(3) that in *Carinina* the opening through which the proboscis is everted lies ventrally to this furrow; (4) that in most *Cerebratuli* the proboscidian opening would similarly lie ventrally to the point of meeting of the lateral cephalic furrows if we supposed these to meet at the tip of the snout; (5) that in a few cases the opening appears to have shifted into the central part of the fissure; (6) that in other *Cerebratuli* the fissures, though continued on the anterior and apparently truncated portion of the snout, do not wholly fuse (Pl. I. fig. 12), but that just in the interval the proboscidian opening is situated; (7) that again in other *Cerebratuli* this anterior truncated portion is wholly devoid of any continuation of the fissures, which in their turn may be exceedingly deep and long (Pl. I. fig. 16); (8) that in the *Amphipori* alluded to (Pl. IX. fig. 9) the common opening for proboscis and digestive cavity is also situated ventrally to the terminal fold; (9) that in *Eupolia* transverse and very shallow cephalic fissures are found, which very strongly resemble those of the Hoplonemertea (even in the presence of short and numerous secondary grooves perpendicular to the principal groove), and which similarly contain the opening that leads into the posterior brain-lobe, as is the case in *Carinina* and the Hoplonemertea, and that even yet in certain *Eupoliæ* a trace of a terminal horizontal furrow has been retained (Pl. I. fig. 7).

Tabulating these different facts, the case would appear to stand thus :—

Carinella annulata,	one terminal shallow horizontal groove, two transverse lateral ones, no ciliated canal.
„ *inexpectata*,	(VIII) terminal groove uncertain, transverse lateral grooves, ciliated canals into the brain-substance opening out into these grooves.
Carinina, . . .	terminal groove present, lateral grooves, with openings of ciliated canal leading into a separate posterior brain-lobe.
Amphiporus, . .	terminal groove present, lateral grooves, with openings of ciliated canal leading into a separate posterior brain-lobe.
Eupolia, . . .	hardly a trace of terminal horizontal groove, lateral grooves as in the Carinellidæ and Hoplonemertea.
Valencinia, . .	no grooves at all, simple round opening for ciliated canal.
Schizonemertea, .	two longitudinal (never transverse!) cephalic grooves which in some cases are wholly separate, in other cases meet at the tip of the snout, and might then in their entirety be compared to a terminal horizontal groove such as that of *Carinina*.

If the latter conjecture be true, *i.e.*, if we may suppose the lateral furrows of the Schizonemertea to be derived from an ancestral phase, in which a terminal groove like that of *Carinina* was separated into two halves which deepened and widened on both sides of the head, reaching down as far as the opening of the ciliated canal into the