

ested in fossil botany will find in this part of the work a collection of valuable facts which have hitherto been singularly neglected by Scottish geologists. The following extract gives a summary of the oldest fossil land plants of Scotland, which there as in Ireland and in America, occur unequivocally for the first time in the Devonian series.

"The remains of a terrestrial vegetation in this deposit are greatly scantier than those of its marine plants; but they must be regarded as possessing a peculiar interest, as, with the exception of the spore cases of the Ludlow rocks, the oldest of their class, in at least the British islands, whose true place in the scale can be satisfactorily established. In the flagstones of Orkney there occurs, though very rarely, a minute vegetable organism, which I have elsewhere described as having much the appearance of one of our smaller ferns, such as the maidenhair-spleenwort, or dwarf moonwort. It consists of a minute stem, partially covered by what seems to be a small sheath or hollow bract, and bifurcates into two fronds or pinnæ, fringed by from ten to twelve leaflets, that nearly impinge on each other, and somewhat resemble in their mode of arrangement the leaflets of one of our commonest *Aspleniums*,—*Asplenium trichomanes*. One of our highest authorities, however, in such matters (Professor Balfour of Edinburgh) questions whether this organism be in reality a fern, and describes it from the specimen on the table, in the Palæontological chapter of his admirable Class-Book, simply as "a remarkable pinnate frond." (Fig. 13, p. 56.) We find it associated with the remains of a terrestrial plant allied to *lepidodendron*, and which in size and general appearance not a little resembles one of our commonest club mosses,—*Lycopodium clavatum*.* It sends out its branches in exactly the same style,—some short and simple, others branched like the parent stem, in an arrangement approx-

* I figured this species from an imperfect Cromarty specimen fifteen years ago. (See "Old Red Sandstone," first edition, 1841, Plate VII. Fig. 4.) Of the greatly better specimens now figured I owe the larger one (Fig. 120) to Mrs. Mill, Thurso, who detected it in the richly fossiliferous flagstones of the locality in which she resides, and kindly made it over to me; and the specimen of which I have given a magnificent representation (Fig. 12, p. 55) to my friend Mr. Robert Dick. I have, besides, seen several specimens of the same organism, in a better or worse state of keeping, in the interesting collection of the Rev. Charles Clouston, Sandwick, near Stromness.