

Perhaps this has scarcely been taken into sufficient account by those who have considered the transportation of boulders by floating-ice. If there really was a considerable mid-glacial submergence—of which I cannot but think there is ample evidence both in Cumbria and in Wales—is it not quite possible that westerly winds prevailed at certain seasons, which might drift large quantities of boulder-bearing ice from the Shap district without the aid of permanent ocean-currents? The difficulties involved in the theories of Messrs. Croll, Belt, Goodchild, and others of the same extreme school, certainly press upon me—and I think I may say also upon others of my colleagues—increasingly, as the country becomes more and more familiar in its features. It is indeed a most startling thought, as one stands upon the eastern borders of the Lake-mountains, to fancy the ice from the Scotch hills stalking boldly across the Solway, marching steadily up the Eden Valley, and persuading some of the ice from Shap to join it on an excursion over Stainmoor, and bring its boulders with it.

The outlying northern parts of the Lake-district, and the flat country beyond, have indeed been ravaged in many a raid by our Scotch neighbours, but it is a question whether, in glacial times, the Cumbrian mountains and Pennine chain had not strength in their protruding icy arms to keep at a distance the ice proceeding from the district of the southern uplands, the mountains of which are not *superior* in elevation. Let us hope that the careful geological observations which will doubtless be made in the forthcoming *scientific* Arctic Expedition will throw much new light on our past glacial period.

J. CLIFTON WARD.

KESWICK, April 26th, 1875.

#### THE MECHANISM OF STROMBOLI.<sup>1</sup>

SIR,—It is quite immaterial to the validity of the mechanism of Stromboli which I have suggested (Proc. Roy. Soc. 1874) whether the bottom of the crater be 300 to 400 feet, or be 2,000 feet above the sea-level, as no physicist reading the above paper can fail to see.

WESTMINSTER, 19 May, 1875.

ROBT. MALLET.

#### *SPHENONCHUS HAMATUS*, A RHÆTIC FOSSIL.

SIR,—I beg to record my discovery a few days since of a large *Sphenonchus*, in the bone-bed of Aust Cliff, a genus hitherto unknown in the Rhætic formation. I have compared it with a specimen of *S. hamatus* in the Bristol Museum, obtained from the Blue Lias at Keynsham, (an unrecorded find, by-the-bye), and fail to find any points of difference, except that of size; the Rhætic specimen being about half as large again as the other, which agrees well with the Lyme Regis type figured by Agassiz.

RALPH TATE.

92, CITY ROAD, BRISTOL, May 19th, 1875.

<sup>1</sup> See Mr. Poulett Scrope's critical examination of Mr. Mallet's paper in the *GEOL. MAG.* for 1874, New Series, Decade II. Vol. I. pp. 529-542. See also Mr. J. W. Judd's article on Stromboli, *GEOL. MAG.* 1875, Dec. II. Vol. II. No. V. for May, p. 210.