

like heavy leads sinking among the rest. This independence of motion among the many tentacles of one and the same bunch, and among those of different bunches, is truly remarkable in an animal in which no trace whatsoever of an independent nervous system can be found. Nor is the mode in which they change their aspect, when considered singly, less curious. A single tentacle may be shortened suddenly, as if by a jerk, and rise among those which surround it, without producing the slightest apparent disturbance, until it is shortened to its minimum; or many may be seen playing in that way at the same time, in different bunches; but I have never seen the majority of the tentacles of one bunch, or the larger portion of several bunches, suddenly contracting at the same time, even when irritated, though, under such circumstances, a great many tentacles may contract together. The manner in which they elongate is equally varied; at times they stretch gradually, and, apparently, uniformly along their whole length, while at other times, and this is seen particularly in tentacles which have been shortened into a club-shaped attitude, the thicker extremity seems to drop, as if it were falling off from the thin thread to which it is attached, when a marked elongation of the thinner part takes place, and the club pauses again for some time immovably suspended at the same height; then another and another fall brings it lower and lower, until it is uniformly stretched for its whole length. At other times, again, they may be seen alternately contracting and expanding in rather quick succession, as if undecided whether to elongate or to shorten; when, by a sudden jerk, they may be entirely withdrawn or fall to their full length. A closer examination of the thickest tentacles in Pl. III., will bring to view zigzag or spiral lines in their interior, or a seeming difference in the transparency between different points of their thickness. This is owing to the circumstance that all these tentacles are hollow, and that their cavity assumes different shapes, in different stages and in different modes of contraction. When the tentacles are at rest, in their contracted state, their extremity is generally club-shaped, and the cavity assumes the appearance of an elongated bead in their interior; but while shortening rapidly and unequally, the cavity becomes undulating, and presents the appearance of zigzags or of a spiral, as is best seen in magnified views, Pl. V. *Figs.* 4, 7, 8, and 9. The internal structure of the tentacles fully explains this inequality; for, though tubular, there is in all tentacles, on one side of the tube, between the outer layer of cells which form its surface and among which are imbedded the clusters of lasso-cells, as may be particularly well seen in Pl. V. *Figs.* 5 and 6, a band of contractile fibres, which runs for the whole length of the tentacle (Pl. V. *Figs.* 4, 7, 8, 9, and 10 *b*), and by its contraction must necessarily produce inequalities in the shortening of different sides of the tentacle, as well as undulations in its cavity. These fibres, however, are themselves very elongated cells.