

the section parallel to the radius of the stem or bole the circular disks of the coniferæ were at first not at all detected : and, as since shown by a very fine microscope, they appear simply as double and triple lines of undefined dots, that somewhat resemble the stippled markings of the miniature painter ; nor are the openings of the medullary rays frequent in the tangential section (*i.e.* that parallel to the bark) ; but nothing can be better defined than the peculiar arrangement of the woody fibre, and the longitudinal form of the cells. Such is the character of this the most ancient of lignites yet found that yields to the microscope the peculiarities of its original structure. We find in it an unfallen *Adam*,—not a half-developed savage.¹

The olive-leaf which the dove brought to Noah established

¹ On a point of such importance I find it necessary to strengthen my testimony by auxiliary evidence. The following is the judgment, on this ancient petrification, of Mr. 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, etc.

‘ WILLIAM NICOL.’

It will be seen that Mr. Nicol failed to detect what I now deem the disks of this conifer,—those stippled markings to which I have referred. But even were this portion of the evidence wholly wanting, we would be left in doubt, in consequence, not whether the Old Red lignite formed part of a true gymnospermous tree, but whether that tree is now represented by the pines of Europe and America or by the araucarians of Chili and New Zealand. Were I to risk an opinion in a department not particularly my province, it would be in favour of an araucarian relationship.