

SILICIFIED FERN-STEMS.—Before entering upon the examination of other plants of the carboniferous strata, it will be convenient to offer a few remarks, in this place, on the silicified stems of ferns that abound in the New Red sandstone, near Hillersdorf, in the neighbourhood of Chemnitz, in Saxony.* They are of great beauty, and the organization of the original is so well preserved by the silex, that slices, examined by the microscope, display the peculiar structure of this family, as perfectly as in the recent plants. Transverse sections exhibit the arched bundles of vascular fibres which compose the ligneous cylinder, surrounded by the cellular tissue, as in the living stems (see *Lign.* 2.). From the stellated markings on these slices, occasioned by the section of the vessels of which the tissue is composed, and which are visible to the naked eye, these fossils have obtained the name of *staaren-stein*, or star-stone. Their external surface (at least, in the specimens I have had an opportunity of examining) is of a ligneous appearance, and of a dark reddish brown colour; but internally they are of a dull red, mottled with various tints of blue and yellow, from the agate and chalcedony, with which their vessels are permeated.†

* An excellent work, "*Dendrolithen*," on these fossils, has been published at Dresden by M. Cotta.

† In *Org. Rem.* Vol. I. Plate VIII. fig. 1—7, are figures of these fossils, which convey a good idea of their appearance