

the body. The discovery of a regular structure of muscular bands of fibres, in these animalcules, is a farther evidence of the connexion which exists between nerves and muscles.

We again meet with traces of nervous filaments, accompanied also with muscular bands of fibres, in some of the more highly organized *Entozoa*. In the *Ascaris*, or long round worm, a slender and apparently single filament is seen passing forwards, along the lower side of the abdomen, till it reaches the œsophagus, where it splits into two branches, one passing on each side of that tube, but without exhibiting any ganglionic enlargement. This may be considered as the first step towards the particular form of the nervous system of the higher classes of articulated animals, where the principal nervous cord is obviously double throughout its whole length, or, if partially united at different points, it is always readily divisible into two, by careful manipulation. In addition to this characteristic feature, these cords present, in their course, a series of enlargements, appearing like knots; one pair of these generally corresponding to each of the segments of the body, and sending off, as from a centre, branches in various directions. It is probable that these knots, or ganglia, perform, in each segment of the worm, an office analogous to that of the brain and spinal marrow of vertebrated animals, serving as centres of nervous, and perhaps, also, of sensorial powers. Many facts, indeed, tend to show that each segment of the body of articulated animals, of an annular structure and cylindric form, such as the long worms and the myriapoda, has in many respects an independent sensitive existence, so that when the body is divided into two or more parts, each portion retains both the faculty of sensation, and the power of voluntary motion. As far as we can judge, however, the only external sense capable of being exercised by this simple form of nervous system, is that of touch; all the higher senses evidently requiring a much more developed and concentrated organization of nervous ganglia.