

GEOLOGY IN LINCOLNSHIRE: AN ACCOUNT OF THE ACTIVITIES OF THE
LINCOLNSHIRE NATURALISTS' UNION GEOLOGICAL SECTION.

by

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Summary

An account is given of the geological activities of the Lincolnshire Naturalists' Union over the past 70 years. This is related to the general picture of geological activity in the County, both in the past and at present.

Introduction

Many published accounts of Lincolnshire geology appeared before the formation of the Lincolnshire Naturalists' Union in 1893. Several important papers are contained in the Quarterly Journal of the Geological Society, especially between the years 1867 and 1879. Many other papers appear in journals such as the Journal of the Chemical Society, Geological Magazine, The Naturalist, Proceedings of the Geologists' Association, Science Gossip, etc., and are far too numerous to list here.

Work in the county up to 1893 had been valuable but fragmentary; the object of this work seemed to have been directed to the solving of problems in connection with phenomena of adjoining counties rather than the furnishing of material for a systematic and complete account of the geology of Lincolnshire. Much of this published work is based on individual study, and although local societies concerned with natural

history had been established, they had played little part in geological recording. Details of four of these societies are as follows:

Spalding Gentlemen's Society est. 1709-10. (extant)	The oldest antiquarian society in England, founded by Maurice Johnson.
Louth Naturalists' Society est. 1884. (extant)	Parent of the Louth Antiquarian, Naturalists' and Literary Society.
Alford Natural History Society est. 1885.	Members formed a component of the Lincolnshire Naturalists' Union (1893).
Grimsby Naturalists' Society est. 1886. (dissolved c.1952)	Parent of the Grimsby & District Antiquarian and Naturalists' Society.

Interest in the geology of the county had also been shown by national societies, and also by Yorkshire societies - particularly the Goole Scientific Society and the Hull Geological Society. An excursion to Lincoln in 1884 was made by the Geologists' Association (see: Proc. Geol. Assoc., 8, 383). A further excursion was made to Mid-Lincolnshire in 1905 (see: Proc. Geol. Assoc., 19, 114). The Yorkshire Geologists visited Lindsey for three days in 1909. A full account of the latter appeared in the "Retford, Worksop, Isle of Axholme and Gainsborough News" (1/10/1909).

Formation of the Lincolnshire Naturalists' Union.

The local societies had a limited scope and catered for the needs of a minority. Membership was small, and a cross-section of activities was poorly represented; specialists in geology were few. Careful preparation and hard work, mainly on the part of W.D. Roebuck and W.F. Baker, for an excursion of naturalists to Mablethorpe on June 12th, 1893, resulted in the formation of a society that catered for all Lincolnshire naturalists. A four-page excursion circular, with notes on different aspects of natural history (including geology by F.M. Burton) to be encountered within the Mablethorpe area, contained the following note:

'It is hoped as a result of this meeting to form a LINCOLNSHIRE NATURALISTS' UNION, and the attendance of all Lincolnshire naturalists is earnestly requested.'

About thirty naturalists assembled at Mablethorpe, and after proceeding to Theddlethorpe by train and investigating that area, most of them returned to Mablethorpe for luncheon at the "Book-in-Hand" Hotel. The meeting, which followed the luncheon had for its chairman, Professor L.C. Miall, who delivered a short speech on the excellent facilities for natural history in Lincolnshire and opportunity for the formation of a Lincolnshire Naturalists' Union. A more comprehensive account of this excursion (including geology notes) and meeting are to be found elsewhere (1).

Geological Section: 1893-1935

It is pleasing to note that geology formed an integral part of the Union's activities from the inauguration; this was due mainly to the work of Burton, who was elected President of the Union in the following year. Burton held this office for two years; his first Presidential Address in 1894 was entitled 'How the Land between Gainsborough and Lincoln was formed'.

The Annual General Meeting for 1895 was held at Lincoln (3), when the great feature of the day was the opening of the Museum in the Castle Gateway rooms. (The Museum was transferred to new premises

in 1907.) The Bishop of Lincoln, a member of the Union from the first, performed the opening ceremony and Burton, in his second year of office as President, delivered an address on 'The Story of the Lincoln Gap' (2).

During this period Burton also held the office of President of the Geological Section. He had a wide range of natural history interests, but he was first and foremost a geologist, the discoverer of the Rhaetic Beds in Lincolnshire in 1866. Both he and H. Preston were mainly responsible for the highly active geological section over the first two decades. Other energetic workers during this period included J. H. Cooke, T. Sheppard, W. Tuckwell, E. Nelson, A. W. Rowe and E. A. W. Peacock; the Union was indeed fortunate in their interest in field meetings - notes were contributed for geology at most of these meetings, mainly by Burton and Sheppard. The latter built up a fine geological collection of Lincolnshire material in the Hull Museum, which was unfortunately destroyed by bombing during the Second World War.

A circular from J. H. Cooke to Union members in 1896 announced a series of geological excursions in the neighbourhood of Lincoln with the following rubric:

'The immediate object is to study systematically and in detail the various formations of the county and to afford members opportunities for taking up special lines of geological research. The work will consist mainly in carefully noting the Stratigraphical and Lithological features of the formations and in collecting the fossils, commencing with the Lias Clays which form one of the most prominent geological features of Lincolnshire.'

About this time special attention was shown by the geologists to boulders, and in 1896 the Union formed a Boulder Committee (23). However, it is interesting to note just how fickle geologists of the time were; the fashion changed continually. The editor of *The Naturalist* commented in 1903, "Would that someone would continue the work of recording Lincolnshire erratics, so ably started a few years ago". Regular reports on boulder work had appeared in *The Naturalist* between 1896 and 1902; geological fashion in 1903 and succeeding years seemed to be directed towards borings.

In the meantime, field meetings have been well attended by geologists and their reports appeared religiously in *The Naturalist* between 1893 and 1902. Natural history recording was greatly improved with the publication of 'A Sketch Map of the Soils of Lincolnshire' (7). However, it is disappointing that such valuable work, which could have been the basis for subsequent floristic work, should have been overlooked in the determination of the natural history recording units. The eighteen divisions for natural history recording are based on political, rather than ecological, boundaries. The author has recently reviewed the present position of natural history recording units in Lincolnshire (16). Up to 1895 there had been a definite lack of soil work, and there was a great need for work on the inter-relations between the flora and soil type. Such studies were to occupy Peacock, one of the most famous of the Union members, and one of the first British ecologists, for the greater part of his life. His *Rock-Soil Flora of Lincolnshire* was never published; the manuscripts of this revolutionary work are now in the hands of Cambridge University. Peacock's articles are far too numerous to record, but his articles on 'Fenland Soils' (13) and on 'Sequence-Selections' (14) are worth a mention here.

In 1905, the Union began publication of its own *Transactions*, and the amount of Lincolnshire material published in *The Naturalist* became less and less. By 1926, articles had disappeared from *The Naturalist* with one exception: this was concerned with the zonation of Lincolnshire White Chalk and edited by C. D. Sherborn and T. H. Withers from the notebooks of Rowe (16). A further article on the Lincolnshire White Chalk appeared in the *Transactions* (4).

Preston succeeded Burton as President of the Geological Section in 1912 and held this position until his death in 1940.

Geological Section: 1935 - 1950

A wave of intense geological activity occurred about 1935 when Professor H. H. Swinnerton of Nottingham University showed particular interest in Lincolnshire geology (20, 21). Professor Swinnerton was President of the Union for 1936 and 1937, and acted as joint President of the Geological Section with Preston until the latter's death. Professor Swinnerton holds this position to this day, and the Union is indeed grateful for his continued interest. The position of secretary to this section has been held by several members, including C. F. B. Shillito, V. D. Dennison, R. J. Batters, and more recently by A. Straw of Sheffield University. Shillito will be especially remembered for his work on Holocene deposits in the Broughton area of North Lincolnshire (12).

One of the Union's most regular contributors has been Dr. P. E. Kent. His earlier work in Lincolnshire was occasioned by research for a doctorate thesis on the Lincolnshire Limestone. Later he showed a constant interest in borings (see: Lincs. Nat. Union Transactions for 1937, 1938, 1946, 1947, 1953 and 1955), but he is better known for his contribution to 'The Geology of Lincolnshire' which was published in 1949 as the first Natural History Brochure of the Lincolnshire Naturalists' Union. The Union not only originated the idea but also sponsored the publication (22). Professor Swinnerton and Dr. Kent combined to produce this excellent brochure which was a complete sell-out soon after publication. Further works by Dr. Kent in the Union's Transactions are concerned with the stratigraphy of the Lincolnshire Limestone (8), Upper Rhaetic Beds (9), and, combined with F. T. Baker, on the ammonites of the Lincolnshire Limestone (10).

Present Position

Further contributions to the Transactions in more recent years have been made by J. E. Prentice (15), Dennison (5), and Straw (18, 19); the two latter have been concerned mainly with the geomorphology of the County.

A new interest has been shown in Lincolnshire geology over the past decade, due mainly to the Museums and Schools of the area. Interesting reference collections are to be seen in local Museums, especially those of Lincoln and Scunthorpe; the latter is the headquarters of the Scunthorpe Museum Society, founded in 1958. There is also an active Lincoln and District Branch of the Geographical Association.

Owing to the purely agricultural character of the Lincolnshire Wolds and Edge, exposures of the underlying chalk and limestone respectively are rare. However, ironstone mining, and sand and gravel workings in recent years have exposed many interesting strata and some richly fossiliferous beds, especially in the Nettleton area of the Wolds. Such workings will no doubt provide the impetus for future geological research in the county.

Particular interest has been shown by the Universities of Hull, Sheffield and Nottingham, and it is to be hoped that they will continue to undertake research in an area which is sadly in need of its own university. Let it be stressed that the county relies to an equal degree upon the work of both the professional and the amateur; and to this end, the Union will continue to play its part in geological investigations.

This short account of geological activities in Lincolnshire, mainly concerned with the Union over the past 70 years, is by no means exhaustive. For further references see the numerous Geological Survey Memoirs for Lincolnshire and the extensive bibliographies which are to be found for almost all years of The Naturalist between 1885 and 1930; see also the bibliographies of the standard works (6, 11, 23, 24). Details of MSS., notebooks and specimens in the Union collections, will be supplied by the author on request.

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