

**LIVERPOOL GEOLOGICAL
ASSOCIATION.
ESTABLISHED 1880.
ANNUAL REPORT, 1887**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649426812

Liverpool Geological Association. Established 1880. Annual Report, 1887 by Various

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ANNUAL REPORT,

1887.

COLLECTED BY THE
GEOLOGICAL ASSOCIATION
SAN FRANCISCO.

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LIVERPOOL GEOLOGICAL ASSOCIATION,

FREE LIBRARY, WILLIAM BROWN STREET, LIVERPOOL.

Established 3rd June, 1880.

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Council:

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A. NORMAN TATE, F.I.C., F.O.S.

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81, Lime Grove, Liverpool.

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Chemical Geology - - - THE PRESIDENT.

Liverpool Geological Association.

—:—

ANNUAL REPORT.

SESSION 1886-7.

3rd OCTOBER, 1887.

During the past year 14 new members have been elected, 9 have resigned, and 27 been removed for non-payment of subscription. With regard to the latter, the attention of the Council has been drawn to the fact that for some years past there have been on the books the names of many persons who neither attended the meetings nor paid subscriptions, and it has been resolved to enforce the provisions of Rule 3, and consequently all persons whose subscriptions were three years and over in arrear have been struck off. Although this may have reduced the list of names in the roll of members, it only more truly gives a statement of the effective strength of the Association. The present number of members is 114.

During the year we have had 11 ordinary meetings, at which the following papers were read:—

- Nov. "GEOLOGICAL TECHNOLOGY," by the President.
- Dec. "GEOLOGY OF ROUEN," by the Rev. S. Gasking, B.A., F.G.S.
- Jan. "SAND DUNES OF CHESHIRE COAST," by C. Potter.
- Feb. LANTERN VIEWS OF WALES, IRELAND, AND CHANNEL ISLES, which were described by the President, I. E. George, and D. D. Pritchard.
- March "WIND EROSION," by I. E. George.

- April. "ACTION OF WATER IN FORMING ROCKS AND MINERALS,"
by H. T. Mannington.
- May. "GEOLOGICAL RAMBLE IN THE ISLE OF MAN," by P. H.
Marrow.
- June. "NOTES ON THE GEOLOGY OF DEGANWY," by T. Mellard
Reade, C.E., F.G.S.
- July. "THE MERRSEY ESTUARY," by C. E. Miles.
- Sept. "USE AND ABUSE OF STONES IN BUILDING," by J. Wilding.
"WEATHERED ROCKS AT HILBRE," by I. E. George.
"FOSSIL TEETH," by C. F. Webb.

In addition to these ordinary meetings the members had an opportunity, on October 8, by the courtesy of Mr. Isaac Roberts, F.G.S., of studying Lunar Volcanoes, at his Observatory at Maghull; and the following meetings were held at the Free Museum, William Brown Street:—

- Dec. 18.—"STUDY OF IRON ORES," conducted by H. T. Man-
nington.
- Jan. 15.—"STUDY OF LIFE OF THE LIAS PERIOD," by D. Clague.
- Feb. 19.—"COAL FOSSILS," by Rev. H. H. Higgins, M.A.
- Mar. 19.—"SILICA MINERALS," by C. E. Miles.

There were seven FIELD MEETINGS, viz:—

- Apr. 18.—Easter Monday. Field Meeting at St. Helens, con-
ducted by Rev. S. Gasking, B.A., F.G.S.
- May 14.—Visit to Chester, including visit to Grosvenor Museum
of Natural Sciences, conducted by W. Shono, F.G.S.
- May 20.—Whit Monday. Field Meeting at Hilbre Island,
conducted by I. E. George.
- June 15.—Field Meeting at Leasowe, conducted by C. Potter.
- July 12.—Field Meeting at McFall's Quarry, Green Lane, con-
ducted by I. E. George.
- Aug. 1.—Bank Holiday. Field Meeting at Castleton, con-
ducted by Dr. Ricketts, F.G.S.
- Sept. 10.—Field Meeting at Thatto Heath, conducted by D.
Clague.

These meetings have all been very instructive, and their success is mainly due to the excellent arrangements made by the Superintendent of Excursions, Mr. Isaac E. George.

A series of meetings were also held in the President's Laboratory in the early part of the year, for the study of Micro-Chemistry applied to Geology.

The LIBRARIAN reports that the Library continues to be well used, and it now numbers 110 books.

Several valuable donations of Books call for thanks to the Donors—Dr. Ellis, A. Norman Tate, F.I.C., &c.; G. H. Morton, F.G.S.; Rev. H. H. Higgins, M.A.; Dr. Ricketts, F.G.S.; J. C. Evans, and the Department of Mines, Victoria, and the Mining Bureau of California.

Our Collection of Maps has been enriched by handsome donations of Maps of the Gold Mines of Victoria, and the Geological Survey Maps of our own district on the 6 in. scale, for which our thanks are due to the Department of Mines and our President respectively.

The Council desire to express their thanks to the Librarian for the attention he has given to his duties.

TRANSACTIONS have been exchanged with the following learned societies:—

- Belfast Naturalists' Field Club.
- Burnley Literary and Philosophical Society.
- California State Mining Bureau.
- Chester Society of Natural Science.
- Cornwall Royal Geological Society.
- Cornwall Mining Association and Institute.
- Lancashire and Cheshire Entomological Society.
- Leeds Geological Association.
- London Geologists' Association.
- Liverpool Astronomical Society.
- Liverpool Engineering Society.
- Liverpool Geological Society.
- Liverpool Literary and Philosophical Society.
- Liverpool Naturalists' Field Club.
- Liverpool Polytechnic Society.
- Liverpool Science Students' Association.
- Manchester Geological Society.
- Manchester Science Students' Association.

Nottingham Naturalists' Society.
Smithsonian Institution, Washington.
Victoria Department of Mines.
Yorkshire Philosophical Society.

Copies of Transactions have also been sent to several other societies, from whom it is hoped to receive their Transactions in due course.

The Transactions for the current year are completed, and are in the hands of the members. It will be seen that for several months past some additions have been made to them in the shape of Monthly Notes and other short articles. This alteration has been much approved both by our own members and others who have had the opportunity of seeing them, and it now remains with our members to say whether these additions shall be continued; if so, increased contributions will be needed, as the ordinary income of the Association will not bear the expense.

A pleasant feature in last year's work is the great attention which was devoted to matters of local interest, and it is hoped that this will be continued during the ensuing year.

At a Special Meeting of the members it was resolved to alter our rules so as to admit a class of Honorary Members, which shall consist of gentlemen who have done good service to geological and kindred sciences.

The Financial Statement appended is satisfactory as showing that, notwithstanding heavier expenses than usual, the Association has been worked economically, is out of debt, and has a balance in hand of £2 14s. 4d.



LIVERPOOL GEOLOGICAL ASSOCIATION, in Account with the Treasurer,

FOR YEAR ENDING SEPTEMBER, 1887.

Disbursements.

| | £ | s. | d. |
|---|----|----|----|
| 1887. | | | |
| September. To Rent of Room and Attendant..... | 3 | 5 | 0 |
| " Printing and Stationery..... | 25 | 3 | 6 |
| " Postages and Incidentals..... | 9 | 0 | 4 |
| " Balance in Treasurer's hands..... | 3 | 14 | 4 |

Receipts.

| | £ | s. | d. |
|--|----|----|----|
| 1886. | | | |
| Sept. By Balance from last Account ... | 5 | 19 | 2 |
| 1887. " Subscriptions, viz. — | | | |
| Sept. " 114 Members at 5/..... | 28 | 10 | 0 |
| " 5 Members paid in advance in previous years..... | £1 | 5 | 0 |
| 24 Members in arrears..... | 6 | 0 | 0 |
| — | 29 | 7 | 5 |

| | | | |
|-----------------------------|------|----|---|
| 85 Subscriptions for 1886-7 | 21 | 5 | 0 |
| " " " " | 1883 | 4 | 0 |
| " " " " | 1884 | 5 | 1 |
| " " " " | 1885 | 6 | 6 |
| " " " " | 1886 | 7 | 0 |
| — | 120 | 20 | 0 |

| | | | |
|--|-----|----|---|
| " Receipts from Members for Printing ... | 4 | 13 | 0 |
| — | £40 | 12 | 2 |

| | | | |
|--------------------------------------|----|----|---|
| By Balance | £2 | 14 | 4 |
| By Balance as per last Account | £0 | 11 | 6 |

Audited and found correct,
 G. WATSON GRAY, A.I.C., } AUDITORS.
 JOHN MORRIS, }
 Liverpool, 29th September, 1887.

THOS. R. CONNELL,
 TREASURER.