The evidence now adduced proves (1) that the 'Fucoid Beds' and 'Serpulite Grit' are of Lower Cambrian age, the underlying quartzites forming the sandy base of the system; (2) that the Torridon Sandstone, which is everywhere separated from the overlying quartzites by a marked unconformability, is pre-Cambrian.

The *Olenellus* which has been discovered is described as a new species (*O. Lapworthi*) closely allied to *O. Thompsoni*, Hall, from which it differs chiefly in the arrangement of the glabella-furrows and in the presence of a rudimentary mesial spine at the posterior margin of the carapace. Remains of other species referable to *Olenellus* are described, but these are too fragmentary for exact determination. All are characterized by a reticulate ornamentation similar to that described by Walcott in *O.* (*Mesonacis*) *asaphoides*, Emmons. The remains consist chiefly of portions of carapaces.

CORRESPONDENCE.

CONE-IN-CONE STRUCTURE.

SIR,—In the present February No. of the GEOLOGICAL MAGAZINE, Mr. A. C. G. Cameron in his paper on the "Kellaways Beds" makes reference to an indurated seam of sandy marl that exhibits Cone-in-cone Structure, and refers to an abstract in GEOL. MAG. of a paper of mine, that is printed in Trans. Geol. Soc. of Glasgow, in which I give an explanation of the above-mentioned structure. In this paper I am credited by Mr. Cameron with stating that in cone-in-cone structure, the apices of the cones point towards each other in the beds in which this structure is found. Had Mr. Cameron read the full text of my paper, he there would have seen that this statement was not mine, but was given in two of the quotations, illustrating some of the views formerly held by those that had written on cone-in-cone structure. Thus, H. C. Sorby, F.R.S., is quoted as having written—"The cones often occur in bands parallel to the stratification of the rock, their apices starting from a well-defined plane, and after extending upwards or downwards for a greater or less distance with their axis perpendicular to the plane of stratification, they end in bases parallel to it but not on the same level, some standing up above the general surface." The other quotation is from the Students' Manual of Geology, by Prof. J. B. Jukes, edited by Prof. A. Geikie, 1872. It is there stated that "some clay ironstones exhibit another concretionary form called 'cone-in-cone,' as the seam of ironstone breaks into conical forms, with the bases of the cones at the top and bottom of the seam, and their apices pointing inwards towards each other."

In my paper I have written against this statement, in both quotations, of the cones ever having their apices pointing inwards towards each other, and state, "I am inclined to think that such a description is due to faulty observation, or could only have been made from a badly preserved specimen, in which the structure was

obscure or much confused." I also further state, "that the apices are invariably turned to the under or lower side of the stratum, while their bases are as invariably directed to the upper surface."

In my explanation of cone-in-cone structure, I point out that it was probably due to a mechanical action, set up through chemical agencies, such as gases, that were generated by the decomposition of the organic matter present in the lower portion of the stratum, the elevatory power of such gases, as they escaped upwards to the surface of the bed, through the tube forming the central axis of each cone, brought up from below the successive layers of plastic mud, of which the cone structure is seen to be built up.

HUNTERIAN MUSEUM, UNIVERSITY GLASGOW, JOHN YOUNG.
February 13th, 1892.

READE'S THEORY OF MOUNTAIN BUILDING.

SIR,—In reply to Mr. Reade I am quite aware that he replied to Mr. Davison's argument last year, but in the opinion of good physicists that reply was no answer. Mr. Reade apparently failed to realize Mr. Davison's meaning, and the further explanation given in the postscript to my paper does not seem to have made it clearer to him.

My own ideas of the result of subsidence do not form the primary question in debate, which is—can we accept Mr. Reade's ideas? It is eminently desirable, therefore, that he should address himself to Mr. Davison's objection and postpone any consideration of my criticisms.

I am obliged to Mr. Reade for pointing out the error in my figures; an 0 has been omitted, but when supplied makes the case against him ten times worse than before. If I have misunderstood Mr. Reade's idea of expansive compression, or if my argument is unsound, I shall be glad to be corrected. A. J. JUKES-BROWNE.

EXETER, *Feb.* 10.

CONCERNING THE DIMENSIONS OF OLENELLUS.

SIR,—In his excellent paper "On *Olenellus Callavei*," in the GEOL. MAG., Dec. 1891, p. 529, Professor C. Lapworth says: "The larger fragments collected indicate a length of about six inches and a breadth of about four inches. With the exception of *Olenellus* (*Holmia*) *Bröggeri*, Walcott, this form is the largest species of the genus yet discovered." Prof. Lapworth seems to have overlooked that *Olenellus* (*Holmia*) *Kjerulfi*, Linns., might reach fully the length of *O.* (*H.*)*Callavei*. In my paper "On *Olenellus Kjerulfi*," in Geolog. fören. förhandl. vol. ix. (1887) p. 512, I have stated that: "The largest specimen I have found has a breadth of 63 mm. between the eyes." The length of the body must, therefore, in this case, have been 155 mm., which is more than six inches.

GERHARD HOLM.