Even less remains to be said when we consider the blood-spaces of the Challenger Nemertea, be they the closed longitudinal and the metameric transverse vessels of the Hoplonemertea and of the posterior body-region of the Schizonemertea, or the circum-œsophageal and circumrhynchodæal lacunæ of the latter, or the two spacious lateral longitudinal cavities of *Carinina*.

All these points have been dwelt upon at length by Oudemans (XXVII), and the Challenger material furnishes a general confirmation of his results. Doubt cannot be any longer entertained that these spaces are all clothed by an epithelium,—at any rate by a special and continuous cellular coating, either applied against the muscular tissue when this surrounds (Pl. IV. figs. 5, 6; Pl. XIII. fig. 6; Pl. XIV. fig. 4), or traverses (Pl. VII. fig. 10) the cavities or against the gelatinous tissue, when it is in this that the vessel takes its course (Pl. X. figs. 1, 8). In the latter case the structure of the vessel is still more complicated, so that, as described by Oudemans, there is constantly a tubular, denser layer of the homogeneous tissue just outside the inner epithelial coating; and outside this tubular layer, which might be termed the basement layer of the vessel, we find a second layer of generally more spherical cells, amongst which a layer of fibres, specially belonging to the blood-vessel, may be seen to make its appearance (Pl. XV. fig. 1, *dv*).

This same description holds good for the longitudinal vessel, as far as it takes its course inside the proboscidian sheath (Pl. X. fig. 8). The gradual narrowing of the circumœsophageal lacunar space into the two ventral vessels shows the passage of the epithelium of the one into that of the other very clearly.

The difference in the distance along which the medio-dorsal vessel is enclosed in the proboscidian sheath was mentioned and figured by Oudemans (XXVII) for different species; my own observations on the Challenger specimens fit into the same general outlines; a few additional data concerning these points are contained in the systematic description of the species.

GENERATIVE ORGANS.

Certain not unimportant additions to our knowledge of the generative organs of the Nemertea are due to the Challenger specimens. Among these facts I wish successively to record:

(*a*) The irregular distribution in certain species of very numerous generative sacs enclosed in the gelatinous tissue, and having each its separate external opening, which are consequently neither paired nor metameric.

(*b*) The comparatively late period at which the definite external opening is formed, although long before that time the sac is characterised by a pointed projection reaching between the muscular tissue and foreshadowing the definite openings, dehiscence of the body-wall being certainly not the normal way of exit of the generative products.