The total production of coal, in net of 2,000 pounds, is about one billion, three hundred million tons. Of this quantity more than one hundred and fifty million tons are used for coking purposes. Germany with a total production of about two hundred and sixty million tons, uses 38,580,500 tons for coking. All of this coking is done in retort ovens. Eighty per cent. of these German ovens are of the by-product recovery type, the remainder being of the non-recovery type. Two decades ago Germany saw the last of the wasteful beehive oven.

The United States outputs over four hundred million tons of bituminous coal. In the year 1911, 53,278,248 tons were used in manufacturing coke; and from this tonnage 35,551,489 tons of coke were produced.

But in startling contrast to German practice the almost twenty-eight millions of tons were made in beehive ovens, less than eight millions being attributed to by-product ovens.

In other words, only 22 per cent. of the total coke production of the United States was from retort ovens. This fact implies a phenomenal waste of energy.

As a matter of comparison the latest correct figures for Canada give the total output of coke (for the year 1911) at 954,388 tons. In the same year 751,389 tons were imported, and only 9,852 tons exported. The total number of ovens in active operation at the end of 1911 was 1,650. At that time 1,104 were idle, and 101 in course of construction.

In Nova Scotia the Dominion Steel Corporation operates 620 Hoffman by-product ovens. The N. S. Steel & Coal Company has 30 ovens of the Bauer type, and 120 Bernard ovens. In Ontario, the Atikokan Iron Co. has 100 beehive ovens, and the Algoma Steel Company 110 Koppers by-product regenerative ovens. The Western Canadian Collieries at Lille, Alta., operate 50 ovens of the Belgian type; while the International Coal & Coke Company at Coleman has 216 beehives.

In British Columbia there are 1,420 beehives in the Crows Nest district, and 150 on Vancouver Island. There are also 101 Mitchell rectangular ovens in course of erection at the Leitch Collieries, Passburg, Alberta. Hence it will be seen that numerically the beehive oven still outnumbers to a very large degree the modern oven in Canada.

The United States Steel Corporation in the year 1912 used 24,401,577 tons of coal to produce 16,719,387 tons of coke. Of this quantity 5,164,547 tons (or about 31 per cent.) were made in by-product ovens.

We shall glance later at the market for sulphate of ammonia, that is supplied by by-product ovens. Meanwhile we may summarize briefly Mr. Meissner's comparison of the by-product oven with the beehive oven.

Among the advantages possessed by the former are these:

The by-product oven can profitably form a definite integer of the modern blast furnace plant. Coal can be shipped for a greater distance than to the beehive. The range of coals available for coke making is much wider. The valuable by-products and the recovered gas are direct compensating factors. The actual cost of manufacture is less. These considerations amply repay the larger primary investment. In Mr. Meissner's own words:

"The by-product coke oven is changing the economic geography of the available coal fields for coking purposes in the United States."

As the converse is true of the beehive oven, the case for it need not be stated. One very interesting and specific comparison has to do with a comparison of the two types in coking Pocahontas coal. It would take, for instance, 6,154 beehives, 72 hours to produce 2,880,000 tons of coke per year from 4,800,000 tons of Pocahontas coal. 560 standard by-product coke ovens pushed once in 17½ hours would require only 3,502,000 tons of coal to produce a similar amount of coke. No further proof of the wastefulness of the beehive is necessary.

As to the formerly much disputed point, the comparative qualities of the two cokes, modern observation is entirely in favour of the conclusion that the by-product oven when properly handled, will produce coke structurally as good as will the beehive. The advantages in handling and quenching are entirely with the by-product oven.

MR. A. A. COLE'S REPORT

The annual report of Mr. A. A. Cole, mining engineer for the T. & N. O. Railway Commission, has been published and distributed. The mining fraternity has learned to expect a very interesting report from Mr. Cole and will find much of value in this one. The production of gold at Porcupine and of silver at Cobalt receives particular attention. The methods of mining and treating the ore at Porcupine are described, and revised flow sheets of the several Cobalt concentrating mills are given. The illustrations include some remarkably fine underground photographs of gold and silver ore bodies. Such records of the character of ore deposits are unfortunately very rare.

Elsewhere in this issue will be found some extracts from Mr. Cole's report.

A QUICKSILVER FLOTATION

During the past few months the firm of J. A. Morden & Co., Toronto, has been advertising for sale shares of stock in a quicksilver property in California. The wording of one advertisement indicates that the property is merely an unproved prospect, but in another it is stated that there is a large tonnage blocked out. In one Toronto daily paper it is stated that "they have now blocked out 104,167 tons of ore," while in another issue of the same paper we find that the engineer's report reads "By cross-cutting and surface-trenching ore body, containing approximately 104,167 tons, lies practically exposed as near as can be determined at the present time."