

that have been preserved ; and was resolved internally into a brown calcareous substance of about the hardness of ordinary marble, and very much resembling that into which the petrifactive agencies have consolidated the fossil trees of Granton and Craigeith. From the decorticated condition of the surviving fragments, and the imperfect preservation of the interior structure, in all save the central portions of its transverse sections, it yields no specific marks by which to distinguish it ; but enough remains in its irregular network of cells, devoid of linear arrangement, and untraversed by medullary rays, to demonstrate its generic standing as a *Lepidodendron*.

[It has been questioned whether the lower place in the Old Red System should be assigned to the flagstones of Caithness and Ross with their characteristic *Dipterus* and *Cocosteus* beds, or to the gray tilestones of Forfar and Kincardine-shires, with their equally characteristic *Cephalaspis*. The evidence on the point is certainly not so conclusive as I deemed it fifteen years ago, when our highest authority on the subject not only regarded the tilestone of the Silurian regions of England as a member of the Old Red Sandstone (an arrangement which I am still disposed to deem the true one), but also held further, that there had been detected in this formation near Downton Castle, Herefordshire, broken remains of *Dipterus macrolepidotus*, one of the best-marked ichthyolites of the flagstones of Caithness and Orkney. A great and unbroken series of fossiliferous rocks, with *Dipterus* at its base, *Cephalaspis* in its medial spaces, and *Holoptychius* at its top, might well be regarded as the analogue of the Old Red of Scotland, with the Caithness flagstones ranged at its bottom, the *Cephalaspis* beds of Forfarshire placed in its middle, and the *Holoptychius* beds of Scot-Crag and Clashbinnie on its upper horizon ; but since that time the tilestones have been transferred to the Upper Silurian division