ever, to realise the idea of arboreal plants having structures akin to those of thallophytes, but with seeds so large and complex that they can scarcely be regarded as mere spores. They should perhaps constitute a separate class or order to which the name *Nematodendreæ* may be given, and of which *Nematophyton* will constitute one genus and *Aporoxylon* of Unger another.*

Another question arises as to the possible relation of these plants to other trees known by their external forms. The *Protostigma* of Lesquereux has already been referred to, and Claypole has described a tree from the Clinton group of the United States, with large ovate leaf-bases, to which he has given the name *Glyptodendron.*† If the markings on these plants are really leaf-bases, they can scarcely have been connected with *Nematophyton,* because that tree shows no such surface-markings, though, as we have seen, it had bundles of tubes passing diagonally to the surface. These plants were more probably trees with an axis of barred vessels and thick, cellular bark, like the *Lepidodendron* of later periods, to be noticed in the sequel. Dr. Hicks has also described from the same series of beds which afforded the fragments of Nematophyton certain carbonised dichotomous stems, which he has named *Berwynia.* It is just possible that these plants may have belonged to the Nematodendreæ. The thick and dense coaly matter which they show resembles the bark of these trees, the longitudinal striation in some of them may represent the fibrous structure, and the lateral projections which have been compared to leaves or leaf-bases may correspond with the superficial eminences of *Nematophyton,* and the spirally arranged punctures which it shows on its surface. In this case I should be disposed to re-

* See report by the author on "Erian Flora of Canada," 1871 and 1882, for full description of these fossils.

† "American Journal of Science," 1878.