orthoclase and sericite and to a less extent in fractures in the quartz. On crystallizing, the residuum produced the vugs of tourmaline and sericite, containing small amounts of molybdenite and bornite.

Nickel.—An interesting occurrence of nickel in the basin of Emory creek, Yale mining division, B. C., is described by C. E. Cairnes[1]. The area is underlain chiefly by batholithic rocks of the composition of quartz diorite or basic granodiorite. These rocks are in contact near the nickeliferous deposit with a massive coarsely crystalline pyroxenitic hornblendite intrusive, having a width roughly estimated at 300 feet. The basic intrusive includes the nickeliferous deposit and varies from a rock composed almost entirely of sulphide minerals segregated with crystals of pyroxene to one in which primary hornblende is the most abundant constituent and the sulphides merely accessory minerals. The primary ore minerals include pyrrhotite, pentlandite, chalcopyrite and magnetite. Pyrrhotite is by far the most abundant and the pentlandite is disseminated through it in minute grains. The occurrence, shape and mineral composition of the deposit and the common but sparse distribution of sulphides through the basic intrusive, indicate that the mineralization is magmatic, and genetically related to the basic rock.

The copper-nickel desposits of Oiseau and Maskwa areas of southeastern Manitoba are described in some detail by J. F. Wright[5]. The oldest known rocks of the area are lavas and sediments. These have been intruded by dykes, bosses and batholiths, composed of rocks that are thought to represent different phases of one period of igneous intrusion. Gabbro and other basic rocks were first intruded and were cut by quartz porphyry and other acid phases. Granite and granite gneiss represent the final stage. Evidence favours the theory that the mineral deposits are later than the enclosing volcanic and intrusive igneous rocks and that they were formed under deep-seated, high-temperature conditions along zones of weakness through replacement of the rock by a sulphide and silicate-sulphide magma.

Further discussion on the origin of the nickel-copper sulphide deposits of the Sudbury district is contributed by Hugh M. Roberts[6]. He supports his former contention that the segregation of the ores occurred as the result of a magmatic process that took place essentially within the laccolithic chamber now occupied by the nickel-bearing intrusive.

Silver.—Evidence is presented by Edson S. Bastin[6], who studied the ores of the Frontier mine, South Lorrain, to show that the native silver is a primary or hypogene mineral. There are three lines of evidence:—inclusions of silver in the arsenides; intergrowths, apparently contemporary, of silver and sulphides; and textural evidence that no hiatus existed between the deposition of most of the arsenides and most of the silver. This is supported by the fact that in ores from Cobalt skeletal crystals of silver are found enclosed in smaltite, and intimate intergrowth of silver and arsenides occurs. In the ores studied silver could not be regarded as having been deposited by replacement of the arsenides.

G. Hanson[1] describes the geology of the Driftwood Creek area, Babine mountains, where silver is found in quartz veins which are mostly narrow and comparatively short. Copper, lead and zinc are present in considerable proportion in some of the veins.

Silver-lead.—Discoveries in the Beaver River area, Yukon, have attracted much attention. The bodies of ore have been described by W. E. Cockfield[1, 4] as of too low grade to be of commercial value under present conditions. On Silver Hill the ore-bodies consist of lenses and irregular deposits of galena in ferruginous slate