

the true front or anterior side of the polyp. A fore-and-aft structure is also very strongly marked in some of the ancient cyathophylloid corals, and hence it belonged to the type from early Paleozoic time.

The way leading out from the Radiate structure is thus manifested by these flower-like polyps. In fact perfect circular series in organs or parts do not belong to any living organism, not even to the true flower; for growth is fundamentally spiral in its progress, and there must be always an advance end to the spiral of growth; all apparent circles are only disguised spirals.

The walls of the body contain two sets of muscles, a circular and a longitudinal, the latter becoming radial in the disk and base. Similar muscles exist also in the tentacles, and corresponding muscles in the fleshy partitions or septa of the internal cavity.

By means of these muscles an *Actinia*, whenever disturbed, contracts at once its body; and most species make of themselves a spheroidal or conoidal lump, showing neither disk nor tentacles. One example of this contracted state is presented on the frontispiece in figure 3*a*. After a brief period of quiet the polyp commonly reassumes its full expansion. The expansion depends on an injection of the structure with salt water, which is taken in mainly by the mouth. As the whole body is thus filled and injected, the flower slowly opens out, and shows its petal-like tentacles. On contraction the water is suddenly expelled through the mouth, and by pores in the sides of the polyps, and at the extremity of the tentacles, and the tentacles disappear, along with the disk, beneath the adjoining sides of the body which are drawn or rolled in over them.

The *Actinia* appears, at first thought, to be well prepared for securing its prey through its numerous tentacles. But these are generally too short for prehension. Yet the disk often aids them by rolling over the captured animal, and pushing it down into the stomach. At the same time, the mouth and stomach are both very extensile, so that an *Actinia* may swallow an animal nearly as large as itself; it gradually stretches the