The Mineral Industry of India.¹

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SINCE the year 1903 the Geological Survey of India has published quinquennial records of mineral production upon the lines laid down by the then director, Sir Thomas Holland, and these have supplied an invaluable summary of the development of the mineral resources of India, and, above all, of the industrial progress of the Peninsula. The volume before us, on exactly the same lines as its predecessors, is of especial interest, because it covers a period which may fairly be looked upon as that of the modern industrial awakening of India. Before the war the development of the Indian coalfields had commenced; there was a small but scarcely flourishing iron industry, and a few industries other than native industries were coming into existence. The war, with its attendant disturbance upon the world's shipping, profoundly affected the economic situation in India, and compelled India to produce for herself materials which it had hitherto been found more convenient to import. The majority of the industries thus founded have become stabilised, and among others the foundations for a great iron and steel industry have been laid. It would not be wholly surprising if, within a relatively short period, India were in a position to export steel billets to this country instead of receiving iron and steel from us.

So far as natural resources are concerned, an iron industry depends essentially upon the production of coal and iron ore. During the period under review the production of coal rose from about 16½ million tons in 1914 to 20¼ million tons in 1918, thus increasing by nearly 25 per cent. The values at the pit's mouth given in these records depend to a great extent upon the position of the collieries and the demand for coal in their immediate vicinity; furthermore, during 1917 and 1918 the prices were fixed by the Coal Controller on behalf of the Government, and, therefore, have no statistical value. The prices for 1916 are, therefore, the most recent prices that can be considered here. The two provinces of Bengal and of Bihar and Orissa are the most important coal producers, having during the period under discussion produced more than 90 per cent. of the total output, and the average value per ton of coal in these two provinces in 1916 was 4s. 2d. at the pit's mouth (taking the rupee at 1s. 4d.). There appear to be enormous quantities of high-class iron ores in the two provinces above-named, averaging above 60 per cent. of iron, and containing for the most part moderate proportions of phosphorus with relatively little silica; the value of the ore, even of this high quality, was in 1918 1s. 8d. per ton. When these prices are compared with prices at home it will be seen that they are only about one-eighth of corresponding prices in this country,

and when it is further borne in mind that Indian labour is plentiful, is still cheap in spite of its increases in recent years, and is intelligent, docile and reasonably efficient, it must be fairly obvious that we in the old country can scarcely hope to compete with India as an iron-producer.

An examination of the figures respecting coal production brings out the importance of the Indian coal output; it is greater than that of any other British Dependency, and its rate of development appears to be exceeded only by that of Japan; it is interesting to note that in 1885 India and Japan each produced 1,294,000 tons, whilst in 1918 India produced 20,722,000 and Japan 27,579,000 tons. The efficiency of the Indian coal-miner appears to be relatively low, mainly because, on account of the cheapness of the labour, much work is done by hand in India which is done by mechanical means elsewhere; in the Indian coalfields the system of transporting coal in baskets carried on the head is not yet wholly extinct. Nevertheless, the output per person employed during the period under review was about 108 tons per person, or just about half of what it is in this country. The most important feature, however, is that the output per worker employed below ground has increased, and is steadily increasing, this being the opposite to what we unfortunately find to be the case in this country. Concurrently with this improvement we find that the accident death-rate is decreasing; during the quinquennial period here discussed the death-rate per thousand persons employed was 1.14, whilst during the corresponding period in the United Kingdom it was 1.3.

The report also directs attention to the fact that coal-cutting machinery is on the increase in India; that the Indian collieries are admirably adapted for the employment of electricity underground; that several important schemes for electric supply to the coalfields are in contemplation; and that the Indian workman is naturally highly adaptable to the handling of electrical machinery; and it is predicted that the result of the more extended use of electricity will be to cheapen costs still further. Competition with Indian coal will thus be rendered still more difficult so far as we are concerned, and the prediction that Indian coal will before long supply Egypt, and may even compete with us in the Mediterranean, appears by no means impossible of accomplishment.

In other respects the mineral industry of India appears to be in a thoroughly successful condition, and shows signs of a steady advance, the value of the output having more than doubled itself in the last ten years. Attention may be directed to the fact that India is now manufacturing its own ferro-manganese, and that it is hoped before long to produce sulphuric acid from indigenous materials—namely, from the zinc concentrates produced by the Burma Corporation at Bawdwin.

¹ Records of the Geological Survey of India, Vol. 52, April, 1921 "Quinquennial Review of the Mineral Production of India for the Years 1914-18." By the Director and Senior Officers of the Geological Survey of India.