

that this brood originating from eggs, may increase and multiply by producing new individuals like themselves (*Syncoryne*), or of two kinds (*Campanularia*), or even individuals of various kinds, differing all to a remarkable extent, one from the other, (*Hydractinia*), but in neither case resembling their common parent. None of these new individuals have distinct reproductive organs, any more than the first individuals born from eggs, their multiplication taking place chiefly by the process of budding; but as these buds remain generally connected with the first individual born from an egg, they form compound communities, similar to some polypstocks. Now some of these buds produce, at certain seasons, new buds of an entirely different kind, which generally drop off from the parent stock, at an early period of their development, (as in *Syncoryna*, *Campanularia*, etc.,) and then undergo a succession of changes, which end by their assuming the character of the previous egg-laying individuals, organs of reproduction of the two sexes developing meanwhile in them, which, when mature, lead to the production of new eggs; in others (as in *Hydractinia*), the buds of this kind do not drop off, but fade away upon the parent stock, after having undergone all their transformations, and also produced in due time, a number of eggs.¹

In the case of the *Medusæ* proper,² the parent lays eggs, from which originate polyplike individuals; but here these individuals divide by transverse constrictions into a number of disks, every one of which undergoes a succession of changes, which end in the production of as many individuals, each identical with the parent, and capable in its turn, of laying eggs, (some, however, being males and others females.) But the polyplike individuals born from eggs may also multiply by budding and each bud undergo the same changes as the first, the base of which does not die, but is also capable of growing up again and of repeating the same process.

In other classes other phenomena of a similar character have been observed, which bear a similar explanation. J. Müller³ has most fully illustrated the alternate generations of the Echinoderms; Chamisso, Steenstrup, Eschricht, Krohn, and Sars, those of the *Salpæ*;⁴ von Siebold, Steenstrup, and others, those of certain Intestinal Worms.⁵

This alternate generation differs essentially from metamorphosis, though some

¹ I have observed many other combinations of a similar character among the Hydroid *Medusæ*, which I shall describe at full length in my second volume; and to which I do not allude here, as they could not be understood without numerous drawings. The case of *Hydractinia* is not quite correctly represented in the works in which that animal has been described. Respecting *Physalia* and the other

Siphonophora, see the works quoted above, p. 69, note 3.

² See SIEBOLD, and SARS, q. a., p. 69, note 3.

³ MÜLLER, (J.) Ueber den allgemeinen Plan, etc., q. a., p. 70, note 1.

⁴ See the works, q. a., page 72, note 4.

⁵ See the works, q. a., page 76, note 2, and 77, note 1.