

through the centre. the cells of the parts laterally compressed, would be seen with the mid-rib not strictly defined ; and the bases of the cells of that part vertically compressed, scarcely or not at all visible. When a small portion of the base of that part which is vertically compressed is preserved, the bases of the cells remain and mark the axis. When instead of being imbedded so that two parallel sides are compressed laterally and the other vertically, the whole frond lies in an oblique position, the two adjacent rectangular parts are spread open and flattened upon the surface of the slate, the specimen then appears as if the cells were conjoined at their bases, or as if separated by a filiform mid-rib. An individual compressed in this manner and then separated through the middle, will present the bases of the two adjacent divisions with the cells lying obliquely to the plane of the slaty laminæ. These and other varieties of appearance are due to the position in which the fossil was imbedded, and the direction of the cleavage or lamination of the slate.

PHYLLOGRAPTUS. (New Genus.)

Description.—Frond consisting of simple foliate expansions, celluliferous or serrated upon the two opposite sides ; margins with a mucronate extension from each cellule ; or of similar foliate forms united rectangularly by their longitudinal axes, and furnished on their outer margins with similar cellules or serratures, the whole supported on a slender radicle.

These bodies which usually appear upon the stone in the form of simple leaf-like expansions, may possibly have been attached in groups to some other support ; but the form of some of them, and the character of the projecting radicle at the base, indicates that we have the entire frond. These forms furnish perhaps the best illustration of all the *Graptolitideæ*, of the lesser development of the cells at the base, and their gradual expansion above, until they reach the middle or upper part of the frond. Many of them diminish from the centre upwards, and rarely the cells are more developed above the centre, reversing the usual form, and leaving the narrower part at the base.

PHYLLOGRAPTUS TYPUS.

Description.—Frond elliptical, elongate-ovate or lanceolate, broad-oval or obovate ; margins ornamented by mucronate points ; serratures closely arranged, about twenty-four, rarely twenty-two