

India. Nevertheless, India retained numerous archaic genera such as *Agriotherium* (one of the Ursidae), *Hyaenictis* (a genus which is supposed to have taken origin near the main stem of the hyaenoid ancestor), *Enhydriodon* (a primitive mustelid), and *Vishnuictis* (a primitive viverrid). The work is very complete, containing as it does a description of nearly a hundred species. The nine full-page plates are beautifully executed; there is a table showing the suggested phylogeny of the Hyaenidae and a very full bibliography.

F. H. A. M.

DIE BODENSCHÄTZE DEUTSCHLANDS. By E. KRENKEL. Vol. i, pp. 301, with 71 illustrations. Berlin: Borntraeger, 1932. Price RM. 22.50.

IT is stated in the preface to this work that it was originally planned on a much larger scale, but that owing to prevailing economic conditions considerable retrenchment was necessary. The present volume begins with a chapter of 22 pages giving a candid account of the mineral resources of the Reich, which in some important particulars are very limited; it would appear that in nearly everything except coal and potash imports greatly exceed home production. A very brief summary, less than a page, of German oil production will be of interest to British geologists, to whom such information is not always easily accessible. It appears that up to the end of 1929 the total production of oil in Germany was about 2,000,000 tons, mostly from Hanover. The geology of this oil-field, where the oil is often associated with Permian salt-domes, is very interesting. The actual oil-bearing horizons are Rhaetic-Lias boundary beds, Lower and Upper Dogger (= Middle and Upper Jurassic) and Lower Cretaceous.

Following a short account of German mining regulations and of Kartels, employers' and trades unions, workers' insurance schemes, and so on, the rest of this volume is occupied by a detailed account of the deposits of coal, lignite, and peat, with abundant geological and statistical information.

R. H. R.

CORRESPONDENCE.

PROFESSOR HOLMES' HYPOTHESIS OF THE GENESIS OF LEUCITE AND MELILITE ROCKS.

SIR,—In answer to Dr. Holmes' letter in your March number, I wish to point out that in his original statement of the hypothesis (*Q.J.G.S.*, 1932), Dr. Holmes used the expression "primary peridotite magma" three times and "primary peridotite" six

times. He now explains that he considers the parent peridotite magma of the leucite and melilite rocks to be largely derived from "re-fusion of the crystalline uppermost part of the Lower Layer". Ought he in that case to have called it a *primary* magma?

On the question of the determination of traces of the rarer constituents, Dr. Harwood has failed to notice that my criticism referred to gravimetric methods, not to the much more delicate colorimetric ones. I had in mind especially baria and strontia, since these oxides were used by Holmes to sustain his argument. Dr. Harwood admits that he is not prepared to defend the accuracy of the strontium determination as at present carried out, and that errors of 25 per cent and even 50 per cent may sometimes occur in the determination of other minor constituents; that is, he concedes everything that I claimed. I did not criticize the *principle* of comparative geochemical studies, but only the accuracy of the available data.

Mr. Golding thinks my criticism is unfair to the chemists, and defends the alcohol-ether method of determining strontia. I refer him to Dr. Harwood's opinion and to a paper by W. Noll (*Zeit. Anorg. Chem.*, 1931, p. 193), who shows that errors of 40 per cent are possible by this method. I did not and do not blame chemists for the fact that certain constituents are difficult to determine accurately, but I wished to bring home to geologists the very doubtful quality of some of the data on which Professor Holmes based his theory.

S. J. SHAND.

STELLENBOSCH, S. AFRICA.

4th April, 1933.

THE AGE OF THE FORD BEDS OF PEMBROKESHIRE.

SIR,—In their paper on "The Pre-Cambrian and Cambrian Rocks of Pembrokeshire", *Q.J.G.S.*, 1912, Professor O. T. Jones and Dr. H. H. Thomas tentatively referred the Ford Beds to "that position of the Upper Solva Group which is not far removed from the Menevian."¹ This identification was made on lithological grounds, assiduous search having failed to reveal any fossils, but its correctness has recently been confirmed by the discovery of a small fauna of Middle Cambrian age.

In the spring of 1932 Professor O. T. Jones conducted an excursion of the Sedgwick Club from Cambridge University to Western Pembrokeshire and a visit was paid to the section of Ford Beds exposed in the railway cutting at Wolf's Castle Halt. These beds are probably in a considerably more weathered condition than when originally searched for fossils and immediately behind the south-west corner of the shed upon the railway platform, about 7 feet

¹ *Q.J.G.S.*, lxxvii, 1912, 399.