

APPENDIX.

EXPLANATION OF THE PLATES.



PLATE FACING TITLE-PAGE.

Developmental History of a Calcareous Sponge (Olynthus). Compare vol. ii. p. 140. The egg of the Olynthus (Fig. 9), which represents the common ancestral form of all Calcareous Sponges, is a simple cell (Fig. 1). From this there arises, by repeated division (Fig. 2), a globular, mulberry-like heap of numerous equi-formal cells (Morula, Fig. 3; vol. ii. p. 125. As the result of the change of these cells into an outer series of clear ciliated cells (Exoderm) and an inner series of dark, non-ciliated cells (Entoderm), the ciliated larva, or Planula, makes its appearance. This is oval in shape, and forms a cavity in its centre (gastric cavity, or primitive stomach, Fig. 6 *g.*), with an opening (mouth-opening, or primitive mouth, Fig. 6 *o*); the wall of the gastric cavity consists of two layers of cells, or germ-layers, the outer ciliated Exoderm (*e*) and the inner non-ciliated Entoderm (*i*). Thus arises the exceedingly important stomach-larva, or Gastrula, which reappears in the most different tribes of animals as a common larval form (Fig. 5, seen from the surface; Fig. 6, in long section. Compare, vol. ii. pp. 126 and 281). After the Gastrula has swum about for some time in the sea, it fastens itself securely to the sea-bottom, loses its outer vibratile processes, or cilia, and changes into the Ascula (Fig. 7, seen from the surface; Fig. 8, in long section; letters as in Fig. 6). This Ascula is the recapitulative form, according to the biogenetic