

Furcilia stage (fig. 28) four pairs of gills have made their appearance, of which the anterior three are now bifurcate (see also fig. 26), the last pair simple. In the following stage (first Cyrtopia stage) six pairs may be seen (fig. 29), the three anterior being still bifurcate, whereas the next pair are very small and knob-like; and of the two last pairs, the anterior are bifurcate, the posterior simple. At the base of the former occurs a rounded expansion, within which a luminous globule has appeared, and hence these two pairs are found in reality to represent the two last pairs in the adult animal. The antepenultimate pair are of course not yet developed, nor is any trace of the corresponding legs as yet perceptible. In the last Cyrtopia stage (fig. 31), however, all the gills have developed, the four anterior pairs being bifurcate, the fifth simple, the penultimate quadripartite, and the last tripartite. Finally, in the first post-larval stage (fig. 32) the third and fourth pairs have become tripartite, the fifth bifurcate, and the two last pairs respectively quinque- and sex-partite. During the progressive growth of the animal the gills gradually acquire a more complex structure, the two last pairs in particular becoming rapidly larger and more distinctly arborescent.

*The Pleopoda* (figs. 33–35).—The development of these limbs does not commence till the Furcilia stage, and proceeds successively from before backwards. In the first of these stages a pair of small bud-like processes are seen springing from the ventral face of the first caudal segment. When isolated and strongly magnified, these processes (fig. 33) exhibit a somewhat lanceolate form, and have on the inner side a very small projection—the first trace of the inner plate. In the stage occurring between the two first Furcilia stages described above, similar bud-like processes successively appear on the following three caudal segments. In the intermediate Furcilia stage, figured in Pl. XXIX. fig. 6, the penultimate segment has also acquired a similar pair of buds, and those belonging to the first caudal segment have now attained a more complete development (fig. 34), being composed of a distinctly defined basal part and two terminal plates, the outer of which is much the larger, and furnished with six natatory setæ, whereas the inner is very small, conical in form, and bears a single apical seta only. The other pleopoda now successively acquire a similar structure, while the anterior pair develop further (fig. 35), their inner plate becoming more complete, acquiring at first an additional seta springing from the outer edge, as also a small projection at the inner edge, representing the secondary lobe occurring in the adult animal. The following development proceeds successively from before backwards, till finally all the pleopoda have acquired their definite form.

*The Telson* (figs. 36–42).—This part undergoes a constant change during the several stages of development, being at first very broad and spathulate in form, and becoming successively narrow until at last it assumes the slender spine-like form characteristic of the adult animal. This change is also, as will appear in the sequel, accompanied by a