

tically towards the surface of the planula. In these tracts the nematocysts are developed.

B. A layer of the same elements lying next to the outer surface of the endoderm.

Fig. 8. A portion of the same planula, viewed from the surface, to show the manner in which the surface is marked out into polygonal areas, by the special arrangement within the substance of the ectoderm of the nematocysts and tracts in which they are developed.

N, N. Nematocysts, seen in optical section.

A, A. Elements amongst which they are developed.

Fig. 9. Section, vertical to the surface, of a nearly mature planula of *Errina labiata*.

E. Ectoderm, composed of alternate transparent and more opaque tracts, disposed vertically to the surface.

A. The more opaque tracts, containing numerous nuclei and young thread cells.

B. Basement membrane.

En. Endoderm, composed of fatty bodies and granules, and containing—

N, N. Developing nematocysts.

O. Large oil-globules.

Fig. 10. Portion of the surface layer of the ectoderm of *Errina labiata*, viewed from the outer surface.

S, S. Polygonal nucleated cells composing the layer. These in places overlap.

N, N. Nematocysts seen *in situ* within these transparent superficial cells.

Fig. 11. Section, vertical to the surface, of the ectoderm of a gastrozoid of *Errina labiata*.

E. Superficial layer, composed of inflated transparent nucleated cells.

E'. Inferior layer of the ectoderm containing numerous nuclei.

Fig. 12. Section, transverse to the axis, of a cyclo-system of *Allopora profunda*, taken at some little distance below the level of the mouths of the pores of the zooids, showing the sac only of the retracted gastrozoid in section, but both sacs and zooids of the dactylozooids. The whole is represented as decalcified, with the exception of the styles of the dactylozooids, which are introduced to show the position which they occupy in the recent state of the coral (*cf.* Pl. VI.).

R, R. Radially disposed offsets of the cœnosarc.

G Z. Cavity of the sac of the gastrozoid.

X, X. Inter-radial spaces between these.

D Z. Dactylozoid, showing in section its three composing layers, ectoderm, endoderm, and intermediate muscular and membranous layer.