

a decomposition product of other titaniferous minerals. Professor W. J. Lewis described a large crystal of sartorite from the Binnenthal measuring $4'' \times 1'' \times \frac{1}{3}''$. An analysis by Mr. Jackson gave the following result: Pb = 42.93, S = 25.32, As = 31.11. Professor Lewis also discussed some peculiar twinned crystals of copper-pyrites and cerussite. Mr. W. B. Giles contributed notes on Howlite and other borosilicates from the Borate mines of California. One of these, for which the author proposes a new name, is a white amorphous mineral resembling in appearance pandermite; the results of two closely agreeing analyses of material from different localities corresponded to a formula $8 \text{ Ca O} \cdot 5 \text{ B}_2 \text{ O}_3 \cdot 6 \text{ Si O}_2 \cdot 6 \text{ H}_2 \text{ O}$. Mr. Giles also described a tantalite from Green Bushes, West Australia, which contained 85 per cent. of tantalite with very little niobic acid. Mr. J. Allen Howe exhibited specimens of peculiar pseudo-stalactitic growths of calcite from the North of England.

CORRESPONDENCE.

THE ZONE OF *MICRASTER PRÆCURSOR*.

SIR,—On pp. 51 and 54 of "The Geology of the country around Salisbury" (Mem. Geol. Surv., Sheet 298) the term 'zone of *Micraster præcursor*' is used. As one who is not a little interested in the genus *Micraster*, and more especially perhaps in the group-form which is known as *Micraster præcursor*, I would crave a little information as to the reasons which have guided the author of this memoir in finding a new zonal title.

Possibly the use of this urchin as a name-fossil is not new, and in that case I must plead guilty to having failed to notice the first occasion of its use. If, on the other hand, this be the first publication in which it has been employed, it would not be unreasonable to expect some statement concerning a fortunately rare event—the adoption of a new name-fossil for one of the zones of the White Chalk.

ARTHUR ROWE.

1, CECIL STREET, MARGATE.
May 6th, 1903.

SAND-DRIFTING AND SEDIMENTATION.

SIR,—I have read Professor Blake's papers on sedimentary deposits with much interest. So far as I can judge, my election to the General Committee of the British Association in 1879 was due chiefly to my work on this subject, and especially to a paper published in 1878, "Notes on Torbay." Such being the case I very naturally made several attempts to elicit discussion in Section C; but at that time geologists absolutely refused to look at the subject. In 1886 I made a number of special experiments, but the Committee of Section C at Birmingham not only omitted even to include my paper ("Deposition and Denudation, etc.") in the list for reading which was published at that meeting, but for the first time omitted my name from the Committee. Ultimately an influential friend remedied both defects, and I was able to read a six minutes abstract in the subsection on

the Wednesday morning. This enabled me to get a page of abstract into the Report. The double rebuff was too marked to be mistaken. I found the repugnance to the subject as strong at the Geological Society as at the British Association, and with much regret was forced to drop it. At the time I had a yacht, an experimental tank, a moorland river, and a mill leat; and all the experts whose opinion was of value were favourably disposed towards my work, including Sir G. G. Stokes, Lord Rayleigh, Dr. Sorby, and Mr. Gwyn Jeffreys.

At the Bradford meeting, in 1900, I was interested to hear Dr. Vaughan Cornish state publicly from the platform of Section C that he had only tripped me up once. And that happened to be a quotation and an ambiguously worded passage. It was a trip more than a stumble.

I am not at all surprised at the opposition I encountered in petrological work. That was simply a case of amateur methods of research *versus* professorial. But the opposition to my work on the subject for which I was elected to the General Committee, and which my judges were scarcely qualified to condemn, I have never in the least understood. The standing difficulty is this, that some of the most important textbooks are misleading, and, indeed, I very really hear anyone touch on the subject without their running foul of first principles. In 1882 I submitted a paper to the Royal Society on Ripple-mark. It was officially suggested to me that I had not considered Dr. Sorby's work. Well, Dr. Sorby had supplied me with a sheaf of his reprints, and I did not want to appear to be criticising his observations on 'ripple-drift,' when I was investigating another cause of ripple-mark, viz. wave-action. There are three great principles which have to be considered, viz.: (1) the *drifting* of sand by rivers and currents, as studied by Dr. Sorby; (2) the conveyance of sediment in *suspension*; (3) the disturbance of the already *deposited* sediment by waves of different sorts; and (4) the *redistribution* of this sediment by a great variety of currents. I rejoice to see Professor Blake's papers, as they show that geologists are now alive to the great importance of this subject, a subject which is illustrated by every fragment of sedimentary rock cracked under the geologist's hammer.

It is scarcely worth while to refer to my own writings, as they are fragmentary and scattered almost beyond my own knowledge. I found that if I had got hold of a really important fact, that was just the fact which, being unorthodox, would fail to get into print. I happened to have the monopoly of a new source of information, an experimental tank; so my various judges were sceptical, and my judges were all-powerful.

A. R. HUNT.

OBITUARY.

WILLIAM TALBOT AVELINE, F.G.S.

BORN 1822.

DIED MAY 12, 1903.

THE death of W. T. Aveline, at the age of 81, has removed one of the earliest field-geologists attached to the staff of the Geological