province. In the township of Marmora, Hastings county, bournonite is found carrying 1·45 ounces of gold and 4·37 ounces of silver per ton.

In conclusion, it may very properly be said that there is every reason to believe that with the requisite amount of capital invested in judicious development, and in some cases with the best modern methods and machinery for extracting gold from refractory ores, gold-mining will become a very important and remunerative industry in Ontario.

Silver.

Silver-ores have only been produced to any extent in one district in Ontario. Near Port Arthur, in the Thunder Bay district, well defined fissure-veins cut the black Animikie (Cambrian) shales and trap overlying (and in places forced in between) the shales. These veins carry silver-ore in irregular shoots and ore-bodies, varying from mere traces up to several thousands of dollars per ton. The crevice in which the vein has formed has generally faulted the series. The line of fault, and presence of a vein, may often be noticed by an indentation in the escarpment, visible for miles away, but it is only where a capping of trap has prevented the weathering down of the soft shales that an escarpment has formed and the veins have been made visible thereby. Sometimes, however, the veins cross intrusive vertical dykes, as at Silver Islet, and they are there visible. Figs. 12 and 13 (Plate VIII.) are examples of these conditions.

The veins strike in different directions, but the majority run east and west. None appear to have any decided advantage over the others on account of the direction of their course, although, of the richest developed thus far, Silver Islet strikes north and south, and the Beaver and Badger north-easterly. For the most part the veins are very strong and persistent. As an example the Walbridge or Trowbridge vein is known to run from 12 to 15 miles, and in places it widens to some 50 feet. The veins not only cut the Animikie formation and the overlying trap, but they extend down into the Archæan below. This is shown in one case at the Shuniah mine, where the vein cuts into a granitic syenite in the lower levels; and again at the Silver Mountain West-end mine where the shaft followed the vein into the underlying Huronian jasper. In neither of these cases has the Archæan proved a prolific wall-rock.

The components of the veins are chiefly calcspar, quartz (commonly as amethysts), fluorspar, heavy spar, and breccia of wall-rock. The minerals which they carry are iron pyrites, galena, zinc-blende, with native silver near the surface and argentite below. The galena is not