

perisome of the arms and disk. Jickeli says, for example, "von diesem dritten Nerven-centrum gehen auch starke Zweige in die ventrale Körperhaut und lösen sich dort in feine nervöse Geflechte auf."<sup>1</sup> It will be strange indeed if these prove to be anything else than the ramifications of the ventral branches of the axial cords of the arms which I described long ago as extending to the edges of the food-groove (see fig. 4, p. 113; fig. 5, p. 121; and fig. 8, p. 123). I cannot say, however, that I have ever seen the pentagonal ring round the mouth which Jickeli mentions, nor even its radial extensions at the sides of the water-vessels; unless indeed these last be the lateral trunks which I have described above in *Actinometra nigra*, from sections now nearly nine years old (p. 122).

The branches of Jickeli's third nervous system which break up into a plexus in the ventral perisome appear to me to be identical with those which I described two years ago as extending along the sides of the ambulacra of *Antedon eschrichti* from the edge of the disk to the neighbourhood of the mouth.<sup>2</sup> A diagrammatic representation of them is given on p. 123, while illustrations of single sections, both of this species and of *Pentacrinus decorus*, are shown on Pl. LIX. figs. 2-7. These branches are unquestionably of the same nature as those occupying a similar position in the arms (Pl. LX. fig. 6, *a'*), and belong like them to the system of the central capsule and axial cords, with which last they are connected at the edge of the disk. But at the same time I fully believe that they are the peripheral portions of the third nervous system described by Jickeli. The so called papillæ of the tentacles have also attracted his attention, and he regards them as sense-organs of a somewhat complicated nature, supporting fine sensory hairs. He thus inclines to Perrier's view of the nature of these papillæ rather than to that of Ludwig, who regards them as glandular organs. Jickeli, however, describes them as being innervated by the branches of his third nerve-centre; while according to Perrier<sup>3</sup> they receive nerve-fibres from the ventral branches of the axial cords, which form what I have called the parambulacral network. But if I am right in identifying this with the peripheral part of Jickeli's third nervous system, his observations are completely in accordance with those of Perrier.

<sup>1</sup> *Zool. Anzeiger*, vol. vii. p. 369, 1884.

<sup>3</sup> *Comptes rendus*, t. xcvii. p. 188.

<sup>2</sup> *Quart. Journ. Micr. Sci.*, 1883, vol. xxiii., N. S., p. 615.