

such as might be formed by comminuted sea-weed. (See Plate VII.) Some of the impressions fork into branches at acute angles, (see figs. 4, 5, and 6;) some affect a waved outline, (see figs. 7 and 8;) most of them, however, are straight and undivided. They lie in some places so thickly in layers as to give the stone in which they occur a slaty character. One of my specimens shows minute markings, somewhat resembling the bird-like eyes of the *Stigmara Ficoides* of the Coal Measures;—the branches of another terminate in minute hooks, that remind one of the hooks of the young tendrils of the pea when they first begin to turn. (See fig. 3.) In yet another there are marks of the ligneous fibre; when examined by the glass, it resembles a bundle of horse-hairs lying stretched in parallel lines; and in this specimen alone have I found aught approaching to proof of a terrestrial origin. The deposition seems to have taken place far from land; and this lignite, if in reality such, had probably drifted far ere it at length became weightier than the supporting fluid, and sank.* It is by no means rare to find fragments

* The organism here referred to has been since slit by the lapidary and the sections carefully examined. It proves to be unequivocally a true wood of the coniferous class. The following is the decision regarding it of Mr. William Nicol, of Edinburgh, confessedly one of our highest living authorities in that division of fossil botany which takes cognizance of the internal structure of lignites, and decides from their anatomy their race and family:

Edinburgh, 19th July, 1845.

DEAR SIR:—I have examined the structure of the fossil wood which you found in the Old Red Sandstone at Cromarty, and have no hesitation in stating, that the reticulated texture of the transverse sections, though somewhat compressed, clearly indicates a coniferous origin; but as there is not the slightest trace of a disk to be seen in the longitudinal sections parallel to the medullary rays, it is impossible to say whether it belongs to the Pine or Araucarian division. I am, &c.,

WILLIAM NICOL