of vascular tissue. A portion of one of these bundles, highly magnified, is represented in Plate V. fig. 7. The *inner* circle of this zone, indicated by the *convex undulating line*, is made up of medullary vascular tissue; the external circle is divided by rays, and is composed of woody fibre, constituting a ligneous cylinder. One of the spiral vessels (fig. 3.), and another showing a remarkable difference of structure in a short space (fig. 2.), as seen in a longitudinal section of the medullary tissue, are figured in *Lign.* 26. The ligneous cylinder is surrounded by a band of cellular tissue, and the space between this and the cortical integument is occupied by silex, in which there are obscure traces of cellular structure. The inner layer of bark, *f*, is composed of elongated cells, disposed in a radiating manner, and traversed by fibro-vascular bundles, which pass towards the leaves.

From this dissection, M. Brongniart was enabled to institute a comparison, between the fossil and the stems of those recent plants which present the closest analogy. From the result of this examination, he concludes that the Sigillariæ constituted a peculiar family of coniferous plants, now extinct, which probably belonged to the great division of gymnospermous dicotyledons. In their external forms they somewhat resembled the *Cacteæ* or *Euphorbiæ*, but, by their internal organization, they were more nearly related to the *Zamiæ* or *Cycadeæ*. The leaves and fruits of these trees are unknown,