of bitumen found in the bituminous shales of the Carboniferous and Silurian rocks. Nor can there be any doubt that the graphite found in the beds has been deposited along with the calcareous matter or muddy and sandy sediment of which these beds were originally composed.*

The quantity of graphite in the Lower Laurentian series is enormous. Some years ago, in the township of Buckingham, on the Ottawa River, I examined a band of limestone believed to be a continuation of that described by Sir W. E. Logan as the Green Lake limestone. It was estimated to amount, with some thin interstratified bands of gneiss, to a thickness of six hundred feet or more, and was found to be filled with disseminated crystals of graphite and veins of the mineral to such an extent as to constitute in some places one-fourth of the whole; and, making every allowance for the poorer portions, this band cannot contain in all a less vertical thickness of pure graphite than from twenty to thirty feet. In the adjoining township of Lochaber Sir W. E. Logan notices a band from twenty-five to thirty feet thick, reticulated with graphite veins to such an extent as to be mined with profit for the mineral. At another place in the same district a bed of graphite from ten to twelve feet thick, and yielding 20 per cent. of the pure material, is worked. As it appears in the excavation made by the quarrymen, it resembled a bed of coal; and a block from this bed, about four feet thick, was a prominent object in the Canadian department of the Colonial Exhibition of 1886. When it is considered that graphite occurs in similar abundance at several other horizons, in beds of limestone which have been ascertained by Sir W. E. Logan to have an aggregate thickness of thirty-five hundred feet, it is

* Paper by the author on Laurentian Graphite, "Journal of London Geological Society," 1876.