observations on various species of *Salpa*, and most writers on the Tunicata have discussed the position and affinities of this aberrant genus; but the most important memoirs since 1860 have been confined to the embryology, the gemmation, and the life-history. Amongst them may be mentioned especially the works of Salensky, Todaro, Brooks, and Seeliger. Of these the most important are the researches of Salensky,[1] to which we owe the greater part of our detailed present knowledge of the embryology of *Salpa*. The accounts given by Todaro[2] conflict in many points with the descriptions by other authors; and Brooks[3] has put forth the remarkable view that *Salpa* is not after all an example of alternation of generations, but that the ovary really belongs to the solitary form, which is therefore a female producing a series of males (the aggregated forms) by asexual gemmation and depositing in each of them an ovum which will afterwards, when fertilised, develop in the body of the male into a solitary or female *Salpa*. Thus, according to Brooks, the female produces two forms of young—males asexually, and females sexually; and these two forms differ not only in mode of origin and sex, but also in structure. There are, however, no sufficient grounds for supposing that the ovum does not belong to the *Salpa* in which it develops, and therefore the sexual or chain form is usually regarded as a protogynous hermaphrodite, producing first an ovum, which is fertilised by the spermatozoa of an older *Salpa* of the same kind, and then, after it has got rid of the embryo, developing a testis. The embryo, on the other hand, becomes a solitary *Salpa* which is asexual, and produces the aggregated forms by gemmation.

The structure of the adult (sexual) *Salpa* is shown in Fig. 7.

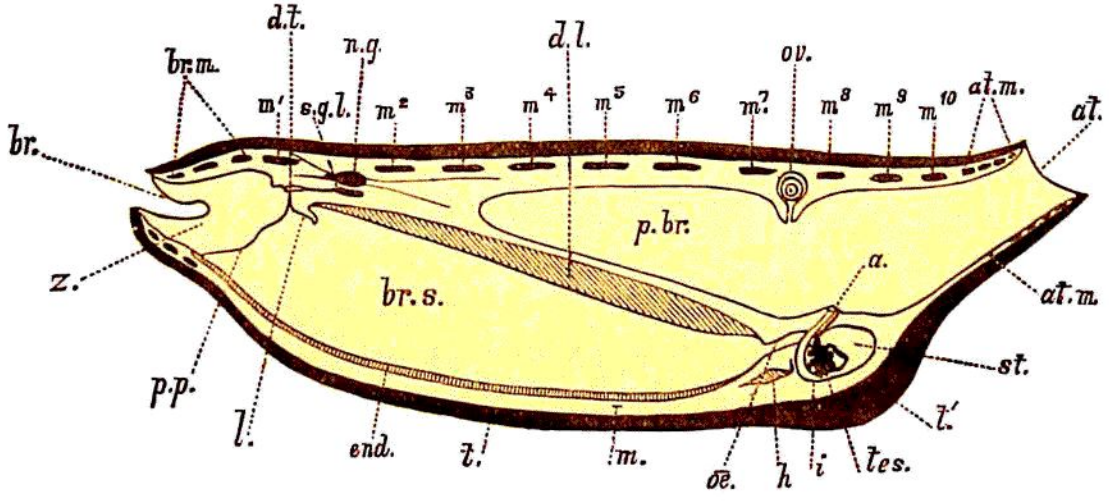


FIG. 7.—Semi-diagrammatic representation of *Salpa* from the left side.

*a.* anus; *at.* atrial aperture; *at.m.* muscles of atrial aperture; *br.* branchial aperture; *br.m.* muscles of branchial aperture; *br.s.* branchial sac; *d.l.* dorsal lamina (= "gill"); *d.t.* dorsal tubercle; *end.* endostyle; *h.* heart; *i.* intestine; *l.* languet; *m.* mantle; *m'*—*m*[10]. muscle bands; *n.g.* nerve ganglion; *œ.* œsophagus; *ov.* embryo in ovisac; *p.br.* peribranchial cavity; *p.p.* peripharyngeal band; *st.* stomach; *s.gl.* subneural gland; *t.* test; *t'.* thickened test over viscera; *tes.* testis; *z.* zona præbranchialis.

[1] *Zeitschr. f. wiss. Zool.*, Bd. xxvii. xxviii. xxx. &c.
[2] *Atti della R. Accad. dei Lincei*, 1875, 1883, 1887, &c.
[3] *Bull. Mus. Comp. Zoöl.*, vol. iii. No. 14, p. 291, 1876.