PROCEEDINGS
OF THE
GEOLOGICAL
AND
POLYTECHNIC SOCIETY
OF THE
WEST RIDING OF YORKSHIRE.
1839—42.
VOLUME I.

LEEDS:
PRINTED BY EDWARD BAINES AND SONS.
1849.
PREFACE.

The Geological and Polytechnic Society of the West Riding of Yorkshire originated at a meeting of the coal proprietors of that district, held in Wakefield, on Friday, December 1st, 1837, Thos. Wilson, Esq., of Banks Hall, near Barnsley, in the Chair. The extent and importance of the Yorkshire coal field, comprising not less than 462 square miles, and the imperfect information possessed respecting its numerous beds of coal and ironstone, having been considered, and also that in the winning and working of the same a large amount of capital was embarked, and extensive machinery and a numerous population employed, it was suggested that great advantages would result from the institution of a Society for collecting and recording Geological and Mechanical Information, with the accuracy and minuteness necessary for the successful prosecution of mining. These objects, it was hoped, would be most effectually attained by the formation of a collection of maps, plans, sections, models, mining records, and every kind of information respecting
the geological structure of the country; the construction ultimately of a complete geological map or model; the formation of a museum, as well of the various fossils and mineral products of the district, as of drawings and models of the machinery and tools employed in mining; the consideration of the various systems of ventilation in use; the holding of public meetings in the principal towns of the West Riding, for reading communications and discussing topics connected with these subjects; the publication of papers, reports, and transactions; and the corresponding and co-operating with the metropolitan and other similar societies. While these subjects would occupy the principal attention of the society, it was considered desirable (particularly as there was no other society embracing these objects) to extend its operation to whatever was connected with the staple manufactures of the West Riding; together with the bearings of geology and chemistry upon agriculture, and the application of mechanical inventions to the common arts of life.

This proposal having met with the unanimous approbation of the meeting, immediate steps were taken for organising the Society, of which forty gentlemen at once signified their wish to become members, and the Right Hon. Earl Fitzwilliam, F.R.S., accepted the office of President.
The preliminary business having occupied the first two or three sittings, Professor Johnston, of Durham, in May, 1838, delivered the first public lecture, "On the Economy of a Coal Field," which was published in a separate form.

The following papers were submitted at the subsequent Meetings, of which no permanent record is preserved except in the local journals of the period:


"On an Improved Safety Lamp and Suggestions for Lighting Mines by means of the Fire Damp," by Mr. Fletcher.

"Remarks on the Section from the Bradgate Rock to the Forty Yards Coal at Middleton," by T. W. Embleton, Esq.

"On the Principle and Manufacture of the Patent Wire Ropes," by Mr. Lear.


The printed Proceedings of the Society, therefore, commence with the Meeting held at Leeds, December 6th, 1839.

Leeds, 17th April, 1849.
CONTENTS OF VOLUME I.

* * * The first Two Reports which were Printed were not paged consecutively.

MEETING AT LEEDS, December 6th, 1839— Page.
Dr. Hook's Opening Speech ................................................................. 4
"Observations on the Safety Lamp," by C. Morton, Esq. ................. 21
"On the Strata of the Northern Yorkshire Coal Field," by T. W. Embleton, Esq. ............... 25
"Report of Proceedings of Sub-Committee for constructing a Geological Section of the Yorkshire Coal Field," by C. Morton, Esq. .......... 27

MEETING AT BRADFORD, March 11th, 1840—
Address of the Rev. Dr. Scoresby, F.R.S. &c. .................................... 1
"On the Proposed Line of Section between the Coal Field of Yorkshire and that of Lancashire," by the Rev. William Thorp .......... 7
"On the Effects of Aqueous Vapour in the Atmosphere, as applied to Blast Furnaces, in the Manufacture of Pig Iron," by Henry Leah, Esq. ............................................................... 19
"On the Proportion of Sulphur in Coal," by William West, Esq. .......... 48

MEETING AT SHEFFIELD, June 4th, 1840—
Address of W. B. Martin, Esq. .............................................................. 1
"On the Disturbances in the District of the Valley of the Don," by the Rev. William Thorp ................................................................. 4
"Report of the Committee appointed to recommend a Line of Section across the Yorkshire Coal Field," by Messrs. Morton and Holt .......... 18
"Isometrical Projection of the Mining District of Alston Moor; and a Model of the Forest of Dean," by Thomas Sopwith, Esq. ............... 25

MEETING AT WAKEFIELD, October 5th, 1840—
Earl Fitzwilliam's Address ................................................................. 33
Report of the Council at the Annual Meeting .................................... 35
Rules of the Society .............................................................................. 42
"On the Agriculture of the West Riding of Yorkshire, considered Geologically; and 1st. of the New Redstone District," by the Rev. William Thorp ................................................................. 46

MEETING AT DONCASTER, December 2nd, 1840
Address of E. B. Beaumont, Esq. .......................................................... 87
"On the Agriculture of the West Riding of Yorkshire, considered Geologically; 2nd. On the Magnesian Limestone District," by the Rev. William Thorp ................................................................. 91
MEETING AT HALIFAX, March 3rd, 1841—
Address of the Rev. Samuel Sharp
“On the Mineral Springs of the Parish of Halifax, Geologically considered,” by William Alexander, Esq., M.D.
“On the Museum of the Society, and on the various Objects which it is desirable that it should contain,” by T. W. Embleton, Esq.

MEETING AT LEEDS, June 3rd, 1841—
Address of the Rev. Theophilus Barnes
Report of the Council at the Annual Meeting
“Experiments on the Relative Strength of Pig Iron, of various Qualities and from different Makers, upon Bars 12 Inches long by 1 Inch square,” by Mr. Charles Todd
“On the Occurrence of Shells in the Yorkshire Coal Field,” by Henry Hartop, Esq.

MEETING AT HULL, August 3rd, 1841—
“Report on the Agricultural Geology of Part of the Wold District of Yorkshire, and of the Oolite in the Neighbourhood of North and South Cave, &c.,” by the Rev. William Thorp

MEETING AT WAKEFIELD, September 23rd, 1841—
Report of the Council at the Annual Meeting
“On the Preservation of Railway Sections, and of Accounts of Borings, Sinkings, &c.,” by Thomas Sopwith, Esq.

MEETING AT HUDDERSFIELD, December 2nd, 1841—
Address of Dr. Walker

MEETING AT SHEFFIELD, March 3rd, 1842—
“On the Use of Wire Rope as a Substitute for Hempen Rope on Railways and in Mining,” by Charles Morton, Esq.

List of Officers, Members of the Society &c.
REPORT OF THE PROCEEDINGS

OF

THE QUARTERLY MEETING

OF THE

GEOLOGICAL AND POLYTECHNIC SOCIETY

OF THE WEST RIDING OF YORKSHIRE,

HELD IN

THE HALL OF THE LEEDS PHILOSOPHICAL AND LITERARY SOCIETY,

ON THURSDAY, DECEMBER 6, 1839.

THE REV. W. F. HOOK, D.D., VICAR OF LEEDS, IN THE CHAIR.

LEEDS:

PRINTED FOR THE SOCIETY, BY R. FERRING, COMMERCIAL-STREET.

1839.
Presented to
The Geological Society of London,
by
the Yorkshire Polite Club Society.