

fragments of the underlying sandstone, in a calcareo-arenaceous fossiliferous matrix ; some of the inclosed masses being nine feet in diameter. Near by are seen the Huronian sandstone strata, great cracks and worn fissures which are filled with the fossiliferous cement."<sup>1</sup>

The limestones which make up the bulk of this outlier are mostly buff or cream-coloured with thin interstratified shales. Some of the beds are hard and cherty, resembling lithographic stone, and the whole series contains an abundance of corals with other fossils which clearly indicate their horizon.

The thickness as exposed in the sections is stated to be about one hundred and fifty feet, and this is probably increased by the series of beds near the centre of the deposit, so that the whole thickness is estimated by Mr. Barlow as not more than three hundred feet.

In regard to the several fossiliferous outliers which occur at often widely separated points throughout the basin of the Ottawa, it may be said that in none of these can the same succession of formations as we have just described be observed. Some are represented by but one, the others having been presumably removed by denudation of the overlying strata.

On the north side of the Ottawa River, with the exception of the small fringe which is found between the Laurentian hills and the river itself, only two, or at most three, distinct areas of small size have yet been recognized. The most easterly of these is the small outlier of Calciferous strata lying to the east of the North River about seven miles northwest of St. Jerome to the north of Montreal, where characteristic fossils of this formation are found. Further west at the village of Lachute, a hill of Potsdam sandstone occurs just east of the village with an exposed thickness of about forty feet, and is directly overlaid by the Calciferous, which is seen in the bed of the North River at the crossing of the Canadian Pacific railway ; but these outcrops presumably represent the northern margin of the Ottawa and St. Lawrence basin. The succession of formations seen in the city of Hull and thence to Aylmer and for several miles beyond, representing rocks of Calciferous, Chazy, Black River and Trenton age, also belong to the same basin, the northern margin of which is seen in thin strata of the Calciferous and Chazy near the village of Quyon, as well as in a small margin of the former on the north side of the river near the old village of Pontiac at the foot of the Chats Falls.

The northern margin of the Arnprior and Sand Point outlier is also seen above the Chats, along the north shore of the Ottawa for several miles, as well as in several islands in the river below Bristol ; but on the roads, a mile or so east of Portage du Fort, isolated outcrops of dolomitic Calciferous strata occur which have been broken up and, in places, altered by the action of certain intrusive masses of greenstone which have cut

<sup>1</sup> *Geology of Canada*, 1863, pp. 331-36.