in the Southern Pacific.' The floating shrub or tree, at a great distance from land, is of rare occurrence in even the present scene of things, though the breadth of land be great, and trees numerous; and in the times of the Silurian and Old Red Sandstone systems, when the breadth of land was apparently not great, and trees and shrubs, in consequence, not numerous, it must have been of rarer occurrence still. We learn, however, from Sir Charles Lyell, that in the "Hamilton group of the United States, - a series of beds that corresponds in many of its fossils with the Ludlow rocks of England, - plants allied to the Lepidodendra of the Carboniferous type are abundant; and that in the lower Devonian strata of New York the same plants occur associated with ferns." And I am able to demonstrate, from an interesting fossil at present before me, that there existed in the period of the Lower Old Red Sandstone vegetable forms of a class greatly higher than either Lepidodendra or ferns.

In my little work on the Old Red Sandstone, I have referred to an apparent lignite of the Lower Old Red of Cromarty, which presented, when viewed by the microscope, marks of the internal fibre. The surface, when under the glass, resembled, I said, a bundle of horse-hairs lying stretched in parallel lines : and in this specimen alone, it was added, had I found aught in the Lower Old Red Sandstone approaching to proof of the existence of dry land. About four years ago I had this lignite put stringently to the question by Mr. Sanderson; and deeply interesting was the result. I must first mention, however, that there cannot rest the shadow of a doubt regarding the place of the organism in the geologic scale. It is unequivocally a fossil of the Lower Old Red Sandstone. I found it partially embedded, with many other nodules half-disinterred by the sea, in an ichthyolitic deposit, a few hundred yards te