

Mr. De Wilde states that if the hooklets were solid appendages attached to the stem, he would not expect them to break away so regularly as they seem to have done, because he says the hooklets are stoutest at their base. But he must remember that although this be their thickest part, yet it is their weakest point in their relation to the stem. As points in illustration—twigs torn from the stem of a plant, naturally break close to their attachment with the stem, yet this is also their thickest point; and the spines of the *Productæ* found in our soft shales, are seen in most cases to be fractured close to their attachment to the shell, owing to the pressure they have sustained. But this fracturing of the spines by pressure is not always regular in its distance from the organism, either in the *Productæ* or the coral in question, as some of my specimens in your possession clearly show. There are several other considerations that might be urged against the supposed articulation of the hooklets upon tubercles, but the fear of encroaching too far upon your space forbids me from entering upon them at present.

JOHN YOUNG.

HUNTERIAN MUSEUM, GLASGOW,
November 5, 1868.

ON *HETEROPHYLLIA*.

SIR,—I have read Mr. J. Young's communication to the GEOL. MAG. concerning *Heterophyllia* and Mr. De Wilde's letter also. Mr. Fielding's note must be satisfactory to the able artist who drew from nature the tubercles and spines of *Heterophyllia mirabilis*, nobis for the Phil. Trans. (not for the Proceedings, as Mr. J. Young asserts), but really the slightest possible examination of the specimens proves that the appearance of irregular fracture of the spines is the exception, and that which I have described is the rule. The irregular fracture has been produced by pressure, which has acted more upon the base of the tubercles than upon the junction of the hooklets with the tubercles. Probably some ankylosis had occurred and the joint had been destroyed.

I am content to abide by the decision I came to whilst the *Heterophyllia* in the Hunterian Museum of Glasgow were still called *Serpula*, and to consider *H. Lyelli* and *H. mirabilis* very interestingly separate species. It is very remarkable that Mr. J. Young did not favour science with an elaborate essay upon these very peculiar corals long before their importance became manifest to his able fellow geologist, Mr. J. Thomson, and to me. Perhaps the enormous amount of work still required to be undergone amongst the comparatively unknown fossils of the Scottish Coal Field has frightened the worthy sub-curator. I would beg of him to cheer up and to try just "a wee" of original palæontological research. When he has described one species, his criticisms upon the works of those who are hard at work at Scotch fossils will be more appreciated. At present his criticisms are long but not strong.—P. MARTIN DUNCAN.
