Eysenhardt; the Physaliæ, as limited by Lesson;[1] the Physophoræ of Goldfuss, excluding Physalia (Arethusa); and the Diphyæ of Cuvier. These sub-orders may be characterized as follows:—

1. Porpitæ *Goldf.*—The community of these Acalephs buds from a primary hydra, which is provided with many tentacles, and retains its individuality. The secondary hydræ arise between the tentacles of the primary hydra and its proboscis; they are small, club-shaped, and without tentacles. From these small hydræ arise medusæ-buds, which are cast off and become free sexual Medusæ, long known under the name of Linuche, and recently described anew as Chrysomitra.

2. Physaliæ *Less.*[1]—Physalia starts from a primitive hydra, which attains gigantic dimensions, and, losing its individuality, becomes a floating apparatus for the whole community. The secondary hydræ all arise from one and the same side of the primitive hydra, in bunches; they vary in size and development from one another, some being closed at the actinal end, while others have a gaping mouth; some have one long, lateral tentacle, starting from their base, and attached to their side, and others none. By the side of these arise large bunches of small, fertile medusæ-buds, with four radiating chymiferous tubes and a circular tube, but without tentacles. These Medusæ wither upon the stock from which they arise. The mode of combination of the hydræ and medusæ, in different species of this type, may afford generic characters to subdivide them.

3. Physophoræ *Goldf.*[2]—Community budding around a slender tentaculated hydra, the abactinal end of which terminates in an air cyst. From the abactinal sides of this primary, egg-born hydra, arise sterile sessile medusæ, without tentacles and proboscis, arranged in two or more vertical rows; and from the actinal side, one or two kinds of secondary hydræ, with or without compound or simple tentacles. Between the secondary hydræ, small sessile male and female Medusæ bud

[1] Lesson is the first author who has isolated the Physaliæ, as a separate group, from all other Acalephs. He considers them only as a family, but they really constitute a distinct sub-order. Leuckart, Quatrefages, and Huxley, have published the most recent accounts upon this type. See their papers, quoted above. The way in which McCrady has divided the Siphonophoræ, and his attempt to incorporate them in one and the same sub-order with the Tubularians, does not seem to me to be justifiable. In the first place, the mode of growth of his Endostomata and Exostomata is not so characteristic as he supposes, as a comparison of the medusæ-buds of Coryne and Obelia, described above, pp. 192 and 318, may show. In the second place, the Diphyidæ arise in a totally different manner from the other Siphonophoræ, as the observations of Gegenbaur upon the reproduction of Diphyes have shown. Their community is not built up from a hydra, but from a medusa. Again, the primitive hydra of the Siphonophoræ is never pedunculated; that of the Tubularians always is.

[2] For this type, see the papers and works of Kölliker, Leuckart, Vogt, Gegenbaur, and Huxley, quoted above, Vol. III. p. 27; also Chapter II. Vol. III. p. 73.