

GENERAL INTRODUCTION.

THEORIES AS TO THE ORGANISATION OF SIPHONOPHORÆ.

The morphological and physiological peculiarities which distinguish the Siphonophoræ from other Acalephæ have led, as every zoologist is aware, to very diverse theories as to the real nature and import of their organisation. Two essentially different interpretations still stand in marked antithesis to one another, and these may for the sake of brevity be described as the *Poly-organ* and *Poly-person* theories. Of these the poly-organ theory is the older (Eschscholtz 1829, Huxley 1859, P. E. Müller 1871, Metschnikoff 1874). According to this view the adult organism of all Siphonophoræ is a simple "Medusa-like animal," which is distinguished from the typical Medusæ only in the multiplication and differentiation of its polymorphic organs. More accurately defined, the organism remains an individual Hydromedusoid person (a morphon of the third grade, or a "morphological individual of the third order of individuality").

In contrast to this older interpretation is the poly-person theory (Vogt 1848, Leuckart 1851, Kölliker 1853, Gegenbaur 1854, Claus 1863, Chun 1882). According to this view the adult Siphonophoral organism is a colony of animals, composed of many polyp-like individuals, which, according to the laws of the division of labour, have to undergo various modifications, both in the way of specialisation and retrogression. More accurately expressed, it is a "swimming Hydropolyp stock or corm," composed of many polymorphic persons, partly polypoid, partly medusoid (a morphon of the fourth grade, or a "morphological individual of the fourth order of individuality").

Since in the course of the last two decennia the *ontogeny* of Siphonophoræ has become better known, and since the latter has in the light of the theory of descent been interpreted in causal relation to *phylogeny*, the main antithesis between the two theories has become more marked. According to the poly-organ theory the ontogenetic primitive form of the Siphonophoræ is a simple Hydromedusoid person, and with this is involved the phylogenetic corollary that the whole class originally arose from Medusæ. According to the poly-person theory, on the other hand, the ontogenetic primitive form is a swimming Hydropolyp stock, and with this is associated the phylogenetic corollary that the whole class sprang from Polyyps.