

dendra are very generally recognised as of a type intermediate between the two. Similar intermediate types, exemplified by extinct families, united the Conifers and the ferns. The analogy of *Kirchneria* with the *Thinnfeldia*, says Dr Braun, is very remarkable, notwithstanding that the former is a fern, and that the latter is ranked among Conifers. The points of resemblance borne by the Conifers to the huge Equiseta of the Oolitic period seem to have been equally striking. The pores which traverse longitudinally the channelled grooves by which the stems of our recent Equiseta are so delicately fluted, are said considerably more to resemble the discs of pines and araucarians than ordinary stomata. Mr Francis does not hesitate to say, in his work on British Ferns, that the relation of this special family to the Coniferæ is so strong, both in external and internal structure, that it is not without some hesitation he places them among the fern allies ; and it has been ascertained by Mr Dawes, in his researches regarding the calamite, that in its internal structure this apparent representative of Equiseta in the earlier ages of the world united "a network of quadrangular tissue similar to that of Coniferæ to other quadrangular cells arranged in perpendicular series," like the cells of plants of a humbler order. The relations of the Cycadacean order to ferns on the one hand, and to the Coniferæ on the other, are equally well marked. As in the ferns, the venations of its fronds is circinate, or scroll-like,—they have in several respects a resembling structure,—in at least one recent species they have a nearly identical form ; and fronds of this fern-like type seem to have been comparatively common during the times of the Oolite. On the other hand, the Cycadaceæ manifest close relations to the Conifers. Both have their seeds originally naked ; both are cone-bearing ; both possess discs on the sides of their cellules ; and in both, in the transverse section, these cellules are subhexagonal, and