

by chapters on alluvial deposits, geophysical prospecting, health, transport, native labour, microscopical studies of coal and metallic ores, commercial problems and the relation of France to its colonies with regard to the supply of metals.

A consideration of these pages shows that France and her colonies are far from self-sufficient in their supplies of metals. The apportionments of mineral resources among the nations of the world are singularly irregular. France has ample home supplies of iron, and therefore has no need at present for her large colonial output in north Africa, which goes largely to Great Britain and Germany. We are reminded, however, that a half a century from now—a short time in the history of a nation—a state of impoverishment in the supplies of iron ore from the eastern basin of France may begin to assert itself, and France may then need her colonial output of iron ore.

New Caledonia produces supplies of nickel matte amply sufficient for the needs of France; but it is curious to note that a large part of the output of this matte is sent to Great Britain, the United States and Belgium, and from these countries, none of which produces nickel ore, France has to import for her own needs considerable amounts of

metallic nickel that has been made in part from New Caledonian matte.

The case of chrome ore is also interesting, for New Caledonia produces ample supplies of high-grade chrome ore, the production of which is controlled by foreign capital. Only a small proportion of the output goes to France, whose further requirements have to be met by importing large amounts of chrome ore and ferro-chrome from foreign countries.

Among other mineral supplies necessary for the metal industries, the French colonies have considerable resources of lead ore, zinc ore and graphite; but, so far as yet known, very little of the ores of manganese, copper and tin. On the whole, the position as regards the output of metalliferous ores in France and her colonies compares quite unfavourably with the position in the British Empire.

The eminent specialists who have contributed to different sections of the book include such well-known authorities as L. de Launay, A. Lacroix and A. Lambert-Ribot. The book is well indexed and illustrated, and makes a useful addition to the serviceable memoirs already issued by this very active Bureau.

### Short Notices

*Man versus Rabbit.* By A. H. B. Kirkman. (ULAWS Monographs, No. 4b.) Second edition, entirely rewritten. Pp. vi+74+9 plates. (London: University of London Animal Welfare Society, 1934.) 1s.

ONLY those who live in the country can properly appreciate the damage done by rabbits, where they are at all numerous. As all gardeners know, the losses they inflict in the course of the year are both serious and exasperating; and farmers, in many parts of the country, suffer even more severely. Mr. Kirkman, then, has done us great service by presenting in this small volume an able and impartial summary of the methods of 'farming' rabbits for the market, on one hand, and their destruction as 'vermin' on the other. From whichever of these two aspects they are regarded, the manner of their slaughter is an issue of the first importance, which forms the main theme of Mr. Kirkman's book. Its aim is to secure legislation to prohibit the use of steel-traps. He has shown how ineffective they are for their avowed purpose of reducing the rabbit-pest, as well as the harm they do—apart from the cruelty which attends their use—in killing or maiming other animals more or less directly useful to man.

With praiseworthy fairness Mr. Kirkman has cited the views of those who are still in favour of the use of the steel trap. But against them he arrays overwhelming evidence of landowners, game-keepers, farmers and gardeners who deplore their use, employing instead ferrets, nets or gas, according to

circumstances. Some may object even to these measures. But we must not let 'humanitarianism' become an obsession. For there can be no doubt that these animals are a grave menace to both gardener and farmer. There are comparatively few of those whose crops are now so seriously menaced, or among sheep-farmers, who would not welcome an Act of Parliament forbidding the use of steel-traps for any purpose whatever.

Evidence is given by Mr. Kirkman to show that, as a means of reducing the rabbit-pest, steel traps are worse than useless, for they kill vastly more bucks than does. The reason for this differentiation is unknown, but it is suggested that the does wander less and are more timid and suspicious. This is only one of many surprises that have come to light in the course of Mr. Kirkman's investigations.

We are glad to find that the author directs attention to the folly of an intensive war on stoats. Besides their help in keeping down rabbits, they are extremely valuable allies in the war that, so far, is only half-heartedly carried on against rats: while the weasel as a mouse-destroyer is no less valuable.

*The Design and Construction of High Pressure Chemical Plant.* By Harold Tongue. Pp. ix+420+69 plates. (London: Chapman and Hall, Ltd., 1934.) 30s. net.

ONE of the pioneer laboratories to study the application of high pressures in chemistry and chemical industry has been the Chemical Research Laboratory at