the stem near its base, and an inner part or axis. In the exterior portion, the fossil *air-roots* have a vascular tissue, but there is often a delicate cellular tissue interposed between them. In the axis, on the other hand, or central part of the stem, the vessels form zigzag or wavy bands, resembling those of ferns. These flexuous and vermiform bands are entirely composed of barred or scalariform vessels quite similar to those of ferns and Lycopodia. M. Adolphe Brongniart, therefore, considers the psarolites to have been the bases of the trunks of lycopodiaceous trees; but other eminent botanists incline rather to the opinion that they were true arborescent ferns.

I have examined at Autun, in France, the spot where more than one species of this genus occurs. The geological position of the fossils, as well as the associated plants and ichthyolites, imply that the beds containing them belong to the uppermost coal measures. The same appears to hold true of the strata at Chemnitz in Saxony, from which Cotta procured several species, as also in regard to the only other places in Europe where psarolites have been met with, namely, Neu Paka in Bohemia, and Ilmenau in Saxe Weimar. Some species are common to each of the spots above enumerated; but the American fossil appears to have been distinct from all, and is remarkable for the small size of the outer zone of roots when compared to the central axis. The latter is often no more than two inches in diameter, while the whole trunk is fourteen inches. My friend Mr. Robert Brown possesses a psarolite which he received from the northern part of Brazil.

May 20.—From Marietta we descended the river,