

there being, in fact, only two kinds of individuals: the sterile ones, among which that occupying the centre of the community is larger than the others, like the top animal of the Madrepores, and around it, clustered together, a large number of

Fig. 31.



VELELLA MUTICA, Bosc.
m So-called mouth — a a So-called tentacles.

smaller ones; and outside, the large fertile individuals (Fig. 32) from which Medusæ buds arise that become free, and are very similar to the common Oceania among the naked-eyed Medusæ. This, at least, is the case in Velella (Figs. 31 and 32), as I shall show hereafter more fully. Meanwhile the wood-cut below (Fig. 33) represents an Oceania-like Medusa that freed itself, with many others, from the larger fertile individuals of the common Velella of the Gulf of Mexico, represented in Fig. 31. The individuals forming the communities known as Velella and Porpita have no more the structure of Polyps than those of the Physalia. They are genuine Hydroids.

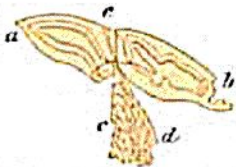
Fig. 33.



Free Medusa of
VELELLA MUTICA, Bosc.
o Proboscis. — b Radiating chymiferous tube. — c Circular tube.

generally considered as organs destined to move the whole community (Figs. 34 and 35). But I believe that this view is not

Fig. 35.



GALEOLARIA FILIFORMIS, Leuck.
Diphyes quadrivalvis, Gegenb.
(Copied from Gegenbauer.)

a b Anterior and posterior swimming-bells. — c String of twin individuals. — d Feelers with lasso cells. — e Cecal termination or base of the connecting tube or axis.

correct, but that, on the contrary, these so-called swimming-bells are themselves distinct individuals of one kind connected with smaller individuals of other kinds, forming together a community composed of very heterogeneous elements. The invaluable investigations of Gegenbauer upon the development of Diphyes seem to me to leave no doubt upon this point; for he has observed the whole develop-

Fig. 32.



Single so-called tentacle of
VELELLA MUTICA, Bosc,
Bearing Medusæ buds d d. — a
Base of attachment. — b Blunt
end of the tentacle.

If from these we pass to the Diphyidæ, we notice a long string of heterogeneous individuals suspended larger elongated, bell-shaped individuals, commonly called the swimming-bells, and generally

Fig. 34.



DIPHYES SIEBOLDII, Köll.
(Copied from Kölliker.)

a b Anterior and posterior swimming-bells. — c Base of the axis of the community. — e Main axis of the community, with young buds. — d d Fully developed buds, with their feelers.

ment of the egg of one of these animals, showing that the process of segmentation of the egg terminates in the formation of one of these so-called swimming-bells. Now, the product of the egg, whatever it may be, cannot be a mere organ. It is unquestionably a young animal; and that animal, as represented by Gegenbauer, is a genuine naked-eyed Medusa. It has the four characteristic radiating tubes, a circular