

able nerve-stems, both of the vagus nerve and of the visceral nerves, by which this is brought about, and that in longitudinal sections also (Pl. XIV. fig. 5) the vagus nerve may often be followed uninterruptedly for a very considerable distance backwards, being applied upon the outer surface of the œsophagus, and only gradually dichotomising and sending delicate nerve-fibres amongst the œsophageal epithelium (*cf.* Pl. XVI. fig. 1).

Of the two sources of innervation of the intestine, the one by the nerve-stem directly issuing from the brain-lobes (the so-called vagus nerve) is the most conspicuous, and can be demonstrated in all species from *Carinina* to the more specialised Hoplonemertea without exception. In *Carinina* it is represented in Pl. VI. fig. 1, *Nv*; in this species the visceral nerves (Pl. XVI. fig. 1, *vi.sy*; Pl. XIV. figs. 3, 4, *vi.n*) have not been definitely demonstrated as yet in either of the two available fragments. These latter nerves are more easily detected in larger Schizonemertea, where the thick nerve-plexus is itself so much more conspicuous. *Cerebratulus corrugatus* especially answers this purpose.

In the Hoplonemertea too the vagus is very evident, and already represented on Quatrefages' figures (XXVIII); in *Drepanophorus lankesteri* I saw its principal stem running forwards towards the anterior œsophageal portion that passes under the brain.

In this species we find numerous thin nerves, both from the lower brain-lobes and the lateral stems, further participating in the innervation of the œsophagus—a state of things which may be directly compared to the mixed innervation described above for *Cerebratulus corrugatus*.

I cannot as yet supply any definite statement regarding the innervation of the posterior region of the intestine.

## NEPHRIDIAL APPARATUS AND BLOOD-VASCULAR SYSTEM.

Our knowledge of the nephridia of the Nemertea is only of a comparatively recent date. Though discovered by Max Schultze as early as 1851 in a *Tetrastemma* (XXXII), the observations of this naturalist concerning the Nemertean nephridia were for a long time wholly unjustifiably disregarded, and this general scepticism made me very careful in formulating any definite opinion, when I also discovered in Schizonemertea separate lumina (IV), which I could hardly account for in any other way than by regarding them as parts of a nephridial system.

This was afterwards more emphatically done by von Kennel (XVI), to whom is due all the credit of having rediscovered the nephridia, and of having described their histological appearance in several different genera. His results were later on confirmed by other authors (II, III, XI). I have afterwards observed and described (XII) a special modification of the nephridial system in Nemertea, in which an indubitable internal opening is