

slender than in the gastrozooids, and a spheroidal tip resembling that of the tentacle of the gastrozoid, but smaller. The body of the dactylozoid terminates sometimes in two, sometimes in three tentacles, springing from a common point.

The dactylozooids expand far more readily and quickly than the gastrozooids, of which latter it is comparatively difficult to obtain a view in the expanded condition. The short gastrozooids appear to remain perfectly quiescent when expanded, whilst the dactylozooids are in constant serpentine motion. The dactylozooids seldom carry their bodies extended straight, but usually bent in several curves; they appear to bend over towards their gastrozoid from time to time, as if to convey food. All the zooids are retracted on alarm with remarkable suddenness, disappearing entirely within the pores.

When a portion of the coral has been placed living in reagents, it is found, after becoming hardened, to be bristling all over with sheaves of threads shot from the nematocyst around the mouths of the calicles. By some accident, on one small portion of a coral placed in absolute alcohol, the dactylozooids all remained partially protruded. This was only over a small area of about $\frac{1}{4}$ of a square inch in dimensions, enough to yield a single microscopical preparation. From a very large quantity of the coral prepared in an exactly similar manner, no second preparation could be obtained, though it was all searched over carefully for similarly expanded zooids. This fact, however, shows that perhaps it might have been possible to obtain a larger quantity of expanded zooids in the hardened condition by the gradual addition of alcohol or fresh water to the sea-water in which the living animals were expanded, or by some similar means; or perhaps by the sudden addition of osmic acid solution as recommended by F. E. Schulze.¹

The body of the zooids, when seen in transverse section, is found to consist (Pl. XIV. fig. 7) of an ectodermal layer, beneath which is a layer of membrane, and an internal mass of endodermal cells. The ectodermal layer, as studied in sections of hardened specimens, appears to consist of well-defined cells, most of which contain small nematocysts, whilst some contain simple nuclei. The membranous layer is apparently structureless; it extends throughout the body and tentacles. Beneath the membranous layer, and in close union with it, are the muscular structures to be presently described, and within these, in the case of the gastrozooids, are, in the upper region of the body, the gastric cells already described. The structure of the endoderm in the lower part of the body of the gastrozooids, and in the dactylozooids, was not well ascertained. In transverse hardened sections the body-cavity is seen to be entirely filled with the pigmented yellow cells, which also fill the canals of the *cœnosarc*. In the tentacles of the dactylozooids, however, of which a glance was obtained under a high power, the transverse lines or apparent septa, so characteristic of the Hydroids (Pl. XIV. fig. 5), and considered by Allman to be in reality the opposed walls of large adjacent endodermal cells, were clearly

¹ Anleitung zu wissenschaftlichen Beobachtungen auf Reisen. Herausgegeben von C. Neumayer, Hydrograph der kaiserlichen Admiralität, Berlin, 1875, *Wirbellose Seethiere* von K. Mobius, p. 424.