COAL.

which we dug out of that position, and we have never seen them above the coal. The structure of the stigmaria is so singular, that for a long time geologists did not know to what class of plants it belonged, but considered its nature aquatic, or that it grew in watery mud-and so the reader will find it described in works on the subject, written not very long ago. Of late years it has been asserted that it was the root of the sigillaria, and the appearance of a remarkably fine sigillaria in a coal mine near Liverpool, England, with several stigmaria attached to its base, almost proved it to be The late discoveries of Mr. Brown in the coal mines of Cape so. Breton, Nova Scotia, of the cylindrical stems of the sigillaria with stigmaria attached as roots, and spreading out into the shale, or ancient soil in which it grew, in some cases to a distance of sixteen feet and upwards-have now decided the question beyond a doubt. The stigmaria is so called from the little holes all over the fossil. In the centre of these holes or wells are small tubercles, or as they might be called, stone pimples. These holes and tubercles are the distinctive features of the fossil, by which it can easily be recognized. The tubercles of the stigmaria are always arranged spirally round the stem. To each tubercle was originally attached a rootlet, which is often found united to the fossil plant, and penetrating the shale. These rootlets, or small roots, were concave at one end, which end fitted on the tubercles. They collected and conveyed from the earth nourishment to the stigmaria or large root, and that in time to the sigillaria or plant first described.

LEPIDODENDRA.

The lepidodendron was one of the most beautiful, as well as the most numerous plants of the coal period, and more than any other plant enters into the composition of coal. Some coals are known to be formed altogether of its carbonized remains. The lepidodendron is so called from the scaly appearance of the fossil stem; and our readers will easily recognize it by the triangular markings on its surface. These marks were caused by the leaf stalks (petioles) remaining when the leaves were broken off, and these leaves were umbricated, that is to say, grew over each other, close to the stem, hence the markings all over the fossil stem. The lepidodendron was very different from any existing tree, although it is not unlike the club mosses of inter-tropical regions, or the ground spruce found in the damp parts of the forests of New Brunswick. But while these are but small prostrate plants, not often more than three feet in length, the lepidodendron was a great tree rising to the height of eighty feet and upwards, and must have presented a beautiful appearance, with its tall branchless stems dividing and re-dividing into pairs near the top, with their long graceful leaves clinging to them in festoons. There were a great many kinds of lepidodendra, and a plant very much like it called the ulodendron, as also the lepidostrobus.