

independent from those of the brain commissure that is seen to pass under it, and to have a different texture and arrangement.

Our observations on the nerve-plexus would not be complete if we did not allude to the very elaborate branches that pass out from it into the superposed muscular layers which they innervate. Some of them can even be traced as thick radial nerves piercing these muscles, and spreading out into the integument (Pl. XIII. fig. 6, *n*). Similarly the underlying muscular layers receive fine nerve-twigs out of the plexus, which are thus directed inwards as well, and first penetrate into the circular layer β . For this reason they are best seen in longitudinal sections. The peripheral nerve system of the Schizoneurtea has thus—as was already fully indicated in a former publication (\mathbf{x})—a totally different character from that of the Hoplonemertea. The profusion of radial nerve-stems springing from the plexus, every transverse section showing a great number of them, may convince us of the high degree of elaboration to which the nerve system of this group attains, and of which the great sensitiveness and quickly reacting movements of the worms themselves are the outwardly visible tokens.

Nor may we omit to record the important fact, which was first observed in a Challenger specimen of *Cerebratulus corrugatus*, that in the region of the long slit-like mouth and œsophagus (behind the region where the very strong nerve, to which the name of vagus-nerve has been given (\mathbf{v} , \mathbf{ix}), leaves the inferior brain-lobes on its way to innervate the œsophagus) we can observe that from the plexus distinct nerves become detached, pierce the circular and inner longitudinal muscle layers (β and α), cross the circum-œsophageal blood-space and enter the tissue of the wall of the blood lacunæ and of the œsophagus to assist in innervating these important organs. The morphological significance of this fact will be further insisted upon later on (*cf.* pp. 134, 142). The phenomenon is figured on Pl. XIV. figs. 3, 4.

We have now traced the facts concerning the plexus and the medullary nerve. In a general way these descriptions may be said to be applicable to the plexus of *Carinina*, which, however, as was already noticed, is a less favourable object for study. It would seem as if in this species the nervous tissue, passing inwards amidst the muscles, again spreads out into a second plexiform arrangement between the muscular layers α and δ . This phenomenon, however, requires confirmation in more specimens than the two that have been available for the present investigation.

One point alone requires a few words of further elucidation before we can pass from the nerve plexus to another paragraph, viz., the question as to whether the name of proboscidian sheath-nerve, formerly given by me to what I now propose to call the medullary nerve or the Nemertean medulla, must for the future be dropped altogether. It certainly must, if we wish to retain it for the longitudinal nerve originally so called; but, curiously enough, I have now been able to make out the presence of another longitudinal nerve to which the name may very properly apply.