

## MINERAL PRODUCTION OF CANADA.

THE preliminary report on the mineral production of Canada during the year 1915 has just been issued by the Canadian Department of Mines, and it is satisfactory to find that upon the whole the output shows a marked improvement upon the previous year. Amongst the metals the only decrease to be noted is in the production of silver, which amounted to 28,401,735 ounces, as against 28,449,821 ounces in 1914, so that the decrease is quite insignificant, and is less than the decrease in 1914 below 1913; it will be found that Canada contributes just about 13 per cent. of the world's total silver production. The gold output for 1915 was 916,076 ounces, as against 773,186 ounces in 1914; it may be noted that only about one-third of the gold production now comes from alluvial, and that although the production is less than it was when it was mainly derived from the easily-won alluvials of the Klondyke, the output is now increasing steadily. The copper output for 1915 is more than 102½ millions of pounds, constituting a record for Canada, and showing an increase of 35 per cent. as compared with the previous year.

Nickel is not being smelted in Canada on any scale worth mentioning, the bulk of the Canadian nickel production being exported to the United States and to Great Britain in the form of matte; the estimated quantity of nickel was 68 millions of pounds, again constituting a record, and being an increase of 50 per cent. on 1914. Seeing that Canada is the world's chief producer of nickel, it is a matter for regret that Canadian nickel refineries have not yet been established, and it is to be hoped that the Commission appointed last year to investigate this matter may find some effective means of rendering Canada independent in this respect.

The production of pig-iron in 1915 was 913,717 tons, an increase of 16½ per cent. above that of 1914, whilst the total steel output amounted to 1,020,335 tons, an increase of 23 per cent.; it is interesting to note that this item includes 5626 tons of steel produced in electric furnaces. Of the non-metallic products, by far the most important is coal, of which the output, 13,209,371 tons, shows a small decrease, namely, about 3 per cent., below that of the previous year. It may be added that the decrease in Portland cement and other structural materials, which was so marked a feature of the 1914 returns, has continued in 1915. Whilst all the above returns are stated as provisional, it is very rare that the final returns, when completed, differ in any important respects from those given in the preliminary reports.

## NEW ASPECTS IN THE STUDY OF JUNGLE LIFE.

A VERY realistic description of the abundance and variety of animal life in the tropics is given by Mr. C. W. Beebe in *Zoologia*, vol. ii., published by the Zoological Society of New York. Mr. Beebe has had a wide experience of jungle-life in many lands, and hence his latest experiences in Brazil have the greater value, though his stay there was confined to a few days in the neighbourhood of Para. Abundance of species and a relative fewness of individuals, he remarks, are pronounced characteristics of any tropical fauna. This was abundantly confirmed during the trip now under discussion. He quickly discovered that more was to be obtained by watching particular trees which afforded special attractions in the form of vividly coloured fruit than in aimless wandering.

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From one such tree during the space of a week of intermittent watching he obtained no fewer than seventy-six species. His notes were not confined to birds.

Some of Mr. Beebe's most interesting observations are indeed those which relate to arachnids, insects, and the great land-snail, *Strophocheilus*, which was apparently eagerly sought by kites. His notes on *Acrosoma spinosa*, an exceedingly spiny, gaudy spider, the lurking place of which was in the centre of its web near the ground, will probably provide material for controversy as to the value of "warning coloration." "Its scarlet, yellow, and black coloration," he remarks, "seemed to indicate an unsavoury mouthful, and it was correspondingly slow to take alarm." But as it "hung upside down the brilliant colours of the upper side of the body [were] . . . completely hidden. When the creature was alarmed it dropped to the ground. . . . The moment it touched land it slipped under a leaf. . . . When caught in the hand it at once turned upon its back and feigned death." Thus no use whatever seems to be made of the "warning coloration"; on the contrary, the utmost care seems to be taken to conceal these tokens of inedibility. A "protectively coloured" species, *Epeira audax*, lived much more closely up to its traditional behaviour. When alarmed it would leave its web and seek safety by clinging to "mossy or lichen bark," with which its coloration harmonised so completely that "the eye had to search carefully to rediscover it each time it sprinted to safety."

Just before leaving a brilliant idea struck Mr. Beebe, and one which it is to be hoped will henceforth be followed, wherever possible, by all who visit the forests of the tropics. Filled with regret at leaving the scene of so many wonders, he suddenly bethought him to fill a bag with four square feet of jungle earth, and this was examined minutely with a lens while on board ship on the voyage home. For days and days the search went on, the captures being sorted out and placed in spirit. An amazing wealth of life was thus obtained, remarkable for its variety of form and coloration. The latter aspect again raises interesting problems concerning the precise significance of coloration. Among the captures thus made were representatives of two genera of ants new to science. There can be no doubt that important discoveries in regard to the animal life of jungle earth would accrue if this example of Mr. Beebe's were generally followed in the future.

W. P. P.

EYESIGHT AND THE WAR.<sup>1</sup>

(1) *The Army Sight Test.*

AS the subject of refraction is our text this evening it is only meet that we should remember the enormous debt we owe to Donders, the great Dutch ophthalmologist, the centenary of whose birth will be celebrated in Holland as soon as the war is over.

One of the subjects that Donders threw light upon was myopia, or short-sight. In his classical work on refraction, published in 1864, he showed that the myopic eye was the over-developed eye, the too long eye, contrasted with the under-developed, the hypermetropic, or too short, eye.

Now myopia has been the *bête noire* of the War Office for very many years—thousands of young men, otherwise eligible, have been rejected for the Army because of myopia. The myope is useless without his

<sup>1</sup> Abstract of a Friday evening discourse at the Royal Institution delivered on June 9, by Dr. Ernest Clarke.