small or entirely wanting, gapes widely. In *Polysiphonia tuberosa* (565 fathoms) the tentacles have become short, slightly movable, wide-mouthed tubes; in *Sicyonis crassa* (1600 fathoms) they are small, wart-like rings, and in *Polystomidium patens* (1825 fathoms) and *Polyopis striata* (2160 fathoms) the walls have almost entirely disappeared, so that the terminal opening forms a fissure in the oral disk, the last remains of the tentacle being represented by a circular margin surrounding the fissure, and so we come finally to the genus *Liponema* (1875 fathoms), in which the points at which the tentacles were actually placed are merely indicated by openings in the oral disk. Of the twenty-one forms from 500–3000 fathoms here described, no less than six species have therefore undergone modifications of the tentacles in the same sense, whilst it has never been observed in a single one of the forms of the coast fauna, which greatly exceed the deep-sea fauna in number.

The view that the retrograde formation of the tentacles is connected with life in greater depths is not only supported by the fact observed, that the character is limited in its distribution to the deep-sea Actiniæ, but also by the way in which it appears in the different groups of Actiniæ. The six forms named in the last paragraph show conditions allied to those in families of Actiniæ lying widely apart from one another. Of the three genera united as Liponemidæ, *Liponema* comes near the Discosomidæ, as its stomidia may be divided into principal and accessory stomidia; *Polystomidium patens* resembles the Antheadæ in having an endodermal muscle and marginal spherules, and *Polysiphonia* with its mesodermal circular muscle resembles the Paractidæ, to which *Paractis tubulifera* undeniably belongs. It might therefore perhaps be advisable to do away with the family Liponemidæ, and to distribute its members among the Discosomidæ, Antheadæ, and Paractidæ. Finally, *Sicyonis crassa* and *Polyopis striata* vary entirely from other Actiniæ, and are at the same time forms which differ entirely one from another. It is most probable that a character which appears in forms which vary so remarkably, but exist under the same conditions, is the consequence of these conditions of existence.

There is another point in the mode of life of the deep-sea Actiniæ which seems to me to favour the transformation of the tentacles into tubes and openings. The nutriment of the deep-sea animals probably consists chiefly of material which is already disintegrated, and of a soft nature when obtained. The animals often ingest sand, impregnated with nutriment, from which they extract what is digestible; at least I have repeatedly found the interior of the deep-sea Actiniæ full of mud. In such a mode of nutrition the long prehensile tentacles would not be of the same use as they are in the littoral Actiniæ, which lie in wait for booty, whilst on the other hand it would be a decided advantage to the animals to be furnished with numerous inhalent tubes and openings through which they can absorb semi-liquid nourishment. This then is the advantage of the stomidia and tubular tentacles.

The retrograde formation of the tentacles is by no means the only point to be taken