of movements like those of an Amœba. The Planæa, on the other hand, consisted of two kinds of different cells—inner ones like the Amœbæ, and external "ciliated cells." By the vibrating movements of the cilia the entire multicellular body acquired a more rapid and stronger motion, and passed over from the creeping to the swimming mode of locomotion. In exactly the same manner the *Morula*, in the ontogenesis of lower animals, still changes into a ciliated form of larva, which has been known, since the year 1847, under the name of *Planula*. This Planula is sometimes a globular, sometimes an oval body, which swims about in the water by means of a vibrating movement; the fringed (ciliated) and smaller cells of the surface differ from the larger inner cells, which are unfringed. (Fig. 4 of the Frontispiece.)

Out of this Planula, or fringed larva, there then develops, in animals of all tribes, an exceedingly important and interesting animal form, which, in my Monograph of the Calcareous Sponges, I have named *Gastrula* (that is, larva with a stomach or intestine). (Frontispiece, Fig. 5, 6). This Gastrula externally resembles the Planula, but differs essentially from it in the fact that it encloses a cavity which opens to the outside by a mouth. The cavity is the "*primary intestine*," or "primary stomach," the *progaster*, the first beginning of the alimentary canal; its opening is the "*primary mouth*" (prostoma). The wall of the progaster consists of two layers of cells: an outer layer of smaller ciliated cells (outer skin, or ectoderm), and of an inner layer of larger non-ciliated cells (inner skin, or entoderm). This exceedingly important larval form, the "Gastrula," makes its appearance in the ontogenesis of all tribes of