a direction at right angles to the stream, and in it were found the specimens described by Von Rath. In the decade 1890–1900 a little work was done each Summer, resulting in the specimens studied by Baumhauer. Since 1900 Francis Jentsch and his partners have worked the quarry regularly each Summer. In 1902 they came across the old tunnel constructed in 1731, the existence of which had been quite forgotten. Up to 1898 eighteen mineral species had been found, of which four are peculiar to the quarry; since that date twenty-five additional species, of which no fewer than twenty are new to science, have come to light. Nine of the new species have been named, two are pseudomorphs, and nine, owing to paucity of material, have not yet been described. The minerals found this year include Trechmannite (fine crystals), Baumhauerite (curiously striated and distorted crystals), Seligmannite (a large crystal 20 mm. in length), Jordanite (a twin about 301), Dufrenoysite (a twin about 001), pseudomorphs of Dolomite and Baumhauerite after Scapolite (?).—Note on the Thirty-two Classes of Symmetry, by Mr. H. Hilton. — Specimens of Turnerite from Cornwall were exhibited by Mr. Russell, and crystals of Sartorite by Dr. Trechmann.

CORRESPONDENCE.

THE SOMABULA DIAMOND FIELD.

SIR,—I notice in your December issue[1] a comment by Dr. Flett on my paper on the Somabula Diamond Field, and I take this opportunity of expressing my regret that it was published just before a further visit to the field under the more favourable conditions now prevailing. It is unquestionable, as Dr. Flett implies, that most of the mineral locally regarded as enstatite is really staurolite. It did not occur to me to doubt the original determination of this mineral as a rhombic pyroxene, until I recently secured some fragments with faces showing the characteristic angles of staurolite. Andalusite may also be added to the list of what I have termed "unequivocal contact minerals." There can be no doubt, in fact, that the characteristic minerals of the alluvial deposit come chiefly from the margins of the granite mass which it overlies.

But this does not in the least alter the position as regards the original source of the diamonds. It is significant, for instance, that though diamond is almost exactly of the same specific gravity as chrysoberyl, topaz, and staurolite, the quantity of these latter has no relation whatever to the abundance or even to the presence of the diamond. The only mineral which shows indications of such a relationship is garnet, a possible 'pipe' mineral, by the way. The sapphires, rubies, and chrysoberyls are also exceedingly water-worn, while the diamonds are in many cases perfectly unabraded, though those *found in the present-day stream which cuts into the old alluvial are usually considerably worn, showing they are susceptible to wearing action.*

Perhaps a local experience of over five years and the fact of having made most careful field examinations of the vicinity may be permitted

[1] See GEOL. MAG., December, 1906, *pp. 569–570.*

to weigh something in the scale against "an inspection of the minerals." I fancy, too, that my acquaintance with the literature of the diamond is more extensive than Dr. Flett's, in spite of my having been for years out of reach of a scientific library. I have also studied specimens from most of the important diamond localities that I have been unable to visit. And I can only record my conviction, after a review of all the facts, firstly, that the Somabula diamonds, as also those of Brazil, India, and New South Wales, are derived from quite a different source from that of the sapphire, topaz, chrysoberyl, staurolite, kyanite, etc., with which they are associated, as has indeed been actually proved in the case of New South Wales; and secondly, that there is nothing to contradict the idea that the ultrabasic rocks ('blue-ground' and its allies) are invariably the source of the diamond.

The question is no mere academic one. I should be only too delighted to gain an opportunity of describing a new matrix for the diamond. This, however, is the position. I am every day asked for advice by prospectors, men whose livelihood depends on their success in finding mineral deposits of possible economic value. When consulted about diamonds, what is one to tell such men as these? In face of the fact that every South African mine (and there must be at least thirty now working) is in 'blue-ground,' is one to advise them to look for diamonds in staurolite or kyanite schists? Some, through ignorance, have actually done work on such rocks—needless, to say, without finding any diamonds. I even know of a locality where staurolite, kyanite, tourmaline, garnet, and rutile can be got from a single specimen. Could one in good faith urge the spending of money on it in the hope of its developing into a diamond-mine? I certainly do not think so myself, whatever other people's views may be.

F. P. Mennell.

Rhodesia Museum, Bulawayo.
December 28th, 1906.

MARINE RIPPLE-MARK.[1]

Sir,—. . . . Will you permit me to point out that in Mrs. Ayrton's researches on Sand-ripples, so far as they concern geologists and marine ripple-mark, there are four *experimental* fallacies. Mrs. Ayrton describes her apparatus as follows: "In this trough, six feet long . . . . the water, which is about a foot deep, is now made to swing periodically backwards and forwards by means of an electro-motor" (Abstract of lecture to Section G at Cambridge in 1904).

In the real thing we find a series of periodically oscillating waves moving in one direction over a fixed bottom, and expending themselves on a sandy shore. In Mrs. Ayrton's experiment we have an oscillating bottom, perfect reflection from vertical ends, waves moving in opposite directions, and, as one result, stationary waves in the experimental tank. None of these four conditions obtain at sea, and Mrs. Ayrton's results and conclusions, interesting though they are to physicists, have practically no bearing on the phenomena of the sea-shore and the sea-bottom.

A. R. Hunt.

Southwood, Torquay.

[1] [Unavoidably delayed in publication by want of space.—Ed. Geol. Mag.]