CHARLES LAPWORTH, M.Sc., LL.D., F.R.S., F.G.S., PRESIDENT 1899-1902.

To a marked extent Professor Lapworth's work has been identified with Scotland. He taught as а schoolmaster for seventeen years, first in Galashiels, where he started his geological work, and then in Madras College, St. Andrews. His two greatest achievements were elucidations of Scottish geology, and rank among the most brilliant work ever done in the science. His first paper was read before the Geological Society of Edinburgh in 1870, and in 1873 appeared his paper "On an Improved Classification of the Rhabdophora," which revolutionised the study of graptolites. To quote from von Zittel's "History of Geology" "All later writings on graptolites are based on the results obtained by Lapworth." He applied his work to the study of the southern Uplands of Scotland, and made his reputation as a stratigrapher by his masterly elucidation of the complicated Moffat district. His first contribution to our Transactions was a paper on this subject read in 1872 and published in 1874.

Lapworth was one of the protagonists in the great controversy regarding the structure of the North-west Highlands. Resting on the Hebridean gneiss of this district appears a series of conglomerates, sandstones, quartzites, and limestones containing Cambrian fossils in their highest beds. These beds are overlain to the east by metamorphic gneisses and schists, which in turn are covered by rocks of Old Red Sandstone age. Sir Roderick Murchison and Sir A. Geikie maintained that the apparent sequence was the true one, and the upper metamorphosed schists were therefore Silurian sediments. In 1859 Professor Nicol, of Aberdeen, asserted that the appearances were deceptive, and that the upper schists were really older rocks, brought up by a series of tremendous overthrusts. The simpler views of Murchison and Geikie were generally accepted, but in 1882 Professor Lapworth commenced to study in detail part of the region, and communicated his results in a most important series of papers. His researches led him to the conclusion, now completely demonstrated by the Survey, that Nicol was substantially correct, and that Murchison and his followers had failed to perceive the true structure of the ground.

These papers on the Highland area involved the discussion of the principles of mountain building, first enunciated in detail by Heim in his "Mechanismus der Gebirgsbildung," and in Lapworth's hands these principles have proved remarkably effective in the explication of complicated tectonic structures.

Even the briefest account of his work would be incomplete without a reference to the great influence of his personality on all who have been brought in contact with him, and the inspiration and stimulus to better work that they have never failed to receive therefrom. It is nearly twenty years since (1889) he received the greatest distinction the Geological Society of London has to offer the Wollaston Medal. The following papers by Professor Lapworth have appeared in the *Transactions of the Geological Society of Glasgow* : —

- "On the Silurian Rocks of the South of Scotland." Vol. iv., pp. 164-174.
- "Recent Discoveries among the Silurians of South Scotland." Vol. vi., pp. 78-84.

"On Graptolites." (Abstract.) Vol. vi., pp. 260-261.



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