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SIR CHARLES LYELL

HIS PLACE IN GEOLOGICAL SCIENCE AND HIS CONTRIBUTIONS TO THE GEOLOGY OF NORTH AMERICA¹

By Professor FRANK DAWSON ADAMS

MCGILL UNIVERSITY

THERE are few periods more eventful or more interesting in geological history than the earlier half of the nineteenth century. While at the opening of the century Hutton had passed away and Werner was an old man whose work was well-nigh done, the great controversy between their followers, the Plutonists and the Neptunists, still raged on.

In the first half of the nineteenth century, however, geologists bent their attention more particularly to a close and intimate study of the structure of the earth's crust. It had already been recognized that there was some sort of succession of layers of mineral matter in the earth's crust; Werner had indeed introduced

the term *geognosy* for the study of these. But in the period under consideration this succession was definitely established, and the formations (as Werner would call them) comprising it were grouped in their successive series and systems, succeeding one another in regular order, and each marked by its own peculiar organic remains, or "organic fossils" as they were then called.

The science of historical geology was thus brought to birth, and the recognition of the chronological value of fossils may be said to have done more to advance and consolidate the progress of geological knowledge than any discovery that was ever made.

One of the leaders in this great work was William Smith, usually known as the "Father of English Geology." His contributions are set forth chiefly in his great geological map of England and Wales and its

¹ An address delivered, at the request of the organizing committee, before the International Geological Congress at Washington, D. C., on July 25, 1933, in commemoration of the centenary of the publication of Lyell's "Principles of Geology" in 1833.

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