of how to work, as it ensures the acquaintance of the author with his subject; thus standing in striking contrast to the odd and end descriptions of supposed new species, which are poured forth year after year by those who have a meagre acquaintance with literature. It would be interesting to learn how many of these 'species' are valid; perhaps thirty per cent. would be a fair estimate.

3. Polish Geology. — We call the attention of our readers to "Katalog literatury naukowej Polskiej wydawany przez Komisye Bibliograficzna Wydzialu Matematyczno-Przyrodniczego Akademii Umiejetnosci w Krakowie," of which, in part i, there is a list of all the scientific journals published in Polish. The catalogue comes out in parts, and is carried out on the lines laid down by the International Catalogue of Scientific Literature Committee.

4. Australian Tertiaries.—Messrs. Hall & Pritchard publish a suggested nomenclature for the marine Tertiary deposits of Southern Australia in the Proc. Roy. Soc. Victoria, xiv (2), April, 1902. They differ from McCoy, Tate, and Dennant in considering the Balcombian to come above the Jan Jucian and Aldingan beds.

5. Rugby School Museum.—In the Report of the Rugby School Natural History Society for 1901 (1902), a list is given by H. A. Ormerod of the local fossils now on exhibition in the Museum. After each name comes the age and the locality. With the exception of a few Rhætic forms the fossils are all from the Middle and Lower Lias.

6. Surrey Science.—The Presidential Address of Mr. Whitaker, F.R.S., to the Croydon Microscopical Club for 1901 includes a list of papers on the Geology of Surrey for some years past.

7. Stromboli. — In the Archives des Sciences Physiques et Naturelles, xii and xiii, will be found two notes by A. Brun on a geological excursion to Stromboli and a note on its Basalts. The latter paper gives an account of the fusion-point of minerals from this and other localities.

CORRESPONDENCE.

THE GEOLOGICAL SURVEY OF ENGLAND AND WALES AND THE WHITE CHALK.

Sir,—An official memoir on "The Geology of the Country around Southampton (Explanation of Sheet 315)" was received at the British Museum (Natural History) about the 28th August, 1902. In this memoir one reads the extraordinary statement "*Offaster pilula*, an echinoderm characteristic of the *Marsupite* zone" (p. 2, chap. ii, Upper Chalk). If this is true, why is there not some support given to such a statement? It has been distinctly shown by Rowe (Proc. Geol. Assoc., xvi (6), 1900, pp. 342, 363; xvii (1), 1901, pp. 55, 56, 73) that this urchin is characteristic of the *quadratus*-zone, and that its occurrence in the *Marsupites*-zone is extremely unusual.

One would have thought that enough had been said already about the zones of the Chalk, and that especial pains would therefore be taken to attain to greater exactness in official memoirs.

C. Davies Sherborn.

MARINE SHELLS.

Sir,—I beg to inform the readers of the Geological Magazine that, acting under my directions, Mr. David Nimmo, jun., and Mr. Frank White have found *marine shells* in the drift of the Leaze Burn, near the watershed with Logan Water, and four miles north-east of Muirkirk, in Ayrshire. The drift here is a yellowish Boulder-clay, the clay being very fine-grained and exceedingly suitable for preserving organisms. The exposed bed is 15 feet thick, rock not seen, and 1,330 feet above sea-level, and is the highest point in Scotland at which marine organisms have been found in the drift.

J. Smith.

Monkredding, Kilwinning.
Sept. 1, 1902.

DEVELOPMENT OF RIVERS.

Sir,—Mr. Buckman, in his article on River Development in the August number of the Geological Magazine, criticizes my paper published in the Quart. Journ. Geol. Soc., vol. lviii, p. 207. On two points his criticisms are well founded. My allusion to the Vale of Moreton, which was added after the writing of the paper, was made under a misapprehension, for I had not grasped the fact that the anticline was considered by Mr. Buckman to be of Inferior Oolite age. Under such circumstances it was of no use to me, for I was in search of an arching up of the Chalk at a much later date. It is true also that the Vale of Moreton is wrongly placed on my map. The name was added, I think, on a proof, but the responsibility, of course, was mine. As regards the other points on which Mr. Buckman considers that I have erred in matter of fact, I see no reason to modify what I wrote.

Mr. Buckman finds it very remarkable that the anticline of which I was in search should be evidenced by no more than traces. The difficulty in locating it is due to the fact that the Chalk, in which alone its effects would have been obvious, has been denuded away; that it has not been recognized in the Oolitic rocks means nothing, for it would be masked by the more pronounced movements which affected those rocks before the deposition of the Chalk, but that it existed is proved by a general consideration of the dip of such Chalk as remains. As I pointed out, the westerly rise cannot have continued indefinitely, for it would have carried the Upper Cretaceous base far above the level at which we believe it to have lain in the West of England and in Wales.

The paper by Mr. Buckman in the Proc. Cotteswold Nat., vol. xiii, p. 175, 1899–1901, which I characterized in a footnote as "transgressing the limits of legitimate speculation," was preceded, as he points out, by a paper in Natural Science, vol. xiv, p. 270, 1899.