in the Highland mountains being of such high antiquity as we have given it — first, that it could not have survived the subsequent deformation, as seen in the angles to which the Old Red Sandstone has been tilted; and second, that it can hardly have been longer exposed to dissection than since the latter part of Mesozoic time. Now if Professor Davis takes a geological map of Scotland and examines it, he will find two great faults running across Scotland: within these faults he will find the later Palæozoic rocks tilted and crushed at considerable angles, this being an area of faulting and corrugation; outside these faults, however, the later Palæozoic rocks lie at low angles, showing little evidence of disturbance, and we believe not enough to destroy the old marine peneplain. On these areas the later Palæozoic rocks, including both the Old Red Sandstone and the Carboniferous series, lay piled in their almost normal horizontal position, to the height of thousands of feet, and so preserving the old marine peneplain from the action of the subaerial forces which otherwise must have destroyed it; and presenting it as we see it at the present day. It was upon this cover of horizontal rocks, we believe, the river systems of the Highlands were first traced.

P. Macnair and J. Reid.

THE STRUCTURE OF GLACIER-ICE.

Sir,—When at Chamonix on September 24, 1896, I visited the Glacier des Bossons. At the termination of the glacier, where the stream was flowing out, the ice was melting in a most interesting manner, which fully bears out the description and drawings of the structure of glacier-ice (by polarized light) given by Messrs. Deeley and Fletcher in the Geological Magazine, 1895, pp. 152–162. The ice was disintegrating into separate pieces of irregular form, each an inch or thereabouts in diameter (there may have been larger and smaller pieces), and fitting exactly together, with interlocking projections and cavities, so that the structure reminded one of a toy dissected map. Here, then, we have the glacier-ice dissected for us by nature and its structure displayed to the naked eye, without the aid of a polariscope. As I had no polariscope with me I cannot say whether each piece consisted of a single crystal or of an aggregate of crystals.

Bernard Hobson.

P.S.—Perhaps by immersing blocks of glacier-ice in hot water the structure might be brought out artificially.

THE JUBILEE OF THE PALÆONTOGRAPHICAL SOCIETY: A SUGGESTION.

Sir,—On reading the interesting account of the work of the Palæontographical Society that appeared in your valuable Magazine, it occurred to me that the jubilee of this Society might well be commemorated in some way more useful and more permanent than the eating of a dinner. The practical proposal that I now beg to offer is the outcome of considerable use of the volumes issued by the Palæontographical Society; for that has led to the discovery

of a great need. The need is that of a serviceable index to each or all of the completed monographs. Personally I have felt the absence of such a help most sorely in Davidson's large work on the Brachiopoda, and have wasted much time in searching for such well-known British species as *Productus Martini* or *P. productus*, *Lingula Voltzii*, and *Hemithyris angustifrons* (I mention examples from the last two days only). My colleagues say that equal difficulty is experienced with other monographs. We shall perhaps be told that indices are already published to these monographs; that may be, but they rarely contain what one wants, and some of them are not even arranged in alphabetical order. The proposal, then, is that a real index should be compiled to all the volumes as yet published by the Palæontographical Society; that it should contain every name mentioned, either in the text or in the explanation to the plates, whether synonym, variety, species, or genus; that these names should be arranged alphabetically under both generic and trivial names; that the index should be compiled by some experienced person or persons; that it should be published in octavo form, two columns to a page, certainly not in quarto form, and not on thick paper. The cost of preparing and publishing such an index might be defrayed partly by special subscription, partly by substituting it for a portion of the volume for one year. Most scientific men, including the members of the Palæontographical Society, would probably be more grateful for a good index than for another instalment of new species. By publishing this letter in your widely-read Magazine, you will perhaps elicit the views of geologists in general, and the Council of the Palæontographical Society would see what support was likely to be forthcoming.

F. A. Bather.

OBITUARY.

CAPTAIN MARSHALL HALL.

Born February 6, 1831. Died April 14, 1896.

Marshall Hall, late Captain in the Royal East Middlesex Militia, J.P. for Wilts, F.G.S., F.C.S., etc., was born in London on February 6, 1831, and died at Parkstone, Dorset, April 14, 1896.

As the only child of an eminent physician and physiologist, he was brought up in an atmosphere of science from early days, and it is to this circumstance that his *penchant* for things scientific was in a great measure due. Thus, he was at all times very handy with his microscope, which he found useful both in his chemical and mineralogical investigations. Besides an interest in science, mountaineering and yachting had strong attractions for him, and it was these three factors which largely influenced his career.

No one science could claim his exclusive allegiance; but he evinced an interest in Geology when he became a Fellow of the Geological Society in 1866, most probably at the suggestion of his