

All this has already been stated by Balfour in clearer terms in his *Comparative Embryology* (vol. ii. pp. 308, 311), where he describes the gradual steps by which a radiate medusa-like animal may have passed into a bilateral worm-like form, with two longitudinal nerve-stems, which are regarded by Balfour as the stretched nerve-ring of the Medusa.

I fully endorse these views; only, with respect to the nervous system, I hold it to be safer to leave out of comparison the already specialised nerve-ring of the Medusa, and rather to go back to a Cœlenterate nervous system as primitive as that of the *Actinia*, where the plexus, both of the epiblast and the hypoblast, with an increase in density in the region of the mouth and the tentacles, may be said to be the fair representative of one of the lowest starting points. In this the plexiform arrangement predominates.

Now we find in all the lower invertebrates various though distinct nerve tracts that are being specialised in this plexiform nerve-tissue according to the modes of motion of the animal, and according to the general shape of the body.

Thus in the Medusæ, which move about in the water by annular contractions of the lower portion of the bell-shaped body, one of the nerve-rings already alluded to was demonstrated by the Hertwigs to innervate the musculature by which this is brought about.

In the Ctenophora the nerve-system is less satisfactorily known, but still Lang does not hesitate to bring them into genetic relationship with the Polyclada (XVIII). Among the latter, *Gunda*, with its two longitudinal lateral stems, may be looked upon as an extreme term in this series.

Another series may indeed be supposed to have derived longitudinal stems from a ring which became extended to form lateral cords, as the animal passed from the radial to the bilateral symmetry, in the way suggested by Balfour. Still, even in this case, a nerve-plexus may be expected to be co-existent with or to have preceded the nerve-ring. The longitudinal stems originating from the anterior thickenings of the plexus that innervate the sense organs and the tip of the head (specially sensitive in connection with the forwardly-directed movements of the body), would all the more probably be preserved and increase in development, as during this forward movement they form a right and a left centre for the reception of outward stimuli. In the same way those of the radially-arranged stems of the Polyclada that are parallel to the longitudinal body-axis, and mark out right and left, are more strongly developed than the others, presumably on account of their importance in connection with the well-directed movements of the body in response to external agents.

In the ancestral Mollusca, I think we may assume with great probability the presence of four longitudinal stems—two latero-dorsal, and two latero-ventral ones; in the ancestral forms of Annelids and Arthropods two, which have gradually coalesced ventrally, as was first suggested by Gegenbaur. Again, in Nematodes differently situated longitudinal