

digestive cavity greatly, and finally reducing it to a narrow space, between the base or pillars of the oral appendages (same figure, *b*) and the central projection of the upper floor, *a*. In very old specimens, when the spawning season has passed and the ovaries and spermaries have discharged their contents, the central projection of the upper floor has become so prominent as to assume the form of a four-sided pyramid, filling the whole space between the four arms, and terminating as a four-sided roof, the point of which hangs down towards the external oral aperture, and, in the end, the contact between the arms and this plug is so close, that probably all connection between the surrounding medium and the main cavity is stopped, except along the angles of the mouth and the emargination of its sides leading to the genital pouches. The roof-like termination of the plug presents, at this time, as regular facets, as a four-sided pyramid with truncated angles.

The development of the genital apparatus, as it progresses, is accompanied by equally great changes in the form of the surrounding parts and their relation to one another. At first we notice only the oval depressions on the lower surface of the lower floor, in the interambulacral spaces near the intervals between two projecting angles of the oral tube, on the outer side of which arise the digitate bodies; but in proportion as these depressions deepen, and the corresponding parts of the main cavity above them encroach upon the bases of the radiating tubes, to form distinct genital pouches, the lower surface of the gelatinous disk, corresponding to the interval between two genital pouches, projects in the shape of a keel between them (Pl. IX. *Figs.* 6, 7, 8, and 9 *d*, and *Fig.* 5 *o* in the distance), thus tending to isolate more and more the genital pouches from the digestive cavity, until the central prominence of the gelatinous disk has been entirely developed, when they are fully separated as distinct cavities, preserving only a narrow communication with that cavity, through the channels marked *s* in *Figs.* 5, 8, and 9. At the same time the lower floor has become greatly thickened, at points marked *e* in *Figs.* 7, 8, and 9, in consequence of which the sexual pouches are underlaid by ample cavities communicating freely with the surrounding medium, from which they are separated, however, by thin floors stretching across the whole lower side, and supported by two stronger arches, which, seen from above, as in Pl. VII. *Fig.* 1, appear like folds arising from the inner angle of each pouch and diverging towards its outer angles. These arches (Pl. IX. *Fig.* 6 *p*) are distinctly seen in a transverse section of a genital pouch, where the floor of the cavity is marked *p'*; they are equally well seen in an oblique side view of the genital pouch (*Fig.* 9 *p*), and in a longitudinal section through a pouch (*Fig.* 8 *p'*). It thus appears that while the genital pouches (*Figs.* 5, 6, 7, 8, and 9 *n*) communicate freely with the main cavity through the channels (*s*), they have no direct communication whatever with the wide cavities (*f*), which are immediately below them; though these cavities, with their round