Fragment of the Great Bell at Westminster. |

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## LIBRARY.

| | |
|---|---|
| Admiralty, Board of..... | Greenwich Observations, 1856. |
| Association, British, for the Advancement of Science | Report for 1857. |
| The Author ..... | Letteratura Dantesca, by H. C. Barlow. |
| | Industry on Christian Principles, by H. C. Barlow. |
| The Author ..... | Antiquités Celtiques et Anté-diluveennes. Tome II., by M. Boucher de Perthes. |

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|---|---|
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| The Author ..... | Roman Sepulcral Inscriptions, by the Rev. John Kenrick, F. S. A. |
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A

Yorkshire Philosophical Society.

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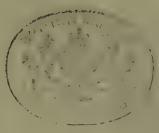
# ANNUAL REPORT

FOR

MDCCCLIX.



# ANNUAL REPORT

OF THE COUNCIL

OF THE

# YORKSHIRE

# PHILOSOPHICAL SOCIETY

FOR

MDCCCLIX.

PRESENTED TO THE ANNUAL MEETING,

FEBRUARY, 1860.

YORK:

H. SOTHERAN, BOOKSELLER, CONEYSTREET.

1860.

TRUSTEES

OF

# THE YORKSHIRE MUSEUM,

APPOINTED BY ROYAL GRANT.

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HON. AND VERY REV. HENRY HOWARD, D. D.

SIR WILLIAM LAWSON, BART., F. S. A.

ROBERT DENISON, ESQ.

REV. WILLIAM VERNON HARCOURT, F. R. S.

## PATRONESSES

OF THE

## Yorkshire Philosophical Society.

HER MAJESTY THE QUEEN.

H. R. H. THE DUCHESS OF KENT.

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## PATRONS.

THE ARCHBISHOP OF YORK.

DUKE OF NORTHUMBERLAND, F. R. S.

EARL OF CARLISLE, K. G., F. R. S.

LORD FEVERSHAM.

# OFFICERS OF THE SOCIETY, 1860.

## PRESIDENT:

THE EARL OF CARLISLE, K. G., F. R. S.

## VICE-PRESIDENTS:

THE EARL OF ZETLAND.
WM. RUDSTON READ, F. L. S.
JOHN PHILLIPS, F. R. S.
REV. W. V. HARCOURT, F. R. S.
CHAS. W. STRICKLAND.
REV. WILLIAM HEY.
THOMAS ALLIS, F. L. S.
REV. JOHN KENRICK.

## TREASURER:

WILLIAM GRAY, F. R. A. S., F. G. S.

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J. P. PRITCHETT.
S. W. NORTH.
*Elected* 1859....THE HON. & VERY REV. THE DEAN OF YORK.
WILLIAM REED, F. G. S.
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*Elected* 1860....F. W. CALVERT.
ROBERT DENISON.
W. D. HUSBAND.
REV. JOHN LEES.
WILLIAM PROCTER.
REV. CANON ROBINSON.

## SECRETARY:

T. S. Noble, F. R. A. S.

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| | |
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| Comparative Anatomy . . | Thomas Allis, F. L. S. |
| British Ornithology . . | W. Rudston Read, F. L. S. |
| Insects and Crustacea . . | Rev. William Hey. |
| Antiquarian Department . | Rev. John Kenrick, F. S. A. |
| Library . . . . . | Rev. Thomas Bayly. |
| Botany . . . . . | Oswald Allen Moore. |
| Observatory & Meteorology, *under the Care of a Committee consisting of* | The Rev. W. V. Harcourt, F. R. S.<br>W. Gray, F. R. A. S., F. G. S.<br>John Ford.<br>Rev. William Hey.<br>T. S. Noble, F. R. A. S. |

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## KEEPER OF THE MUSEUM:

William S. Dallas, F. L. S.

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## SUBCURATOR OF THE MUSEUM & GARDENS:

Henry Baines.

# REPORT OF THE COUNCIL

OF THE

# YORKSHIRE PHILOSOPHICAL SOCIETY,

FEB. 7, 1860.

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IN presenting the Members of the Yorkshire Philosophical Society with their Report for the year 1859, the Council regret that the expenditure of the year has been so heavy as almost to exhaust the balance in the Treasurer's hands from the year 1858. They have, nevertheless, the satisfaction to observe that the apparent diminution of the resources of the Society is not due to any falling off in its prosperity, but simply to an extraordinary expenditure. At the same time the Council confidently believe, that, when the members are made acquainted with the objects for which this expense has been incurred, they will agree that a sound discretion has been exercised in the outlay, and that, by increasing the attractiveness of the Museum, it will ultimately tend to the advantage of the Society. The principal portion of this extraordinary expenditure consists of the sum of £200, paid to Mr. Wm. Bean, of Scarbro', for one third part of his extensive Collection of Fossils, brought together by the unceasing activity of nearly forty years. In the month of July last the Council were informed that this valuable collection, consisting to a great extent of Fossils from the strata of the Yorkshire Coast, and including numerous specimens described by Professor Phillips, was offered for sale

for the sum of £600. An arrangement was proposed by which the British Museum would take one half of the collection for £300,—and two private collectors taking another sixth, the remainder (one third) was offered to the Society for the sum above mentioned.

The Council being desirous of carrying out the plan of forming a complete series of Yorkshire fossils, mentioned in their report for the year 1858, and understanding that Mr. Bean's collection contained numerous fine specimens, many of them of extreme rarity, immediately sent the Keeper of the Museum to Scarbro', to inspect the collection and ascertain whether they would be justified in expending such a sum as £200 in the purchase of the portion offered to the Society. His report being favourable, the Council determined to accept the offer immediately, especially, as they were informed that, from various causes, such as the abandonment of quarries or the increasing inaccessibility of the beds, many of the Yorkshire fossils would probably be with difficulty obtained unless secured at once. Mr. Dallas went to Scarbro' on the 1st of August with Mr. Woodward, of the British Museum, to effect the division of the fossils, and as there were in most cases two or more specimens of each species, the Society obtained for its share representatives of nearly every form contained in Mr. Bean's collection. The unique specimens were divided in proportion to the amount paid by each purchaser; and the arrangement made with regard to the types of species contained in the collection was, that the Yorkshire Philosophical Society should have all those figured by Professor Phillips and Messrs. Young and Bird, in their works on the Geology of Yorkshire, and the British Museum those described by Messrs. Morris and Lycett, in the Memoirs of the Palæontographical Society. The total number of specimens obtained is estimated by the Keeper of the Museum at about 5,000,—this is a low estimate. The total cost of these (including travelling expenses, packing, and carriage) amounts to £217. 8s. 4d.

The other extraordinary expenses incurred during the past year were for purposes of necessity. The beautiful ruins of Saint Mary's Abbey, the greatest ornaments of our grounds,

appeared to be rapidly hastening to decay,—so rapidly, in fact, that, independently of its being the duty of the Society to watch with the most jealous care over the preservation of these interesting monuments of the past, considerable fears were entertained, that unless something was done to stop the progress of dilapidation, the ruins might ere long become dangerous to the visitors to the Gardens. Under these circumstances the Council requested Mr. G. Fowler Jones to inspect the ruins, and report upon their condition. That gentleman found that in many places the mortar had been completely washed out from between the stones, and that the grass and wall plants growing in the joints, however advantageous to the picturesque effect of the ruins, were very injurious to their stability. The roof of the Hospitium and the end wall of the upper room of that building, were also stated to be in an unsafe condition, and Mr. Jones recommended that the necessary repairs should be executed without loss of time. The work was accordingly performed under the superintendence of Mr. Jones, and it is hoped that these interesting objects are now in a condition to resist the elements for many years to come. The total expense of these repairs was £41. 16s. 6d.

The attention of the Council having been called to the bad state of the Carriage way and of the Terrace in front of the Museum, especially during wet weather, it was resolved in the course of last summer to put them in a proper state of repair. It was at first thought that a layer of asphalte applied over the existing broken surface would have sufficed, but when this was tried on the terrace, it was found that the inequalities of the hard surface of the old asphalte were reproduced on the new surface. It was therefore resolved that the carriage way should be entirely broken up and relaid, and this has been satisfactorily effected at an expense of £18.

In accordance with the engagement mentioned in the last year's report, Mr. Dew, of the British Museum, visited York in the month of May, and devoted three weeks principally to the development of the specimen of *Plesiosaurus Zetlandicus*, by clearing away the fragments of the matrix from the fossil, wherever this was practicable. This was a task requiring the

greatest care and judgment for its execution, and Mr. Dew has effected it so satisfactorily as to have added far more to the value of the specimen than the sum of £18, which was paid to him for his services. It is now one of the most interesting and valuable fossils in the Museum. Mr. Dew also found time to operate upon one or two other specimens of Saurian remains in the collection, one of which, the large *Teleosaurus Chapmanni*, formerly placed in the Vestibule, has been greatly improved.

In fitting up the new rooms, the Council have necessarily been somewhat straitened by the feeling that they were incurring a heavy responsibility in exceeding the amount subscribed to the "Museum Enlargement Fund." They nevertheless considered it to be their duty to push forward the work, feeling convinced that nothing can tend so much to the welfare of the Society, as a proper degree of activity in promoting the objects for which it exists. With this view they proceeded early in the year 1859 to fit up the new room at the end of the Osteological room, for the reception of Mr. Rudston Read's valuable collection of British Birds, which during the spring was moved into its new position by Mr. D. Graham. Here the birds are better displayed than in the apartment formerly devoted to them; and the change has this further advantage, that one of the greatest ornaments of the Museum is placed in an appropriate and prominent position. A large glass case which occupies one corner of the room will serve for the reception of most, if not the whole, of the British Mammalia, and as the Council are most anxious to fill up this void in the collections, they earnestly beg any of the members who may have the opportunity, to assist them in procuring specimens, especially of the smaller British Quadrupeds. The collections of British Echinodermata and Crustacea, which are very imperfect, have been placed in one of the table cases in this room. They will eventually be transferred to the gallery cases, where they will be accompanied by collections of other groups of invertebrate animals, when the table cases will be vacant to receive the collection of British shells. Wall-cases in the gallery will be occupied by specimens of British Reptiles and Fishes, and thus

the whole series of native animals will be brought together in one room.

In the middle room, the Council have only fitted up the long central case, in which the *Plesiosaurus Zetlandicus* now reposes, together with the remains of several other Reptiles from the Lias of Yorkshire. The remainder of the Liassic Saurian fossils will also be placed in this case.

The third room, which is intended to contain the collection of Yorkshire fossils, has been fitted up for this purpose with cases similar in plan to those in the old Geological room, and with gallery-cases like those in the British Bird room. The Keeper of the Museum has already placed a considerable number of specimens in the cases, and the work will be continued until the whole collection is arranged. When this is accomplished the Council believe that there will be no finer local Geological collection to be seen anywhere. At the same time care will be taken to represent the Yorkshire strata in the general Geological collection, by means of limited series of typical or characteristic species. The numerous specimens of fossils from strata occurring in other parts of England and on the continent of Europe, obtained from Mr. Bean, will serve to fill up many spaces in the general collection, and assist greatly in rendering it more uniform and complete. The Keeper of the Museum hopes to have the whole of the fossils grouped in the cases in the course of the next three months, when the entire suite of the new rooms will be opened to the public.

The tradesmen's accounts for work done up to the present date, in fitting up the interior of the new rooms, amount in all to £574. The balance of the "Museum Enlargement Fund" to meet this will only be £121 when all outstanding subscriptions are received, so that the liabilities of the Society on account of the new rooms are at present £453. The additional work required for the completion of the third room, consists in the making of a table case for the centre of the room and the painting of the wood work, &c. As it is exceedingly desirable not to burden the Society with any addition to its debts, and as these expenses can only be defrayed slowly out of the ordinary

income, the Council earnestly solicit contributions from those who have not already subscribed to the Museum Enlargement Fund.

It will be in the recollection of the members that, at the last annual meeting of the Society, a subscription was proposed for the purpose of erecting some permanent memorial of the esteem and respect entertained for the late Rev. Charles Wellbeloved. A considerable sum having been collected for this purpose, from members of the Society and other friends, the Committee appointed to carry out the wishes of the subscribers obtained a copy of the only existing portrait of Mr. Wellbeloved, and presented this, with a marble commemorative tablet, to the Society, recommending that the former should be suspended in the Vestibule of the Museum, and the latter fixed in a prominent position in the Hospitium. Both these recommendations have been carried out.

The principal additions to the LIBRARY during the past year, have consisted of Mc. Lauchlan's great work on the Roman Remains in the North of England, presented by His Grace the Duke of Northumberland, and "Facsimiles of Select Egyptian Papyri, in the Collection of the British Museum," presented by the Trustees of that Institution. The Committee of the "Wellbeloved Memorial Fund" have also presented to the Library two important works purchased by them at the sale of the late Mr. Wellbeloved's Library, with the surplus of the fund at their disposal. These are Mr. Wellbeloved's copies of Drake's "Eboracum," and Horsley's "Britannia Romana," both enriched with MS. notes and additional plates by their late owner. This circumstance, and the fact of their having belonged to one who for so many years took the most active interest in this Society, must render these volumes very interesting additions to its Library. Two other volumes from the same source have also been presented, namely, Eckhel's "Numi Anecdoti," and Vulpes' "Strumenti Chirurgici," the latter especially valuable as serving to elucidate the examples of Roman surgical instruments, contained in the Museum. For these books the Society is indebted to Mr. Wellbeloved's successor as Curator of Antiquities, the Rev. John Kenrick.

The Curator of ANTIQUITIES reports, that the principal additions made to his Department in the present year, have been the result of excavations carried on at the Mount, which has in past times yielded so many objects of the sepulchral class to the Museum. In an excavation at the corner of Holgate Lane, a fictile urn was discovered, of a character almost unique, having the shape of a human head, with the countenance distinctly expressed. In digging for the foundation of a house on the Driffield estate at the Mount, a sarcophagus was found, bearing the name of Ælia Severa and dedicated to her manes by her husband. It was covered by an incised slab, dedicated by Cæresius, a soldier of the Sixth Conquering Legion, to the manes of his wife, Flavia Augustina, and two children who died in their infancy. The upper part of the stone represents the parents and their children. The sarcophagus contained the remains of a body which had been enclosed in liquid plaster, a mode of interment very common in Roman York, but rare elsewhere. Near the same place another sarcophagus was found, containing a similar interment, but without any inscription. All these antiquities have been given to the Museum, and the names of the donors will be found in the lists appended to the Report.

From Dr. Smart, of Northiam, have been received several specimens of what has been called Kimmeridge Coal Money, but is really the refuse of the pieces of this material which had been worked by the lathe into bracelets and other ornaments, in the Roman times. The cabinet of coins has received the accession of some silver denarii, among which is one of the family Memmia, and an Attic tetradrachm, bearing the names of Diocles and Medeius.

The only addition to the collection of MINERALS has consisted of a case of specimens presented by the Rev. Danson Richardson Roundell, to whom the Society was already indebted for the magnificent *Ichthyosaurus* exhibited in the new room. The collection sent by Mr. Roundell included none that call for special notice.

Besides the important series of fossils purchased from Mr. Bean and already referred to, the GEOLOGICAL collection has

been enriched by numerous specimens principally from the gault and chalk of the South of England, presented by Wm. Reed, Esq., and also by a series of fossils from the red chalk of Speeton, presented by Mr. E. Tindall, of Bridlington. The latter were of particular importance, as the Society's collection was previously almost destitute of fossils from the red chalk. The collection of Minerals presented by Mr. Roundell was accompanied by a few fossils, chiefly from the oolites of the South of England.

The Curator of ENTOMOLOGY reports, that the Entomological collections are on the whole in good condition, though requiring more time for their re-arrangement than it has yet been found practicable to bestow upon them. No additions of importance have been made during the past year.

The report of the Curator of BOTANY states, that the only addition to the collections under his charge is the valuable British Herbarium of the late Mr. Samuel Hailstone, a deservedly renowned Yorkshire Botanist. In presenting it to the Society, his family expressed a wish that it should be kept separate under the name of the "Hailstone Herbarium." It is arranged according to the Linnæan system; the Society's Botanical collection, including the combined Herbaria of Middleton and Dalton, has been arranged in accordance with the Natural system of De Candolle. The Hailstone Herbarium, besides being a good general collection, is peculiarly rich in the genera *Rosa* and *Rubus*, to which it is well known that Mr. Hailstone paid great attention. The Curator proposes, when suitable arrangements can be made for that purpose, to render this Herbarium available as far as possible for the use of the members.

The Curator of METEOROLOGICAL INSTRUMENTS has furnished a table containing the results of observations made in 1859, from which it appears that the rain-fall has again been below an average by 2·9 inches. The temperature also has been below a mean of 20 years by 1° of Fahrenheit's thermometer, but precisely the same as that of 1858, namely, 46·6° F. The range of the barometer has been extraordinary. In November the mercurial column rose as high as 30·718, and fell in the same month as low as 28·464, a difference of 2¼ inches. The tem-

perature of July and August was slightly above a mean, with an amount of rain below an average quantity. A splendid harvest was a coincident event.

## METEOROLOGICAL REGISTER, YORK, 1859.

| | BAROMETER. | | | RAIN. | | THERMOMETER. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Highest. | Lowest. | Mean. | Inches. | Days. | Average Max. | Average Min. | Mean Temp. | Highest. | Lowest. | Nights at or below 32°. | Prevailing Wind. |
| Jan. | 30·688 | 29·140 | 29·960 | 1·07 | 12 | 42·8 | 33·2 | 38·0 | 52·5 | 24·5 | 13 | W. |
| Feb. | 30·626 | 29·196 | 29·793 | 1·04 | 11 | 43·7 | 33·4 | 38·6 | 53·0 | 26·5 | 13 | W. |
| Mar. | 30·396 | 28·982 | 29·762 | 1·58 | 11 | 48·7 | 37·5 | 43·1 | 55·5 | 24·0 | 9 | W. |
| April | 30·260 | 29·136 | 29·690 | 2·37 | 18 | 48·7 | 36·0 | 42·4 | 73·0 | 25·0 | 10 | E. |
| May | 30·358 | 29·772 | 29·954 | 0·36 | 3 | 59·4 | 40·3 | 49·9 | 73·0 | 28·5 | 2 | E. |
| June | 30·154 | 29·696 | 29·870 | 2·47 | 14 | 63·7 | 49·2 | 56·5 | 74·0 | 42·0 | — | E. |
| July | 30·361 | 29·940 | 30·006 | 2·37 | 7 | 68·4 | 54·0 | 61·2 | 82·0 | 47·0 | — | W. |
| Aug. | 30·340 | 29·394 | 29·837 | 2·59 | 8 | 67·4 | 52·6 | 60·0 | 78·0 | 41·0 | — | W. |
| Sept. | 30·320 | 29·350 | 29·813 | 2·15 | 18 | 59·1 | 45·2 | 52·2 | 69·0 | 35·0 | — | S. |
| Oct. | 30·098 | 28·912 | 29·603 | 2·08 | 11 | 51·8 | 40·2 | 46·0 | 68·0 | 19·0 | 11 | E. |
| Nov. | 30·718 | 28·464 | 29·828 | 1·59 | 14 | 42·8 | 35·6 | 39·2 | 52·5 | 19·5 | 17 | E. |
| Dec. | 30·798 | 28·853 | 29·411 | 1·70 | 11 | 36·1 | 28·2 | 32·1 | 49·5 | 6·5 | 26 | S.E. |
| | 30·798 | 28·464 | 29·794 | 21·37 | 138 | 52·7 | 40·5 | 46·6 | 82·0 | 6·5 | 101 | |

Returns of the Rain-fall in several localities have been kindly furnished by correspondents. They are printed in the following table.

## RAIN-FALL, 1859.

| | York. | Middleton. | Malton. | Huggate. | Ackworth. | Sheffield. | Settle. | Todmorden. |
|---|---|---|---|---|---|---|---|---|
| Jan. | 1·07 | 1·20 | 1·14 | 1·25 | 0·49 | 1·50 | 4·23 | 4·55 |
| Feb. | 1·04 | 1·50 | 1·14 | 1·87 | 0·98 | 1·96 | 2·81 | 3·75 |
| Mar. | 1·58 | 1·64 | 1·69 | 1·63 | 1·76 | 3·51 | 6·62 | 4·81 |
| April | 2·37 | 2·00 | 2·34 | 1·85 | 3·28 | 4·82 | 2·53 | 3·46 |
| May | 0·36 | 0·25 | 0·15 | 0·37 | 0·70 | 0·33 | 0·00 | 0·84 |
| June | 2·47 | 1·96 | 2·27 | 1·88 | 2·18 | 3·38 | 2·18 | 2·76 |
| July | 2·37 | 2·00 | 2·44 | 2·12 | 1·61 | 1·49 | 2·06 | 2·49 |
| Aug. | 2·59 | 4·53 | 3·27 | 4·38 | 4·35 | 6·09 | 4·22 | 6·72 |
| Sept. | 2·15 | 3·45 | 3·34 | 4·00 | 2·28 | 3·17 | 5·06 | 7·01 |
| Oct. | 2·08 | 2·20 | 2·09 | 2·00 | 2·17 | 4·25 | 3·00 | 4·78 |
| Nov. | 1·39 | 1·95 | 1·93 | 2·25 | 1·79 | 3·15 | 4·71 | 3·54 |
| Dec. | 1·70 | 2·40 | 2·40 | 2·85 | 1·87 | 3·09 | 3·29 | 3·39 |
| | 21·37 | 25·08 | 24·20 | 26·45 | 23·46 | 36·74 | 40·71 | 48·10 |

The LECTURES delivered in the Theatre of the Museum in the year 1859, have been scarcely so numerous as in the preceding year. Early in the year the Council engaged Mr. Gosse to deliver two lectures "On Examples of Divine Contrivance in the Structure of the Lower Animals." Mr. Procter delivered two lectures "On the Natural History and Mineralogy of Precious Stones," and the Rev. John Lees two "On William of Wykeham." Mr. Greenhow also gave an account of his personal experience at the Siege of Lucknow; and Mr. Davies his fourth "Antiquarian Walk through York." In the autumn and winter session, the Society has been indebted to the Rev. Thomas Myers, for three lectures "On Mental and Moral Science;" to Mr. Procter, for one "On Induced Electricity;" and to Capt. O'Brien, for an account of the "Currents of the Ocean." Abstracts of the papers read at the Monthly Meetings of the Society are appended to this Report.

The Council must now return to the consideration of the financial position of the Society. The income, as will be seen from the account for the year, is still in a flourishing state, being nearly £23 more than that of last year. At the same time the general expenses of the Society have been low, so that, but for the extraordinary outlay mentioned at the commencement of this Report there would have been an excess of income over expenditure of £206. The extraordinary expenditure of a sum amounting in all to £330, however, threw a balance of £124 to the debtor side of the account, but as the balance at the credit of the Society at the close of the year 1858 was £137, there is still a balance of £13 in the Treasurer's hands.

The number of members elected since the last annual Meeting is sixteen, and the loss of members by death and resignation has also been sixteen; but as the widows of five deceased members have continued their subscriptions, and one of them had compounded, there is an actual increase of six subscribing members in the year. Of Lady subscribers six have resigned, whilst only three have been admitted; but on the other hand only two associates have withdrawn, and the number elected has been six. The amount taken at the Gate during the past year exceeded that taken in 1858, but the receipts at the Swimming Bath have slightly fallen off.

The Council regret to have to announce that they have received from Mr. Kenrick an intimation that circumstances will prevent his retaining the office of Honorary Secretary, which he has now held with great benefit to the Society for five years. The Council feel it unnecessary to dwell upon the high qualifications possessed by Mr. Kenrick, or the zeal which he has displayed in the discharge of the duties of his office. The Council, in proposing him as one of the Vice-Presidents, desire at once to mark their sense of the value of his services, and to secure for the Society the continued benefit of his advice and assistance. As, however, the circumstances under which it was considered necessary to have two Honorary Secretaries no longer exist, and as Mr. Noble, who is constantly resident in the immediate vicinity of the Museum, has expressed his willingness to undertake the whole of the Secretarial duties,

with the assistance of the Keeper of the Museum, the Council have not thought it requisite to propose a successor to Mr. Kenrick.

The Honorary Members proposed by the Council for election at this Meeting are, Mr. John Hope Shaw, of Leeds, and Mr. S. P. Woodward, of the British Museum. The former gentleman is one of the leading members of the Leeds Philosophical Society, and has taken the greatest interest in the proposed plan for the co-operation of all the Philosophical Societies of Yorkshire, of which he is in fact the originator. Mr. Woodward's high position as a Zoologist and Palæontologist, and the interest which he takes in the welfare of this Museum, render his enrolment in the list of Honorary Members particularly desirable. Of Foreign Honorary Members, the Council also propose two, namely, Mr. J. D. Dana, the celebrated American Mineralogist and Zoologist, and M. Boucher de Perthes, of Abbeville, who has enriched our Library with several important works, and whose researches into the early history of mankind have lately attracted so much attention.

Amongst the losses which the Society has sustained during the past year, there are some to which the Council cannot avoid alluding more particularly. The late Lord Londesborough had been for many years a member of the Society, and had contributed with his accustomed liberality to its funds. The Library also is indebted to him for several valuable Antiquarian works, especially the beautiful illustrations of his own collection of Antiquities, contained in the "Miscellanea Graphica." Lord Londesborough was one of the Vice-Presidents of the Society at the time of his death. The death of Earl de Grey diminishes the list of the contributors to the original Building Fund and also that of the Society's Trustees. The Society was likewise indebted to his lordship for the liberality with which he gave up his interest in the land granted to the Society by the Crown, and for a liberal contribution to the Museum Enlargement Fund. Of the Honorary Members the Society has to regret the loss of Sir Thomas Macdougal Brisbane, Bart., who died on the 28th January, in the present year. Sir Thomas entered the army in 1789, when only sixteen years of

age, and served for many years with great distinction. During the latter part of his military career he paid much attention to Astronomy, which he continued to study with much zeal and success to the close of his long life; his position as Governor of New South Wales enabled him to found the Observatory at Paramatta, from which most important results have been obtained; and on his return to this country, he established a magnificent Observatory at Makerstoun, near Kelso, where astronomical and magnetical observations of the highest value have been carried on for many years. Our Library contains several volumes of Observations made at this Observatory, and presented by Sir Thomas Brisbane.

The list of Foreign Honorary Members of this, as of many other Societies, has, during the year 1859, sustained the loss of one of its brightest ornaments, in the name of Alexander Von Humboldt. The Council feel it to be unnecessary to pronounce any eulogium upon this illustrious philosopher, whose labours, extending to the very close of a life of 90 years, have been subservient to the progress of almost every branch of science. His wonderful work, entitled "Cosmos," contains a physical description of the Universe, which must astonish every one by the extraordinary grasp of mind which it exhibits.

Five members of Council, Mr. Davies, Mr. Ford, Rev. Henry Short, Mr. Edward Swaine, and Mr. George Wilson, retire by rotation, and as Mr. Noble was also a member of Council previous to his undertaking the duties of Secretary, there are in all six new members to be elected. The Council propose the Earl of Zetland as a Vice-President in the room of the late Lord Londesborough.

THE

# TREASURER OF THE YORKSHIRE PHILOSOPHICAL SOCIETY

## IN ACCOUNT FOR THE YEAR 1859.

**Cr.** RECEIPTS.

| 1859. | £. | s. | d. |
|---|---|---|---|
| Annual Subscriptions and Arrears | 651 | 14 | 0 |
| Admission of New Members | 60 | 0 | 0 |
| Ladies' Subscriptions | 39 | 1 | 0 |
| Associates | 15 | 0 | 0 |
| Keys of the Gates | 38 | 5 | 0 |
| Rents | 96 | 11 | 6 |
| Money received at the Gates | 214 | 13 | 1 |
| Swimming Bath (Gross) | 148 | 11 | 2 |
| Sale of Guide to Antiquities | 18 | 16 | 0 |
| „ Catalogue of Library | 0 | 11 | 6 |
| Temporary Subscriber | 1 | 0 | 0 |
| Use of Tent | 12 | 0 | 0 |
| Total Income | 1296 | 3 | 3 |
| Excess of Expenditure | 124 | 3 | 2 |
| | £1420 | 6 | 5 |
| Permanent Debt: | | | |
| Yorkshire Insurance Company £1900 | 0 | 0 | |
| Five Members at £50 each | 250 | 0 | 0 |
| | 2150 | 0 | 0 |
| Balance in Treasurer's hands 31st Dec., 1859 | 13 | 2 | 10 |
| | £2136 | 17 | 2 |

**Dr.** EXPENDITURE.

| 1859. | £. | s. | d. | £. | s. | d. |
|---|---|---|---|---|---|---|
| Crown Rent | 1 | 0 | 0 | | | |
| Rent to Corporation | 53 | 13 | 0 | | | |
| Rates and Taxes | 7 | 2 | 10 | | | |
| Insurance & Water Rent | 18 | 7 | 2 | | | |
| | | | | 80 | 3 | 0 |
| *Salaries and Wages:* | | | | | | |
| Keeper of the Museum | 200 | 0 | 0 | | | |
| Sub-Curator | 100 | 0 | 0 | | | |
| Servant | 20 | 0 | 0 | | | |
| Lodge Keeper | 26 | 0 | 0 | | | |
| Attendant (Museum) | 32 | 4 | 0 | | | |
| Collector | 6 | 18 | 0 | | | |
| Labourers | 154 | 7 | 0 | | | |
| Attendant (Hospitium) | 8 | 14 | 0 | | | |
| C. Wakefield | 6 | 0 | 0 | | | |
| | | | | 554 | 3 | 0 |
| *Interest* on Debt to Insurance Company, to 31st Dec., 1859 | | | | 73 | 3 | 0 |
| *Museum Gardens, &c.:* | | | | | | |
| General Repairs, &c. | | | | 149 | 7 | 5 |
| *Purchase and Preparation of Specimens:* | | | | | | |
| Bean's Fossils and packing | 209 | 19 | 4 | | | |
| Dew for Plesiosaurus | 18 | 1 | 0 | | | |
| Graham removing birds | 34 | 16 | 2 | | | |
| Sundries | 0 | 13 | 2 | | | |
| | | | | 263 | 9 | 8 |
| *Library,* Books, &c. | | | | 31 | 14 | 1 |
| *Swimming Bath:* | | | | | | |
| Keeper's Salary | 30 | 0 | 0 | | | |
| Water Rent | 30 | 0 | 0 | | | |
| Repairs and Incidental Expenses | 10 | 12 | 1 | | | |
| | | | | 70 | 12 | 1 |
| *Miscellaneous Expenses:* | | | | | | |
| Printing, Advertising, Stationery, &c. | 25 | 15 | 5 | | | |
| Coals and Gas | 69 | 6 | 4 | | | |
| Repairs of Abbey | 36 | 11 | 0 | | | |
| Asphalting Walk | 18 | 0 | 0 | | | |
| Expenses of Band | 15 | 13 | 1 | | | |
| „ „ Lectures | 17 | 11 | 4 | | | |
| „ „ Observatory | 5 | 5 | 5 | | | |
| „ „ Aquarium | 1 | 0 | 3 | | | |
| Postage, &c. | 8 | 11 | 4 | | | |
| | | | | 197 | 14 | 2 |
| | | | | £1420 | 6 | 5 |
| Permanent Debt: | | | | | | |
| Yorkshire Insurance Company £1900 | 0 | 0 | | | | |
| Due to Five Members at £50 each | 250 | 0 | 0 | | | |
| | 2150 | 0 | 0 | | | |
| Due from Treasurer Jan., 1859 | 137 | 6 | 0 | | | |
| | | | | 2012 | 14 | 0 |
| Excess of Expenditure, 1859 | | | | 124 | 3 | 2 |
| | | | | £2136 | 17 | 2 |

Feb. 4th, 1860, Audited by us,—EDWARD SWAINE.
S. W. NORTH.

## MEMBERS
ELECTED SINCE FEB., 1859.

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### 1859.

William Brady, *Heworth.*
W. H. Dale, *Coney Street.*
W. Ellis, *Skeldergate.*
Miss Gilbert, *St. Mary's.*
Mrs. Graham, *St. Mary's.*
Thomas Hodgson, 25, *Stonegate.*
R. W. Hollon, *St. Mary's.*
Edward Houlden, *St. Sampson's Square.*
John Pierson, 75, *Micklegate.*
Thomas Simpson, 34, *Gillygate.*
George Spurr, *King's Square.*
Mrs. Taylor, 1, *Bootham.*
Miss Wilson, *Fulford.*

### 1860.

Rev. Ishmael Fish, *Castle Howard.*
C. Halley, *High Ousegate.*
William Wrightson, *Peckitt Street.*

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## ASSOCIATES.

### 1859.

Thos. Brady, *Low Ousegate.*
W. H. Dykes, 40, *Blossom Street.*
T. N. Fowler, *Spurriergate.*
Frederick Needham, *York.*

### 1860.

C. Roberts, *New Street, York.*
H. T. Whitling, *York County Hospital.*

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## LADY SUBSCRIBERS
ADMITTED 1859.

Miss E. Clayton, *New Walk Terrace.*
Miss Miller, *Minster Yard.*
Mrs. T. Starkey, *Tang Hall, Heworth.*

### 1860.

Miss Bebb, 24, *Bootham.*
Mrs. Jackson, *Coney Street.*

# LECTURES

## DELIVERED DURING THE YEAR 1859.

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JAN. 12.—On Lucknow; by H. GREENHOW, Esq.

JAN. 22 and FEB. 2.—On William of Wykeham; by the REV. JOHN LEES.

FEB. 10 and 17.—On Examples of Divine Contrivance in the Structure of the Lower Animals; by P. H. GOSSE, Esq., F. R. S.

MARCH 2.—An Antiquarian Walk through York; by R. DAVIES, Esq., F. S. A.

MARCH 16 and 23.—On the Natural History and Mineralogy of Precious Stones; by W. PROCTER, Esq.

OCT. 12.—On Induced Electricity; by W. PROCTER, Esq.

OCT. 26, and Nov. 9 and 23.—On Mental and Moral Science; by the REV. THOS. MYERS.

DEC. 7.—On the Currents of the Ocean; by CAPT. O'BRIEN.

# COMMUNICATIONS

TO THE

# MONTHLY MEETINGS,

# 1859.

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March 1.—The Rev. John Kenrick read a paper "On a Coin of Mariniana" presented by T. S. Noble, Esq. Mr. Kenrick remarked that the imperial personage whose image appears on this coin, is absolutely unknown to History. Vaillant invented a pleasing romance, that she was the wife of the unfortunate Emperor Valerian, who was taken prisoner by Sapor, King of Persia, and that having died in captivity, her son Valerian II. honoured her memory by striking this coin. But this romance, like many others, has been destroyed by the merciless hand of the chronologer. From a date on one of the medals, it appears that she must have died six years before Valerian's Persian expedition. As Valerian was twice married, and his sons, Gallienus and Valerian, were only half-brothers, it is probable that she was his second wife.

The coin forming the subject of this communication is of debased silver, and of rude execution; the form of the letters is unclassical. These characteristics suit the age in which it was produced. The days were evil. The succession to the imperial throne was the subject of perpetual wars; the barbarians from time to time ravaged the provinces, and a pestilence, which began in A. D. 252, visited, in the course of fifteen years, every part of the ancient world.

Mr. W. S. Dallas read a paper "On Foraminifera," with especial reference to a small collection of fossils belonging to this group, presented by Mr. E. W. Dallas. He stated that his principal object was to call the attention of those members of the Society who were attached to the study of Natural History, to a most interesting class of objects. After describing some of the forms assumed by the minute but beautiful chambered shells formed by the animals of this group, Mr. Dallas indicated the different views which had been entertained

by Zoologists as to their place in the Animal Kingdom, and showed that although they had been regarded by Cuvier, Lamarck, D'Orbigny and others, as Mollusca allied to the highly organised Nautili and Cuttle Fish, the researches of Dujardin and subsequent naturalists abundantly proved that their place was far lower in the system, their nearest allies being the Infusorial Animalcules. After referring to the beauty and complexity of structure of the shells, contrasted with extreme simplicity of organisation of the animals, the paper called attention to the abundance of the Foraminifera in our present seas, and to their existence in still greater profusion in some geological periods,—many beds of rock of great thickness being almost entirely built up of their remains.

April 5—The Rev. John Kenrick read the first part of a paper by the late Rev. Charles Wellbeloved, "On the Information respecting the state of York, during the 14th and 15th centuries, derived from Wills in the York Registry." It consisted of a series of notes with commentaries, made from the "Testamenta Eboracensia," published by the Rev. James Raine. The Wills of the Plantagenet, Tudor and Stuart reigns are for the most part written in Latin. Some are in English, and a few in French; sometimes a part is written in Latin and a part in English, or a codicil or inventory in English is added to a Latin Will. Even in those written in Latin, English terms frequently occur, sometimes very oddly intermingled. The wills appear to have been made by professional persons,—the proctors, the parish priest, or some one who obtained his living by writing. In the year 1391, William de Kyrkby of York, describes himself as *scriptor;* that he is a layman is evident, as he directs that he be buried near his wife in St. Elen's Church, and leaves his property to his two daughters. In the same year, Ellen, the wife of Marmaduke Thweng, of Cornborough, made a nuncupative will, because *no writer* was at hand. Of these nuncupative wills, two affecting examples occur. In 1346, before joining the forces mustering to oppose David of Scotland, who had advanced as far as Durham, Sir William de Crathorne went into his parish church to declare his will, in the event of his falling in the field. From this expedition he never returned, and his widow afterwards appeared before the Commissary of the Archbishop, at Cawood, and was admitted to prove her husband's will, by the production of witnesses who deposed that they were present in the church when he made it. The other instance is that of Sir Ralph Newmarche, of Whatton, who made his nuncupative will at

Shrewsbury, in 1403, the day after the battle, and probably when in the agonies of death from wounds received on that celebrated field.

Most of the wills contain a bequest "*ad fabricam Ecclesiæ B. Petri.*" It cannot be inferred from these words that the rebuilding or repairing of the Church was going on at that time. But the completion of the Chapter House and the Nave was then proceeding, and in some instances this clearly appears from the bequests. These are not always in money, but books, wearing apparel, and other property are left to be sold, and the produce added to the bequest. Thus, Thomas de Austan, one of the Vicars Choral of York, leaves to the fabric three of his largest stills, for the distillery of aqua vitæ, and waters of flowers and herbs; John Awstyn, a carpenter of York, leaves to the new work of the Cathedral all his brass pullies; and Joanna Skargill bequeaths for the same purpose her scarlet gown. William Barker, of Tadcaster, leaves to the fabric at York a boat-load of stone from the quarry of Thevesdale, near Tadcaster, granted by the Vavasour family. W. Gowsell, husbandman, of Heworth, leaves one horse, probably to be employed at the Cathedral. In the year 1409, William Cawode, Canon of York and Ripon, an eminent lawyer and diplomatist, bequeaths his whole library to be sold, the produce to be applied to ornamenting the high altar with a screen. There are other legacies relating to works in the interior of the Minster—the erection or adorning of the altar, the founding of chantries, the offerings at shrines, and the decorations of sacred images. In 1349, Archbishop William de la Zouch left a sum of money for the ordaining of a perpetual charity for his own soul, at which two chaplains were to serve for ever in honour of God, the blessed Mary, and all Saints, especially Mary Magdalene and St. Martha.

The shrine, or bier of Saint William, which was of silver splendidly adorned with gilding and jewels, was the object of frequent bequests. To this shrine several persons left rings set with stones, and a chaplet of gold set with pearls and emeralds, with a sapphire in the middle, and a diamond above it. In 1444, Thomas Karr, citizen and draper, bequeathed money to purchase a gold chain for the neck of the Virgin Mary, another for that of the infant in her arms, and a gold ring to be placed about the neck of the image of the Virgin. Costly articles of gold and silver and jewels are specially bequeathed for the use of the High Altar. Books are the last class of bequests noticed in this part of the paper. One of the most remarkable of these is that of John Dawtre, who leaves to his godfather, Wm. Langton, the use during life of a certain book which the blessed Richard le Scrop had

and carried in his bosom at the time of his being beheaded; beseeching him that he would order that after his death it should be chained near the place where the body of Richard le Scrop had been buried, there to remain. The Archbishop had been much beloved in his diocese, and after his death the people of Yorkshire, who were hostile to the House of Lancaster, resorted to his tomb and made large offerings which were appropriated to the completion of the Choir.

May 3.—The Rev. John Kenrick read the conclusion of the late Rev. C. Wellbeloved's paper on the Testamenta Eboracensia, relating partly to the bequests of books and the illustrations which they afford of the state of literature in the Middle Ages. The bequest of John de Newton, treasurer of the Church in 1414, to the Minster Library comprehends Bibles and portions of Bibles, with Concordances and Glosses, works of St. Augustine, St. Gregory, St. Bernard, several Tracts of Alcuin, works of St. Chysostom and St. Thomas Aquinas. To these are joined several English Authors, as Beda de Gestis Anglorum, Alfred of Beverley, John Hoveden, Richard the Hermit of Hampole, Sir Walter de Hilton, and William Ryvington; William de Malmsbury, and Petrarca *de Remediis utriusque fortunæ*. These wills also contain numerous bequests of books to private individuals. These comprehend a great variety of subjects. Theology and law hold a chief place; but history, poetry, and romance have also their share. Books of science are the most rare. There does not appear a single Greek classic, and only one Roman. Of the early writers of our own country we find mentioned Piers Plowman, Gower, Richard of Hampole, and the celebrated traveller Sir John Mandeville. A copy of a miracle-play is bequeathed to the Fraternity of Corpus Christi, and a book *de S. Jacobo Apostolo* to the Gild of St. Christopher.

The bequests to the Abbey of St. Mary are not numerous; for it did not stand in high favour with the citizens, and disputes, sometimes accompanied with outrageous violence, frequently occurred. One bequest deserves particular notice. John Carlele leaves in 1309 some articles to the Abbot, 40s. to the Convent *ad potum*, and 20s. to the fabric of the bell tower, which was therefore probably still in course of erection 120 years after the foundation stone of the church had been laid by Simon de Warwick. The Hospital of St. Leonard is also mentioned in the *Testamenta*, and in the will of Richard Russell, an opulent merchant of York in 1435, there is a bequest for the relief of the poor who nightly lodged in the infirmary. Other Hospitals in

the city are also the subject of bequests, as well as the lepers in the lazar houses and the prisoners in the Castle, on Ouse-bridge, and in the prisons of the Archbishop and St. Peter. Numerous bequests also occur to the 52 parish churches which York contained before the Reformation and to the four mendicant orders. Of these the Dominicans were established where the Railway Station now stands; the Carmelites between Stonebow Lane and the Foss; the Franciscans between the Ouse and Castlegate; the Augustinians between the Guildhall and St. Leonard's landing. Almost every page of the *Testamenta* shows the popularity of these orders, and that not only with the commonalty, for persons of rank and opulence express in their wills a desire to be buried in their churches. Mr. Wellbeloved has also collected various notices of the Anchorites or Ankers, in Latin *reclusi* or *reclusæ*, men and women who lived a perfectly secluded life, either in some part of a church so contrived that Divine Service might be seen, or in some small building or oratory attached to the church. In some cases the seclusion was so strict that a lock was placed upon the cell, and even the entrance closed with masonry. All the Anchorites mentioned in the *Testamenta* were females. There are also bequests to Gilds and Crafts, and others having reference to pilgrimages, either to the Holy Land or to shrines within the island. In the later wills there are traces of the existence of heretical opinions among the contemporaries of the testators, as they make the unusual declaration that they die in the Catholic faith. In 1428 John Pigott, Esq., of York, leaves ten marks for sustaining the war against the heretics in Bohemia.

Oct. 4.—The Rev. J. Kenrick read some remarks on specimens of the so called Kimmeridge Coal Money, presented by Dr. Smart, of Northiam. The stratum from which they are derived is composed of a bituminous shale, of which an extensive bed exists on the Dorsetshire coast, used by the lower classes as a substitute for pit coal. The specimens, however, to which the name of coal money has been given, are found only in a limited locality in the Isle of Purbeck. They consist of flat circular pieces with bevelled and moulded edges from $1\frac{1}{4}$ inch to $2\frac{1}{2}$ inches in diameter, and from $\frac{1}{4}$ to $\frac{5}{8}$ of an inch in thickness. They have on one side a small pivot hole and on the other a square hole or two or three round holes, and they are now generally admitted by antiquaries to be the nuclei or circular waste pieces which were left and thrown aside in the process of turning by the lathe. The Kimmeridge coal appears to have supplied to the Romano-British

inhabitants of the Southern coast the place of jet, which is so abundant in Yorkshire, as a material for the manufacture of bracelets, beads, and similar ornaments. Such ornaments have been found in Romano-British sepulchres, but never in those of the primitive inhabitants of Britain. The Isle of Purbeck was the principal seat of this manufacture, and the "coal money" is found there in connexion with Samian and other pottery.

Mr. Kenrick also made some remarks on a denarius, presented by Mr. Noble, bearing on one side the head of Ceres and the legend C. MEMMI C. F. (Caii Filius), and on the other side a captive beneath a trophy and C. MEMMIUS IMPERATOR. It is uncertain to what member of the Memmian family or to what event the coin refers. The Memmius mentioned in the opening of the poem of Lucretius was Caius, and the Memmius of this coin may have been his son; but there is no record in history of the battle to which the trophy and the title Imperator refer. One of the Memmian family is said to have introduced the Cereal games at Rome, whence the head of Ceres appears on their coins.

Nov. 1.—THE REV. J. KENRICK exhibited a collection of flint implements, from the beds of drift gravel in the valley of the Somme, near Abbeville, and gave an account of the researches of M. Boucher de Perthes and of Messrs. Evans and Prestwich connected with this subject. The implements in question bear unequivocal marks of having been fashioned by the hand of man, and they have been found in beds which geologists call diluvial; hence the conclusion has been drawn, that the existence of man upon the earth is to be referred to an earlier period of its geological history than had been previously supposed. And as the remains of mammalia of extinct species, such as the elephant, rhinoceros, hippopotamus and stag, have been found in juxtaposition with these implements, the further inference has been deduced that man must have been contemporaneous with these extinct species.

Since attention was directed to this subject, evidence confirmatory of M. Boucher de Perthes' discoveries has come to light in England. Flint weapons, similar to those found at Abbeville, and connected with mammalian remains of extinct species, have been found at Hoxne, in Suffolk, by Mr. Evans and Mr. Prestwich, in undisturbed beds of diluvial gravel, lying above the boulder clay. The existence of flint implements in caves, *e. g.* at Brixham, along with the bones of animals now extinct; and of a coarse pottery united with such remains in

the valley of the Aire near Leeds, points also to the conclusion, that the tribes by whom the flints and the pottery were used, lived upon the earth, while it was still tenanted by species which have since perished.

Dec. 6.—The Rev. J. Kenrick gave an account of some Roman antiquities recently discovered at the Mount. At the depth of 2 ft. 6 in. below the surface, a slab 6 ft. 10 in. long was found, having four incised figures and an inscription in six lines. Being removed it was found to cover a sarcophagus, in which was a body which had been imbedded in liquid plaster. The incised stone which had been appropriated as the cover was not long enough to cover it and another channelled stone had been used to lengthen it. The inscription on the sarcophagus is much decayed, but it imports that it was dedicated to the Manes of Ælia Severa by her husband. From the form of the letters, which have been filled up with red paint, the sarcophagus appears to be considerably older than the slab which covers it, and probably the sarcophagus as well as the slab has been borrowed for a later interment. The remains of the skeleton seem to belong to a male rather than a female. The upper part of the slab which is incised, contains four figures: two of adults, male and female, two of children, also male and female. The inscription, as far as it can be read, is as follows:

D·M·FLAVIÆ·AUGUSTINAE
VIXIT· AN·XXXVIIII·M·VII·D·XI·FILIUS
NUS·AUGSTINUS·VXT·AN·I·D·III
AN·I·M·VIIII·D·V·CÆRESIUS
I·LEG·VI·VIC·CONIUGI·CARI
ET·SIBI· F·C·

It appears therefore that Cæresius, a soldier of the Sixth Conquering Legion, raised this memorial to his wife, Flavia Augustina, who lived 39 years, seven months, and eleven days; to his son, Augustinus, who lived one year and three days, and his daughter, who lived one year, nine months and five days, providing at the same time a memorial for himself, according to a practice very common among the Romans. The figures at the top correspond with this destination of the monument. The stone has received an injury which has obliterated several letters on the left side, so that only the last syllable of the son's first name is legible, and that of the daughter, as well as the military rank of Cæresius, is unknown.

JAN. 3, 1860.—MR. PROCTER read a paper "On the Ancient Metallurgy of Lead among the Romans, especially in Britain." Notwithstanding the silence of Cæsar, it seems probable that the lead-mines of this country were worked by the natives before the Roman conquest. Leland mentions a plate of lead, found in Somersetshire, inscribed with the name of the Emperor Claudius in the ninth year of his tribunitial power, *i. e.* A. D. 49, and as this was only five years after his arrival in Britain, it is not probable that the Romans should, in so short an interval, have begun to work lead-mines, if the art had been previously unknown in the island. Pigs of lead have also been found in different parts of Britain, bearing the names of other Roman Emperors.

Pliny notices the abundance of lead in this country, and the facility of working it from its coming to the surface; in this respect, he contrasts the British lead-mines with those of Spain and Gaul. He observes that there are two different sources of lead,—its own native ore from which it is produced without admixture, and an ore which contains it in combination with silver. Lead is rarely quite free from silver, but the ancients, from their imperfect knowledge, probably regarded those ores as non-argentiferous, in which silver exists only in minute proportions. From Pliny's account, which, however, contains some obscurities, it is clear that the Romans were in the habit of extracting silver from lead by a process of cupellation; and on several of the pigs found in Britain, we read the words EX. ARG. or EX. ARGN., which can hardly be explained otherwise than as *Ex Argento* or *Ex Argentifodina*. Yet it seems extraordinary that the lead should be described as extracted from silver ore or a silver mine, when the silver is really quite an insignificant admixture with the lead.

Mr. Procter has analysed several specimens of Roman lead from the collection of the Society, with the following results:

| | SILVER. |
|---|---|
| A lead coffin ..... | 0·0066 per cent. |
| Do. ..... | 0·0094 „ |
| Do. ..... | 0·0054 „ |
| A leaden lamp stand ..... | 0·0182 „ |
| A lead pipe ..... | 0·0087 „ |

Another lead pipe exhibited merely a trace of silver.

The quantity analysed in each case was 500 gr.

# DONATIONS TO THE MUSEUM.

## GEOLOGY AND MINERALOGY.

| | |
|---|---|
| Bravender, F., Esq., *(Cirencester)* ..... | Six specimens of *Acrosalenia pustulata*, from the Great Oolite of Cirencester. |
| Dallas, E. W., Esq., *(Edinburgh)* ..... | Fossil Foraminifera, from the Tertiary deposits at Volterra, in Tuscany. |
| Harland, Mr. T., *(Holme-on-the-Wolds)* ..... | Two Fossil Sponges, from the Chalk, near Beverley. |
| Milner, Miss, *(Nun Appleton)* ..... | Fossil Plants, from the Coal Strata of Aldwark, near Rotherham. |
| Petch, Rev. R., *(Pocklington)* ..... | A Specimen of Asbestos. |
| Reed, Wm., Esq., *(Blake Street)* ..... | Numerous Specimens of Fossils, from the Chalk, Gault and Wenlock Limestone. |
| Richardson, Rev. H. *(York)* | Fossils from the Coprolite Beds of the Speeton Clay. |
| Roundell, Rev. Danson Richardson, *(Gledstone)* | A Collection of Fossils and Minerals. |
| Tindall, Mr. E., *(Bridlington)* ..... | A Collection of Fossils from the Red Chalk of Speeton. |
| Walker, Mr. J. F., *(Gillygate)* ..... | A Specimen of *Productus Martini*.<br>A small Agatized Ammonite, from the Lias, near Whitby. |

## BOTANY.

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| Backhouse, Jas., Esq. ..... | The Stem of a large Tree Fern. |
| Hailstone, Mrs., *(Bottisham, Cambridgeshire)* ..... | The Herbarium formed by the late Samuel Hailstone, Esq. |

## ZOOLOGY.

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| Brown, C. H., Esq., *(Southport)* ..... | A Specimen of *Fusus antiquus.* |
| Brown, Mr., *(Friends' School)* ..... | Specimens of *Geomalacus maculosus,* in spirit. |
| Champley, R., Esq., *(Scarbro')* .. ..... | A Photograph of the Egg of the Great Auk. |
| North, S. W., Esq., *(York)* | A Specimen of *Uraster rubens.* |
| Tindall, Mr. E., *(Bridlington)* ..... | Three Specimens of Exotic Land Shells. |
| Toon, Mr. Thos., *(17th Foot)* ..... | Two Lizards and three Centipedes in spirit, from Renkioi, on the Dardanelles. |
| Walker, Mr. J. F., *(Gillygate)* ..... | Three Specimens of *Limnæus etagnalis.* |

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## ANTIQUITIES.

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| Calvert, F. W., Esq..... | A Stone Coffin, and some Cinerary Urns, found in his ground on the Mount. |
| Ford, John, Esq. ..... | Three Flint Arrow Heads, from Castle Howard. |
| Greenwood, Mr. Wm. ..... | A Coin of Alexander Severus. |
| Jones, John, Esq. ..... | A Stone Coffin, and some Cinerary Urns, found in his ground on the Mount. |
| Kenrick, Rev. John ..... | A Coin of Probus, found at Osbaldwick. |
| Noble, T. S., Esq. ..... | A Coin of Mariniana, and four Silver Denarii. |
| Procter, W., Esq. ..... | A Mediæval Spoon. |
| Raper, Mr. John, *(East Wilton)* ..... | A Penny of Edward. |
| Simmons, Rev. F., *(Holme-on-the-Wolds)* ..... | The lower part of a Stone Hand Mill. |
| Smart, Dr. *(Northiam, Sussex)* ..... | Specimens of the so-called Kimmeridge Coal Money. |

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| Stapylton, M. B., Esq., *(Myton Hall)* ..... | A Sandstone Head, probably of the God Serapis, from Meroë. |
| Swaine, E., Esq. ..... | A Roman Cinerary Urn, in the form of a Human Head. |
| | An Attic Tetradrachm. |
| Temple, Mr. G., *(York)* ... | Two Roman Coins, and a Leaden Stamp, found at Clifton. |
| Walker, Miss, *(Gillygate)* | A Silver Coin of the Duchy of Burgundy. |
| Walker, Mr. J. F., *(Gillygate)* ..... | An Iron Implement, found near Fountain's Abbey. |

## MISCELLANEOUS.

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| Edeson, Mrs., *(Gillygate)* | A Burmese Book, and Wooden Mould. |
| Noble, J., Esq., Jun., R. N. | Three Chinese Weapons. |

## LIBRARY.

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|---|---|
| Admiralty, Board of..... | Greenwich Observations for 1857. |
| Association, British, for the Advancement of Science | Report for 1858. |
| The Author ..... | Furca et Fossa, by J. Y. Akerman. |
| The Author ..... | Voyage en Espagne et en Algérie, by M. Boucher de Perthes. |
| The Author ..... | A Natural History of the Animal Kingdom, by W. S. Dallas. |
| The Author ..... | Elements of Entomology, by W. S. Dallas. |
| The Author ..... | Reply to the Statements of the Trustees of Dudley Observatory, by Dr. Gould. |
| The Author ..... | Map of Chicago Harbour and Bar, by Col. Graham. |
| The Author ..... | Address delivered at the Anniversary Meeting of the Geological Society, 1858, by General Portlock. |
| The Author ..... | Address delivered at do., 1859, by Professor Phillips. |

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| The Author ..... | Evidences of the Great Age of Henry Jenkins. |
| Berwickshire, Naturalists' Field Club ..... | Proceedings of. |
| British Museum, Trustees of | Select Egyptian Papyri in the Collection of the British Museum. |
| East India Company, The Hon. Court of Directors of | Catalogue of Lepidopterous Insects in the Museum of the East India Company. |
| Gould, Dr. ..... | Defence of Dr. Gould, by the Scientific Council of the Dudley Observatory. |
| Graham, Mr. D. ..... | Sir Wm. Milner's Nomenclature of British Birds. |
| Hey, Rev. Wm. ..... | Catalogue of British Coleoptera, by G. R. Waterhouse, (sheets 1—6). |
| Institution, Royal, of Great Britain ..... | Proceedings of, part 9. |
| Institution, Smithsonian ... | Report for 1857. |
| Kenrick, Rev. John ..... | Eckhel's Numi veteres Anecdoti, and Vulpes' Illustrazione degli Strumenti Chirurgici scavati in Ercolano e in Pompei, from the Library of the late Rev. Charles Wellbeloved. |
| Malvern, Naturalists' Field Club ..... | Transactions of. |
| Monkhouse, Mr. W. ..... | Woods on the Fossil Skull of an Ox. |
| Northumberland, His Grace the Duke of ..... | Mac Lauchlan's Survey of the Roman Wall and Watling Street. |
| Read, W. H. Rudston, Esq. | Proceedings of the Linnean Society. |
| Society, Geological ..... | Quarterly Journal, vol. xiv., parts 3 and 4, and vol. xv.<br>Proceedings, Nos. 1—25. |
| Society, Chemical ..... | Quarterly Journal. |
| Society, Geological & Polytechnic, of the West Riding | Reports of. |
| Society, Leeds Philosophical and Literary ..... | Report of.<br>Sir J. F. W. Herschel on Sensorial Vision.<br>J. Crawfurd, F. R. S., on China and its Trade. |
| Society, Boston, of Natural History ..... ..... | Journal, vol. vi., No. 4.<br>Proceedings, vol. vi., sheets 11—22. |

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|---|---|
| Society, Sheffield Literary and Philosophical ..... | Report of. |
| Society, Literary and Philosophical, of Liverpool ... | Proceedings of. |
| The Translator ..... | Siebold on a True Parthenogenesis in Moths and Bees, translated by W. S. Dallas. |
| Tyneside Naturalists' Field Club ..... | Transactions of. |
| United States Coast Survey | Report of the Superintendent for 1856. |
| Wellbeloved Memorial-Fund Committee ..... | Mr. Wellbeloved's copies of "Drake's Eboracum" and Horsley's "Britannia Romana." |

## SERIAL WORKS SUBSCRIBED FOR.

A Monograph of the Trochilidæ or Humming Birds, by John Gould, F. R. S. (18 parts published).

Birds of Australia, by the same, supplementary parts (3 published).

Birds of Asia, by the same (11 parts published).

Exotic Butterflies, being illustrations of New Species chiefly selected from the Collections of W. Wilson Saunders and W. C. Hewitson. By W C. Hewitson. (23 Nos. published.)

Fauna Antiqua Sivalensis, or Geology of the Sewalik Hills, in the North of India, by Dr. Falconer and Major Cautley. (Part 1 to 9 of illustrations, and part 1 of Letterpress).

Proceedings of the Zoological Society, with Illustrations.

Publications of the Palæontographical Society.

Publications of the Ray Society.

Sowerby's Thesaurus Conchyliorum, col. plates (17 parts published).

Crania Britannica, or Delineations and Descriptions of the Skulls of the Aboriginal and early Inhabitants of the British Islands, by J. B. Davis, F.S.A., and J. Thurnam, M.D., F.S.A. (3 Parts published).

London, Edinburgh, and Dublin Philosophical Magazine.

Annals and Magazine of Natural History.

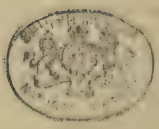
The Geologist.

Archiv für Naturgeschichte.

## WORKS PURCHASED.

Murchison's Siluria, new edition.

Decades of the Geological Survey of Great Britain.

Sowerby's Illustrated Index of British Shells.

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Agar,
Akroy
Aldam
Allis,
Backh
Balme
Barlow
Bayly,
Beaun
Becke
Bell,
Bolton
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