

plant-petrifications, possibly of earlier age than the sandstones and shales in which they occur. Two distinct and unmingled faunas are present in the rocks: one consists of fresh-water Lamellibranchs, and the other of marine fishes, Cephalopods, and Lamellibranchs; and the evidence as to horizon obtained from them agrees with that yielded by the plant-remains. The paper concludes with a bibliography.

2. "The Titaniferous Basalts of the Western Mediterranean." By Dr. Henry S. Washington, For. Corr. Geol. Soc.

In 1905 the author visited the volcanic districts of Catalonia, Sardinia, Pantelleria, and Linosa. He recognizes the existence in this region of a hitherto unrecognized petrographic province, in which the basalts contain a remarkably high percentage of titanium. The rocks are of Tertiary age. Labradorite, augite, and olivine are the essential minerals, with titaniferous magnetite and apatite, and in some cases subordinate nepheline. The rocks vary from compact to highly vesicular; they are not conspicuously porphyritic, though small phenocrysts of augite and olivine, and occasionally feldspar, are sometimes present. Olivine nodules occur in some cases. The textures are those common in basalts, and ophitic relations are almost wanting. A series of analyses is given; the silica varies from 44 to 52 per cent., the alumina from 12 to 19, and the titanium-oxide from 2 to 5. The last oxide appears to be chiefly contained in titaniferous magnetite. Phosphoric pentoxide is distinctly abundant, and appears to vary, as the titanium does, with the amount of iron-oxides. Soda is dominant over potash in every instance. The augites are almost, if not quite, colourless. The classification of the rocks according to the quantitative system is discussed, and the majority of the basalts fall into the 'Salfemane' class, the exceptions being some of the Sardinian basalts and that of Graham's Island.

The extent of the region is as yet problematical, and the author points out that along the southern coast of France there are several 'basaltic' volcanoes, and it is possible that these may eventually turn out to be connecting links between the rocks of Sardinia and those of Catalonia, or possibly extrusion southward is indicated by the occurrence of phonolite at Maid Gharian, near Tripoli.

CORRESPONDENCE.

THE SOMABULA DIAMOND FIELD.

SIR,—Some months ago Sir John Willoughby presented to the Museum of Practical Geology a selection of minerals, accompanied by photographs and plans, to illustrate the geology of the Rhodesian diamond fields. These are now on exhibition on the main floor of the Museum. It fell to my lot to determine the minerals, and as the results are not exactly the same as those obtained by Mr. Mennell and given in his paper on the Somabula diamond field in the October number of the GEOLOGICAL MAGAZINE, I take the liberty of sending you a few notes.

The principal discrepancy between our results is that the remarkable variety of enstatite, very hard and sometimes of a red-brown colour, which he describes as common in the deposits, is absent from all the collections which I have seen. Staurolite, on the other hand, which he does not mention, is very abundant. It occurs in worn crystals, black or dark brown, and with crystalline faces not good enough for measurement on the reflecting goniometer. The angles, however, agree well with those of staurolite. A curious fact is that no cross twins, so characteristic of this mineral, were observed among the crystals. Seeing that kyanite is so abundant, the presence of staurolite is exactly what might be expected. Mr. Menell is not disposed to agree with Professor Gregory that the diamonds may have been derived from pegmatites, but the conclusion to which I was led by an inspection of the minerals of the alluvial deposit was that they could have come only from the margin of a granite and a contact aureole. The whole paragenesis indicates this. Not one of the minerals I have seen resembles those of the Kimberley diamond pipes.

JOHN S. FLETT.

THE TRIMINGHAM CHALK.

SIR,—It seems to me also desirable to make a few comments on Mr. Brydone's letter in your November number. I did not "affect to regard" his note about his use of the magnetic for the true north "as addressed to myself personally." The communication, though it also expressed Mr. Hill's views, was written by myself to save time and trouble. Our remark was not intended as a criticism of anybody, but to explain why we had not altered the terms which we began to employ fourteen years ago, when our attention was concentrated more on the hypothesis advanced in the Geological Survey Memoir than on verbal details. We took those terms from the general direction of the coast, as shown on the Ordnance Survey Map, and I maintain that our practice, the statements in my note (except that the misprint, Weymouth for Weybourne, escaped correction), and my use of the word 'trend' are correct. The "trend of a coast" is not "ever varying from point to point and as you take it at the base or top of the cliff," but it expresses, according to Nares, Johnson, Webster, and others, the general direction, especially where there is a bending, of a coast, mountain chain, etc.

I never asserted the arch in my sketch to be identical with that to which Mr. Brydone referred in his papers. I said "the isolation of the more notable bluff is now complete," and gave a description of what then remained. My sketch and the photograph published by Mr. Hudleston in your November number exhibit the later stages of the work begun in October, 1905. My purpose in stating that a certain mass of chalk was a separate boulder was to imply, not that Mr. Brydone had denied this, but that the fact, under all the circumstances, diminished rather than increased the probability of a neighbouring mass being a seastack.