

Cambro-Silurian age. The country occupied by the pre-Cambrian rocks is for the most part unsuited for agricultural purposes, being very rough and hilly, especially about the head waters of the Nipisquit and Miramichi Rivers. It is also subject to severe frosts, both early and late. The soil where not completely burnt off is generally thin and scanty, and often strewed with large boulders.

The granites of this area resemble very closely the granites of the southern part of the province, and are probably of the same age. They are generally red and coarse-grained, often with crystals of felspar from an inch and a-half to two inches in length. They make an excellent building stone, and have been extensively used in the construction of the immense bridges on the Intercolonial railway.

We now come to the consideration of the great Carboniferous basin of New Brunswick, and the associated and economically, far more important coal basins of Spring Hill, the Joggins, New Glasgow and Pictou, in Nova Scotia. The New Brunswick area forms a prominent feature in the geological map. The strata are everywhere nearly horizontal, and while they occupy an area of not less than square miles, their total thickness nowhere much exceeds 600 feet, included, in which there is only one workable seam of coal. This is near the summit and has an average thickness of only 20 inches. In the other basins mentioned the superficial areas of which are so small as to be scarcely noticeable on the map, the exposed thickness of the measures at the Joggins, only 30 miles distant, reaches, as measured by Sir W. E. Logan,* 14,500 feet with 81 coal seams, while in the other basins there are numerous coal seams of thicknesses varying from a few inches up to that of the main Albion Mines seam which reaches the enormous thickness of 36 feet. Full details of the Pictou-and-New Glasgow basin are given by Sir W. E. Logan and Mr. Hartley in the Report of Progress, Geological Survey of Canada, 1866-69. And the very rapid changes both in the thickness and in the characters of the measures on their horizontal extension are there described. The Sydney and other Cape Breton Carboniferous basins are described in detail by Messrs. Robb and Fletcher in the annual Reports of the Geological Survey, from 1872 to 1882.

A few remarks may now be made respecting the area No. 4 occupied by the "Atlantic Coast series of Nova Scotia." The greater part of it was cursorily examined by the writer in 1871. And the marked similarity of these rocks to the lower part of the auriferous Cambrian rocks of Merionethshire, in North Wales, was then pointed out. Up to that date except the doubtful fossil named *Eospongia* from Waverley, nothing

* Report of Progress, Geol. Survey of Canada, 1844.