

We may next notice a fourth contrivance by which the apparatus that gives the shell its power of floating, is progressively enlarged in due proportion to the increasing bulk of the body of the animal, and increasing weight of the external chamber in which it resides; this is effected by successive additions of new transverse Plates across the bottom of the outer chamber, thus converting into *air chambers* that part of the shell, which had become too small to hold the body. This operation, repeated at intervals in due proportion to the successive stages of growth of the shell, maintains its efficacy as a *float*, enlarging gradually and periodically until the animal has arrived at full maturity.*

fossil Nautili. As the internal transverse plates are convex *inwards*, (see Pl. 32, Fig. 1, b. to c.) whilst the ribs of the outer shell are in the greater part of their course convex *outwards*, these ribs intersect the curved edges of the transverse plates at many points, and thus divide them into a series of curvilinear parallelograms; the two shorter sides of each parallelogram being formed by the edges of transverse plates, whilst its two longer sides are formed by segments of the external ribs. The same principle of construction here represented in our plate of *Nautilus hexagonus*, extends to other species of the family of *Nautilus*, in many of which the ribs are more minute; it is also applied in other families of fossil chambered shells; e. g. the *Ammonites*, Pl. 35, and Pl. 38. *Scaphites*, Pl. 44, Fig. 15. *Hamites*, Pl. 44, Fig. 8—13. *Turrilites*, Pl. 44, Fig. 14, and *Baculites*, Pl. 44, Fig. 5.

* In a young *Nautilus Pompilius* in the collection of Mr. Broderip, there are only seventeen Septa. Dr. Hook says that he has found in some shells as many as forty. A cast, expressing the form of a single air chamber, of the *Nautilus Hexagonus* is represented in Pl. 42, Fig. 1.