

respiration, *peraquatic*. The latter has been observed on page 330, (Art. I.) to have a *dilutive* effect on the materials and powers of growth; and the effect is similar, though less extreme, or *semidilutive*, when only the young stage is *aquatic*. (P. 330.)

VI. *Sup.*, (A) *permaturative* in development: of which there are two grades in Insects—the higher (*a*) when the larve is imperfect in its mouth-organs and nearly or quite foot-less; the lower (*b*) when it has large mouth-organs and is locomotive and active. Condition *b* distinguishes the lower subdivision of Hymenoptera, and *a* the other species. Condition *a* may occur in inferior grades, as among Coleoptera, apparently through degradation.—*Inf.*, (B) *prematurative*, or passing through no period of rest in the young state, as in Insects undergoing no complete metamorphosis. (P. 328.)

VII. *Sup.*, (A) *holozoic*, or strictly and wholly animal in type, being neither radiate externally or internally, nor attached, nor having the power of budding.—*Inf.*, (B) *hemiphytoid*, either in (*a*) having the faculty of budding, or (*b*) in being attached, or (*c*) in being radiate externally but not internally; (C) *phytoid*, being radiate internally—either (*a*) this alone, or (*b*) this in addition to the budding function, or (*c*) in addition to being attached. (P. 327.)

VIII. Besides the above there are cases among the higher groups which exhibit in the transition to the group next below a strongly marked *general lowering of grade of structure and potentiality*, but not the prominent characteristics of any one or two of the special methods of decephalization. Sometimes it is accompanied by a fundamental change in plan of structure, but not in accordance with any of the methods enumerated, it being of a more profound character.

The distinction between Megasthenes and Microsthenes under Mammals is of this kind (p. 338); also that of Mammals and Birds; also that of Insecteans and Crustaceans among Articulata. In the last, there is not only a change from terrestrial to aquatic life, and a marked amplification of the structure, but also a profound change of type, in which, contrary to the transferent method, the Crustacean or inferior type takes into the cephalothorax *five* more of the body-segments than belong to this part in Insects; while, at the same time, the body is made normally larger by three segments. Moreover, in the highest Crustaceans, the Crabs, the head includes three more body-segments than in Insects. The differences also between Hymenoptera and Diptera (see p. 17), Lepidoptera and Homoptera, Coleoptera and Hemiptera, exemplify a *general lowering of the grade of structure*, not referable to any special one or two of the methods of cephalization. The general term *potential* is applied to cases like the above on page 322 of Art. I, as a convenient term, though really applicable to all methods of cephalization.

Internal characteristics, as those of the digestive, reproductive