VIII.—A New Pocket-Guide to Chalk Fossils. Karl Wanderer. Die wichtigsten Tierversteinerungen aus der Kreide des Königreiches Sachsen. 8vo; pp. xxii, 80, with 12 plates in 4to (folded), and 11 figures in the text. Jena, 1909. Price 3 marks.

THE plan of this little book is excellent. It provides a tabular view of the Chalk of Saxony, a bibliography, a list of places where fossils can be obtained, and devotes its eighty pages to short descriptions of the fossils, commencing with the Foraminifera and ending with the Vertebrata, completing the whole with an alphabetical index to the fossils. The text-figures are explanatory diagrams of the structural features of regular and irregular Echinoderms, Brachiopods, Pelecypods, Gasteropods, and Cephalopods, and the plates provide sufficiently good figures of all the fossils described in the text. The book is cut to a convenient size for the pocket, and provides the worker in the field with a handy means of readily identifying the bulk of his finds on the spot. The English collector will find this book of considerable value for his own purposes.

C. D. S.

IX.—The Ore Deposits of South Africa. Part I: Base Metals (1908). Part II: The Witwatersrand and Pilgrimsrest Goldfields and similar occurrences. By T. P. Johnson. London: Crosby Lockwood & Son, 1909. Price 5*s.* net each.

THESE two small volumes are intended for the use of those technically connected with the mining industry and as a guide to the prospector.

In a country of such diversified geological structure as South Africa it is difficult to gauge the wants of those interested in the development of its mineral resources; but it may be as well, and sufficient, to state that the author ignores the stratigraphy of the country, since, in his opinion, the "principles of ore deposition" are independent of it.

Considering the high price and small size of these volumes we should have expected to find more original subject-matter, more carefully prepared maps and sections, and a greater economy of space both in the arrangement of the text and of the sections.

X.—Brief Notices.

1. Journal of Geology (Chicago).—In this Journal for October–November, 1909, there is an interesting article on the "Physical Geography of the Pleistocene, with special reference to Pleistocene Conditions", by Mr. R. D. Salisbury. He refers to evidence of greater depression during the glacial epochs than during the interglacial; also to the effect of increase of altitude on climate, leading to greater erosion and to the greater consumption of carbon dioxide whereby the temperature became lowered. Decay of rocks was checked by decrease of altitude or temperature, or by the accumulation of ice-sheets which protected the rock beneath from ready carbonation. The author refers also to the loading of the land-surface with ice over vast areas, to the consequent effect on crustal movement, and to the recurrent processes

of erosion and sedimentation by ice agencies. Finally he deals briefly with changes in life, which apart from mammals have been insignificant, observing that even among mammals it is not clear that the dying-out of species in one locality was contemporaneous with the disappearance of the same species in other localities.

Mr. Stuart Weller contributes the "Description of a Permian Crinoid Fauna from Texas", and Mr. S. W. Williston gives an account of "New or little-known Permian Vertebrates", with the description of a new genus of amphibian, named *Trematops Milleri*.

2. Philippine Islands.—Dr. Warren D. Smith has issued a report on *The Mineral Resources of the Philippine Islands* (Bureau of Science, Manila, 1909). He regards the future results of mining as promising. The gold production from lodes, decomposed rocks, and placer deposits rose in value from about £20,000 in 1907 to £50,000 in 1908. Coal, worked on Batan Island, amounts to 130 tons a day. There is a good deal of iron-ore, but at present there is only one furnace in operation, and this is owned and worked by a Filipina woman. Limestone and shale suitable for cement occur; and there are indications of petroleum, kaolin, manganese ore, and copper. Artesian water has been obtained in the great plain of Luzon.

3. Geological Survey of Canada.—Among publications issued in 1909 by the Canadian Department of Mines, we have received a report by Mr. D. B. Dowling on *The Coal-fields of Manitoba, Saskatchewan, Alberta, and Eastern British Columbia*. The coal is found on three distinct horizons in the Cretaceous, separated by shales of marine origin. The lowest horizon is at the base of the system, and is considered to be Cretaceous from its flora. It lies just above the Fernie Shale, which is regarded as Jurassic. The coals include anthracite, bituminous coal, and lignite, and the author estimates that there is a total quantity of more than 143 thousand million tons in the provinces described.

In another report Mr. R. G. McConnell describes "The Whitehorse Copper Belt, Yukon Territory". The belt, as at present determined, extends for a distance of about 12 miles, and the principal ore bodies occur in limestone adjoining granite. The important economic minerals are the copper sulphides, bornite, and chalcopyrite; and they are associated in some cases with magnetite and hæmatite, in other cases with garnet, augite, and tremolite.

We have also received a useful *Catalogue of Publications of the Geological Survey, Canada*, revised to January 1, 1909.

4. Mining Magazine.—We have received a copy of the *Mining Magazine* for November, 1909, being No. 3 of vol. i. Although it deals essentially with the practical applications of geology, with mining and metallurgy, with companies, investments and speculations, and with problems of labour, it also contains reviews of books, and many miscellaneous paragraphs of scientific as well as economic interest. Some remarks are made on the British Radium Corporation, formed to work the pitchblende in the Trenwith Mine in Cornwall, and doubt is expressed whether it is a sound commercial undertaking.

There is an article by Mr. T. T. Read on "Coal Mining in Manchuria". The Fushun Mines, north-east of Mukden, are worked in Tertiary strata, which yield a soft bituminous coal. The total thickness of coal varies from about 150 to 270 feet, made up apparently of many seams closely associated. The greatest thickness without a parting is 32 feet, but the five seams worked are each from 9 to 12 feet thick. It is estimated that the production for 1909 may be about 700,000 tons. Apparently the coal was worked in very early times for the manufacture of pottery, as in making excavations on the ground large quantities of ancient Korean pottery and coins dating back to 300 B.C. have been discovered.

5. Geology of Bristol.—A concise and interesting *Sketch of the Geological History of the Bristol District*, by Professors C. Lloyd Morgan and S. H. Reynolds, has been published by the Bristol Naturalists' Society (Proceedings, vol. ii, pt. ii, 1909). It contains references to the principal published works, and embodies accounts of the more recent researches on the Silurian rocks, the Carboniferous zones, and the origin of the physical features.

6. Geological Survey of New Jersey.—The Annual Report of the State Geologist, Mr. H. B. Kümmel, for the year 1908 (1909), contains an account of the zinc mines of Sussex County, by Mr. A. C. Spencer. The ore minerals are principally franklinite, containing oxides of iron, manganese, and zinc; willemite, silicate of zinc, much of it containing manganese; and zincite, oxide of zinc, also with manganese. Mr. J. V. Lewis contributes a report on the Building Stones, illustrated with map, views of old and new buildings, and coloured plates of various granites, serpentine, marble, and other rocks.

7. Geological Literature added to the Geological Society's Library during the year ended December, 1908. 8vo. London (Geol. Soc.), November, 1909. Price 2*s*.—It is merely necessary to remind our readers that this valuable record of the geological work of the world is published for 1908. Mr. W. Rupert Jones, Mr. Belinfante, and Mr. C. H. Black have all contributed to the heavy task of getting it ready, and the publication fully maintains its position as the one indispensable work of reference for all geologists. An index of 76 pages to 113 pages of bibliography sufficiently indicates the exhaustive nature of the work and its utility.

REPORTS AND PROCEEDINGS.

Geological Society of London.

December 15, 1909.—Professor W. J. Sollas, LL.D., Sc.D., F.R.S., President, in the Chair.

The following communications were read:—

1. "The Skiddaw Granite and its Metamorphism." By Robert Heron Rastall, M.A., F.G.S.

The visible exposures of the Skiddaw Granite are three in number, all very similar; part of the more northerly one is a greisen, which