

think they can safely be described as bipolar, for their body can be followed up as a very pale process in the direction of the supra-oesophageal ganglion as well as in the direction of the eye. In both directions these processes are placed, like the ganglionic cell itself, quite in the interior of the nerve. Close to the eye the nerve shows a second swelling which contains also a distinct ganglionic cell, and it is by this swelling that the nerve is laterally attached to the eye. Each of the two other slightly thinner nerves, which run between the two stronger ones, has also a swelling at about the same distance from the eye. The two nerves unite together where this swelling is thickest and where each contains a ganglionic cell; they then part again and separately run towards the eye, which they reach at its frontal extremity, *i.e.*, that extremity which is directed towards the supra-oesophageal ganglion. I have not been able to study the way in which the nerves enter or are attached to the pigment spot. Round about the spot a network of fibres of greater or less capacity can easily be made out; yet it is extremely difficult, not to say impossible, to ascertain with certainty the nature of these fibres. Some of them are no doubt nerve-fibres, while others belong doubtless to the connective tissue.

The way in which the ganglionic cells are placed in the interior of the nerves slightly resembles what Leydig observed in the case of the sympathetic nerve-fibres of insects. He observed¹ (in *Bombus terrestris*) in single fibres of the so-called sympathetic nerves, a nucleus here and there with a granular mass surrounding it, forming a kind of bipolar ganglionic cell "in der Anlage."

Neither in *Lepas anatifera* nor in *Lepas fascicularis* could I distinguish the two little lenses which Darwin says he has observed. Nor do I think that this is owing to any fault in my observation. Darwin may have observed living, or at least fresh, animals, and the lenses may have disappeared under the influence of the alcohol. But I think it is more probable that Darwin, who used only a feeble magnifying power, has mistaken the ganglionic cells for lenses. What he calls the two small perfectly distinct oval ganglia, are probably the swellings of the optic nerves which in *Lepas anatifera* contain two distinct ganglionic cells.

As regards the sessile Cirripedia, and especially different species of *Balanus*, the experiments of different naturalists have shown that they are sensible to a difference between light and shadow. I do not know whether similar experiments have ever been made on pedunculated Cirripedia. Should they give the same result, and I think they very probably would, even then I should hesitate to consider the rudimentary simple eye placed on the external surface of the stomach as the organ of this function.

¹ Leydig, F., *Bau des thierischen Körpers*, Tübingen, 1864, p. 205.