compound communities of Hydroids are attached to the ground, those of Siphonophore are free; but this is not a character exclusively peculiar to them, for among the Polyps we have also free communities belonging to the same order as others that are immovably attached to the ground. Such are the genera Renilla, Pennatula, Virgularia, Veretillum, etc., which are inseparable from the genera Gorgonia, Alcyonium, Xenia, Tubipora, etc., or at least belong to one and the same order. In these locomotive Halcyonoids the individual Polyps are identical among themselves, but grouped together in the most diversified ways, varying in that respect quite as much among themselves as the fixed Haleyonoids. In Pennatula and Virgularia they form regular rows upon the two sides of a feather-like stem, in Veretillum they are scattered around a cylindrical stem, in Renilla they are arranged in symmetrical lines upon the surface of a kidney-shaped disk. And yet these communities move and act as one individual. I have frequently seen Renilla, which is our only genus of free Haleyonoid Polyps, move slowly about in the sand, its stem buried in a vertical position with the disk spread horizontally.

Now, if I have succeeded in showing that, by their structure, the so-called Hydroid Polyps are not Polyps, but Acalephs, and if I should also succeed in



PHYSALIA ARETHUSA, Til.

a Blunt end of the air sac, supporting the whole community, at which the youngest buds may be found. — b Open end of the air sac. — c Crest of the air sac. — m Bunches of single individuais. — n Tentacle contracted. — t i Tentacles of the largest kind extended.

showing that the different kinds of individuals forming the communities of Siphonophoræ have the same structure as the Hydroids, and present everywhere, in all their parts, special homologies with the Hydroid Polyps and naked-eyed Medusæ, without even exhibiting one of the peculiar characteristics which distinguish the true Polyps from the Hydroids, I should then have proved that the Siphonophoræ are really Hydroid Acalephs, and not Polyps, as Kölliker believes them to be. The evidence thus adduced would be an additional reason for keeping the true Polyps, the so-called Anthozoa, by themselves, in a distinct class.

Let us therefore compare more in detail the different kinds of Siphonophoræ with the different kinds of Hydroids and naked-eyed Medusæ. Beginning with Physalia (Fig. 26), it is not difficult to perceive that the various kinds of appendages which hang from the floating air-bag of that animal may be compared to the heterogeneous individuals of an inverted Hydractinia. Fancy the channelled layer which forms the attached base of Hydractinia to be swollen into a large oblong bag, and the comparison may be carried even into the details; for the essential difference between these two genera does not so much consist in a