

water. In this extreme state of extension and tenuity of tissues, the animal, in all probability, is reduced to a degree of density corresponding to that of the water, and therefore floats in a perfectly quiescent state, whether near the surface or at any depth, as if it were part and parcel of the water itself. The moment the body contracts, as it may be made to do by touching it gently, it sinks; thus affording another proof that concentration of tissues is equivalent to an increase in density. Sometimes the body is only partially expanded (*Figs.* 20 and 27), and, not being sufficiently buoyant, the oculiferous lobes (*j*) flap very gently, at shorter or longer intervals, according as the body sinks faster or slower. Whilst swimming upward or downward the upper surface of the disk takes precedence, and is kept transverse to the line of motion; but when going horizontally, the upper side of the disk is tilted forward thirty or forty degrees, so that its plane rests obliquely to the line which it follows. Owing to their peculiar violet color, it is sometimes very difficult to detect these animals, especially in cloudy weather, when we have not the advantage of the reflection of the sun from the surface of the body.

For a while, immediately after the commencement of their wandering life, very rapid changes take place in the structure of the young medusæ. In the first place the whole disk expands very much, and, as we have already mentioned, forsakes its concavo-convex form for a shallow double convex shape. The oculiferous lobes (Pl. XI^e. *Fig.* 19 *j*) do not lengthen, but broaden in proportion to the expansion of the body; and in this state they are equal in length to the radius of the disk, and, being twice as broad as the tentaculiferous edges (*i*), occupy two thirds of the circumference of the body. The incipient veil (*i*) also becomes quite prominent, and, losing at the same time its papilla-like character and becoming flattened, resembles a broad tongue. Laterally, it passes directly into the margin of the oculiferous lobes (*j*) on each side of it. The proboscis (*Fig.* 19 *a*) does not assume any new proportions, except that, in consequence of the expansion of the disk, it becomes relatively smaller. We may point out here, however, some of the many protean forms which its plastic nature allows it to assume. Its natural shape, when in a quiescent state, is that of a four-sided prism (*Figs.* 18 and 28 *a a'*), about twice as long as thick, and having slightly concave sides. Usually the corners of the mouth (*a'*) project more or less sharply; and often the whole circuit of the lip is curved outward (*Fig.* 18), thus making the proboscis trumpet-shaped. At times, when in this condition, the four sides (*c*) collapse suddenly at the upper part, and, meeting each other centrally, either close up the passage to the digestive cavity, or leave only a small aperture (*d*). At other times we find it in a similar condition, but retracted down to its very base (*Fig.* 14), so that, with its reverted lips, it resembles a square platter turned upside down. All four sides of the proboscis do not always act together, but each one occasionally seems