strata at all angles. It was to some extent, doubtless, this bedded character that led to the original supposition that these masses were, for the most part, sedimentary in their nature, and this was the view expressed by most writers on this subject twenty to thirty years ago.

APATITE.

If we examine any of the mines of apatite, either to the north or south of the Ottawa, we find this mineral invariably associated with pyroxene, which would therefore appear to be its necessary accompaniment. Now the pyroxene dyke or mass which cuts across the strike of the gneiss or limestone must be of more recent date, and the apatite is generally found along the outer margin or near the lines of contact of the intrusive mass and the gneiss. Frequently, however, masses of calcite, often of large size, and of a pinkish or grey color, are found in the mass of the pyroxene, and this frequently contains large crystals of both apatite and mica, leading to the statement by some observers that these minerals occur sometimes in economic quantity in the crystalline limestones. One must however discriminate between masses of calcite which are an integral portion of the pyroxene dykes, and the limestone formation proper, which is an entirely different thing, so that it may be safely stated as the result of the examination of all the known mines of this mineral, that apatite is not found except in association with pyroxene.

As to the origin of this mineral opinions differ, but it is found generally in one of two ways, either as large pockety masses, which sometimes yield a thousand tons or more, or as irregular developments varying in width from a few inches to several feet in thickness. The extent and value of this one of our mineral resources of the Ottawa district, may be gathered from the statistics contained in the official bulletins of the ·Geological Survey. Thus we find that, in the seventeen years from 1878 to 1894, the output of this mineral from the mines of eastern Ontario was 24,760 tons, with a market value of 260,974