

ever, these pioneers were overjoyed to learn on the authority of an expert that the mineral was not apatite, but corundum.

Eleven years ago Professor Coleman, now of the School of Practical Science at Toronto, picked up some boulders of nepheline-syenite in the vicinity of Cobourg, on the shore of Lake Ontario, which held crystals of corundum. A fortnight ago I showed Dr. Coleman several specimens of nepheline, rich in corundum, which I had taken from a large deposit recently discovered in the township of Dungannon, and he at once pronounced them to be identical with his own. "I feel sure now," he said, "that I know where my float-boulders came from."

Twelve years ago, in 1886, Nesbitt T. Armstrong, a farmer and mill-owner in Carlow, discovered corundum on lot 14, in the 14th concession of that township, but he did not know its name, and did not suspect that it possessed any value. A sample was shown to a student of Toronto University, who thought it might be emery; and inquiry stopped there. But in 1893 Mr. W. F. Ferrier, lithologist of the Geological Survey, acquired by purchase a number of specimens collected by Mr. John Stewart, formerly of Ottawa, among which was a package labelled "Pyroxene crystals, south part of Carlow." On examining these specimens some time afterwards, presumably in 1896, Mr. Ferrier recognized them as corundum, and immediately took steps to ascertain the precise locality from which they came. In October, 1896, he was sent upon this mission by Dr. Dawson, the head of the Geological Survey, and, guided by Mr. Armstrong, he found the corundum in place upon the lot on which Armstrong's discovery had been made ten years before. Then for the first time the fact was established, on the best authority, that this mineral had been found to exist in Canada in commercial quantity, and that it was valuable as an abrasive material on account of its great hardness. But as it was too late in the season for field-work, Mr. Ferrier did not extend his explorations beyond that one locality.

The first geological reconnaissance of the district in which corundum has been found was made by the late Alexander Murray, of the Geological Survey, in 1853; but his notes of it are very meagre. Mr. Murray made two traverses of the country lying between Georgian Bay and Ottawa river—the first from west to east, by way of the Muskoka and Petewawa rivers, and the second by way of the Bonnechere and Madawaska, to the headwaters of the Trent. The source of the Bonnechere is within a mile of Kaministiquia Lake, on the Madawaska, near to where Barry's Bay station, on the Ottawa and Parry Sound Railway, now stands. Mr. Murray descended the Madawaska to the mouth of its principal tributary, the York branch, or York river: known, also, at that time, by its significant Indian name of Shawashkong, or Mishawashkong, the river of the marshes. The course of this stream, which Mr. Murray ascended, lies for more than forty miles within the corundum belt; and along its banks are numerous exposures of syenite, with occurrences of nepheline-syenite. But no reference is made in the report to the rock formations; and the record of levels for the first ten miles is of very doubtful accuracy.<sup>(1)</sup>

Forty years elapsed before another attempt was made to work out the geology of this interesting area, and the task was then entrusted to the very capable hands of Dr. Frank D. Adams. The area under examination is comprised in sheet 118 of the Ontario series of geological maps, and the four corners of it lie in the townships of Digby, Finlayson, Hagarty and Grimsthorpe respectively, embracing an area of about 3,500 square miles. In his first report, made for the season of 1893, Dr. Adams sketched briefly the geological features of the district, the northern portion of which he found to be occupied exclusively with the ancient crystalline rocks of the Laurentian system, and the southern and eastern portions with the

(1) The rock formations along the York River, however, are carefully noted on the maps which accompanied the report, as are also the waterfalls and rapids of the river from its mouth to its source.