

by Dr. Bigsby's "Notes on the Geography and Geology of Lake Huron."¹ In this he sketched the primitive rocks of Canada, as extending from the north-east of Lake Winnipeg, passing thence along the northern shores of Lakes Superior, Huron and Simcoe, and after forming the granitic barrier of the Thousand Islands, spreading themselves largely throughout the State of New York. He also notices the principal varieties of gneiss and other old rocks, and recognizes their stratified character. About the same time, Richardson published his notes on the geology of Franklin's northern expedition.

This was followed up by important papers by Bayfield on the "Geology of the North Coast of the St. Lawrence"² and on Lake Superior,³ and by papers on the Labrador coast and St. Paul's Bay by Lieut. Baddeley,⁴ while Ingall described the country drained by the St. Maurice.⁵ Baddeley's papers in particular, published in the early volumes of the Transactions of the Literary and Historical Society of Quebec, show much accurate knowledge of rocks and minerals and attention to stratigraphical relations, while in all these papers there is a clear discrimination between the old crystalline rocks and the overlying "transition" beds holding fossils.

It is not too much to say that these researches between the year 1820 and the institution of the Geological Survey of Canada in 1842, which have been well summed up by Dr. Harrington in his "Life of Sir William Logan," placed Canada for the time in a very advanced and honourable position.

But the work of Sir William Logan, beginning in 1842 and continuing until his death, marks an epoch not only in our knowledge of the Laurentian and Huronian in Canada, but throughout the world. Logan in his preliminary report notices that the labours of Bayfield, Bigsby, Baddeley, Wilson, Green and others, had before his time shown that the primary rocks, as he then termed them, "form a continuous line from one end to the other of Northern Canada." In his report for 1845, using Lyell's term "metamorphic," he defines the existence of a lower group of gneiss and of an overlying group containing crystalline limestones. He also at this time recognized the still higher formation subsequently called "Huronian," and a little later the distinctive characters of the Upper Laurentian were established. It was in 1854 that the name "Laurentian" was proposed in Logan's report for that year.

An attempt has recently been made by certain American writers, not, I am happy to say, men of much estimation in their own country, to belittle Logan's work, and even to throw doubts on the validity of the magnificent stratigraphical investigations by which he finally established the fact of the continuity and bedded character of the Laurentian system and the sequence of its deposits. These detractions might well be passed over in silence; but I may say here that, having gone over several of Logan's Laurentian sections with his maps and notes as my guides, I can testify to the minute accuracy of his work, and to the care and sagacity with which he had unravelled the relations of these difficult and disturbed formations. I have also much pleasure in knowing that the most eminent of the later writers on the Western Geology of the United States, like Chamberlin and Irving, fully accord with Logan's conclusions, which have long been accepted by the best authorities in Eastern America and Europe.

¹ Trans. Geol. Soc., Vol. i. Sec. ii. p. 175.

² Trans. Lit. and Hist. Soc. of Quebec, Vol. i.

³ *Ibid.* Vol. v. (1833) Sec. ii. p. 89.

⁴ *Ibid.* Vol. i.

⁵ *Ibid.* Vol. ii.