THE APATITE DEPOSITS OF CANADA.

of this section, in which it was very frequently found in small grains and masses, alike in the granular and the micaeeous schistose varieties." In these rocks, the apatite was said to mark the stratification, and to form, in one example, a bed, in some parts two feet thick, which was traced 250 feet along the strike of the pyroxenic rock. I at the same time described the occurrence of apatite, often with calcite, in "true vein-stones, cutting the bedded rocks of the country;" alike gneiss, pyroxenite, and erystalline limestone. These latter deposits were farther spoken of as well-defined veins, traversing vertically, and nearly at right angles, the various rocks; as often banded in structure, and including besides apatite both calcite and mica, occasionally with pyroxene, and more rarely with hornblende, wollastonite, zircon, quartz, and orthoelase. These veins were said to be very irregular, often changing rapidly in their course from a width of several feet to narrow fissures. It was added, "it is evident that this district can be made to supply considerable quantitics of apatite;" and while the uncertainties arising from the irregularities of the veins were mentioned, it was said, that "some of the deposits might probably be mined with profit."*

Before following farther this history, it may be stated that there are two districts in Canada which have, within the past few years, been found to contain deposits of apatite of economic importance; one in the province of Ontario, in which the above observations were made by the writer previous to 1866, including parts of the counties of Lanark, Leeds, and Frontenac; and the other, since made known, in the province of Quebec, chiefly in Ottawa county. In both cases it is found in the rocks of the Laurentian series, consisting of granitoid gneisses with bands of quartzite, of pyroxenite, and of erystalline limestone. These ancient and highly inclined strata, with a northeast strike, rise from beneath the horizontal paleozoic rocks near Kingston, and again pass beneath them near Perth. These overlying strata, belonging to the Ottawa basin, hide, moreover, to the eastward, the apatite-bearing gneisses of this district; which, a short distance to the westward, are again concealed by the Taconian and other overlying pre-Cambrian groups in Hastings county. The gneissic belt is here seen chiefly in the townships of Loughborough, Storrington, Bedford, North and South Crosby, and in North Burgess, where the apatite was first discovered.

The country presents a succession of small, isolated, rounded, rocky hills, alternating with numerous small lake-basins, hollowed

* Loc. eit., pp. 204, 224, 229.

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