septum and secondly a vertical sagittal septum. The frontal septum (described accurately by Bütschli) has usually two or three pairs of pores and ascends obliquely from the base to the anterior face of the cephalis, where it is inserted in the orbital region; it divides the cephalis into a smaller anterior or facial lobe and a larger posterior or occipital lobe. The latter is commonly higher and more developed than the former and partly covers its upper face, like the crest of a helmet. The facial lobe is again bisected by an incomplete sagittal septum and a corresponding partial constriction on the anterior face. We find, therefore, in this original cephalis of the Botryodea, three primary lobes, an odd larger occipital lobe and two paired smaller facial lobes. The typical trilobed cephalis may be regarded perhaps as the common original form of the Botryodea.

The secondary and inconstant constrictions which we find in many Botryodea, and which produce a greater number of lobes in the cephalis, require further accurate observation. The following cases of lobation may be considered as the most important:—(1) Cephalis with four lobes, opposite in two pairs (two larger occipital and two smaller facial lobes, separated by a complete sagittal and an oblique frontal constriction); (2) cephalis with four unequal lobes, two of which are odd and sagittal, two paired and lateral (the odd occipital lobe usually larger and the odd mandibular lobe smaller than the two paired lateral or buccal lobes); (3) cephalis with five lobes (a large odd occipital lobe and two pairs of smaller lobes, anterior nasal, and lateral buccal lobes); (4) cephalis with five lobes, three of which are odd (a posterior occipital, middle frontal, and anterior facial lobe), and one pair of lateral lobes; (5) cephalis with six lobes, opposite in pairs (two larger occipital, two smaller nasal and two intermediate lateral or buccal lobes); (6) cephalis with six lobes, two of which are odd and sagittal (a large occipital and a smaller nasal lobe), four opposite in pairs (two anterior and two posterior buccal lobes); (7) cephalis with seven lobes, three of which are odd (a large posterior occipital, a middle frontal, and an anterior small nasal lobe), four opposite in two pairs (an anterior buccal and a posterior temporal pair); (8) cephalis with eight lobes, two of which are odd (a large posterior occipital and a small anterior frontal lobe) and six opposite in three lateral pairs; (9) cephalis with nine lobes, three of which are odd (an occipital, a frontal and a nasal lobe) and six opposite in three lateral pairs; (10) cephalis with ten lobes, two of which are odd (a large occipital and a smaller frontal lobe) and the other eight opposite in pairs; (11) cephalis with numerous lobes (twelve to fifteen or more) which are symmetrically disposed on each side of the median plane; (12) cephalis with numerous lobes (twelve to fifteen or more) which are irregularly and sometimes spirally conglomerated.

All these different forms of lobation require a far more thorough examination than I can devote to them, and may furnish examples of regular laws of development. The irregular forms are rather common, and I have found some very irregular Botryodea