

quartz. Titanium, and to a less extent phosphorus, are remarkably abundant, and this feature becomes especially noteworthy in the basalts. It seems to be possible to correlate the presence of cosspyrite with the high content of titanium, and the absence of riebeckite with the absence of fluorine and the low proportion of zirconium.

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XIV.—GEOLOGICAL EXCURSIONS ROUND LONDON. By GEORGE MACDONALD DAVIES, B.Sc., F.G.S. pp. 156, with maps, sections, and photographs. Thomas Murby & Co., 1914. Price 3s. 6d. net.

THIS is a useful little handbook and guide to the geology of some of the most interesting localities in the neighbourhood of London. The book is intended primarily for the use of students who require to gain some knowledge of field geology and who should be able to learn a great deal by following out these carefully planned excursions. It will also, no doubt, appeal to the many who are really interested in the geology of the London district, but are often unable to find their way to important sections or instructive view-points.

The first thirty-four pages are devoted to an outline of the stratigraphical geology of the South-East of England, the arrangement of which is clear and concise.

Twenty-six excursions are planned, fifteen of which are arranged as half-day excursions. Particulars of railway routes and fares are given, and with the very full directions it should be possible to follow out the itinerary without the aid of a map. Teachers should find this book of value in conducting field classes.

XV.—BRIEF NOTICES.

1. ARGYLLSHIRE AND BUTESHIRE. By PETER MACNAIR, F.G.S. pp. x + 161. Cambridge University Press, 1914. 1s. 6d. net.

The excellence of the Cambridge County Geographies has now been universally recognized, and in this member of the series, one of the latest to be issued, the high standard is easily maintained. The author has in Argyllshire a county which is extraordinarily difficult to describe from the geological and structural point of view in a space so short as that at his disposal. In Buteshire his task is less formidable, but in both cases he has succeeded in writing an admirable account of geological history, and of the surface features, scenery, and economic conditions which are its natural outcome. The book gives a well-balanced and thoroughly interesting account of two fascinating counties which provide holiday centres that are not easily surpassed.

2. NOTES ON RADIUM-BEARING MINERALS. By WYATT MALCOLM. Prospector's Handbook No. 1. Issued by the Geological Survey of Canada, 1914. pp. 26.

In this handy little book the uranium minerals—pitchblende, carnotite, autunite, and torbernite—and the modes of testing their radio-activity by the electroscope, the scintilloscope, and their effect on a photographic plate (the last, as the author warns, resulting also from

thorium minerals) are considered, and descriptions given of the more important localities in Portugal, Colorado, Utah, Cornwall, and Bohemia where the ores are commercially worked. The Canadian occurrences are more fully dealt with, and some useful hints are given to help the prospector in his search.

3. **GEOLOGY OF THE PITCHBLENDE ORES OF COLORADO.** By EDSON S. BASTIN. United States Geological Survey, Professional Paper 90, A, 1914. pp. 5.

After a preliminary account of the principal pitchblende-producing localities the occurrence in the Quartz Hill District, Colorado, is considered. From a study of a polished section it appears that pitchblende crystallized contemporaneously with chalcopyrite, pyrite, and probably grey quartz. The predominant rocks are pre-Cambrian igneous and sedimentary rocks and Tertiary intrusive rocks. A lead-zinc mineralization followed closely a pyrite one, and pitchblende was deposited during the latter and afterwards fractured, the fractures being filled by sulphides of later mineralization.

4. **CRETACEOUS EXOGYRAS.**—Professional Paper 81, Department of the Interior, United States Geological Survey, 1914, is devoted to the description and illustration of Cretaceous Exogyrae from the Eastern Gulf region and the Carolinas by L. W. Stephenson. They are a remarkably beautiful series of shells, being highly ornamented and unlike anything we have in this country. A general description of the deposits, and a map, prefaces the descriptions.

5. **THE JURASSIC FLORA OF CAPE LISBURNE, ALASKA.** By F. H. KNOWLTON. United States Geological Survey, Professional Paper 85D, pp. 39–55, pls. v–viii, 1914.

The Corwin formation of Northern Alaska, containing much workable coal, has yielded several fossil plants, which show that the beds belong to the upper part of the Middle Jurassic. The flora is most closely related to that of Eastern Siberia, and of the seventeen species found in the Cape Lisburne region eight occur also in Amurland. The general facies is that of Jurassic floras almost all over the world, and this extraordinarily wide distribution leads the author to consider the possible means of dispersal of Jurassic plants. He concludes that there must have been “a practically continuous land connection between the several localities during Jurassic time”, since only the ferns, with their light spores, could have crossed any considerable stretch of water.

6. **KALGOORLIE, WESTERN AUSTRALIA.**—Part i of the *Geology and Ore Deposits of Kalgoorlie* was issued in 1912 by Messrs. Simpson and Gibson, and we have lately received the second part by Messrs. Feldtmann & Farquharson,¹ together with the maps of the area. This district is now completed, and its rocks petrographically described. The publications are issued by the Geological Survey of Western Australia, Bulletins 42 and 51, at 5s. the two.

¹ An article, by R. A. Farquharson, F.G.S., on the “Petrology of a portion of the North Kalgoorlie Field” (Western Australia), appeared in the *GEOLOGICAL MAGAZINE* for March, pp. 107–14, and April, pp. 148–57, 1914, Pls. V–VII.