perterrestrial and permaturative. Some caterpillars are in a sense social, but not for mutual work, and adults are never social.

b. Homopters.—In Homopters, the wings, though large, are less broad than in the typical Lepidopters. They are submembranous or a little thickened in the larger species, but not scale-covered, and are thin-membranous in the smaller; they are sometimes colored (in *Fulgora*, *Cercopis*, &c.), as in Lepidopters; the posterior are often equal to the anterior, and sometimes larger; in many species they are deflexed in position, roof-like. The mouth is simply haustellate and suctorial; though having mandibles, they are enclosed within the rostrum. The species are perterrestrial, as in the preceding group, but are prematurative.

Prof. Agassiz, in his memoir on the Classification of Insects, (see note below,) places the Hemipters (including under this term the Homopters as well as Hemipters) next to the Lepidopters, on the ground of the structure of the mouth and their development. While this cannot be sustained with regard to the proper Hemipters since these are *pterometasthenic*, it is true of the Homopters which have sometimes a striking resemblance to Butterflies in their large-amplificate, colored wings, besides being *pteroprosthenic* and otherwise approaching the Lepidopters.

c. Trichopters.—The Trichopters, while permaturative like the Lepidopters, are *semiaquatic*, and hence are inferior to both Lepidopters and Homopters. The wings are pilose, and are veined like those of a Lepidopter instead of being reticulate like those of a Neuropter; in position they are deflexed, roof-like, as in many Homopters and Lepidopters. The mouth-organs are almost completely atrophied, and the adult takes no food, so that the Phryganea has little use for its head, being almost solely a procreator. The larve spins silk-like fibres from

tion is evidence of superiority of rank *among Insects in general*. (See Agassiz on the Classification of Insects from Embryological data.) But as Lepidopters are on various grounds inferior to Hymenopters, this is manifestly one of the many cases in which the embryological law with regard to grade does not hold good. Others are alluded to in the remarks on the *elliptic* method of decephalization, on page 440 of the last volume of this Journal. An additional example is afforded by the Cirripeds. The *attached* amplificate and defunctionate Barnacle or Anatifa is not superior to the free Cypris or Ostracoid Crustacean, although it is the *adult* stage following an earlier Cypris-like condition of the animal. So in the case of any *attached* species, the moment of becoming attached is the commencement of vegetative increase, partial or complete defunctionation of the organs of sense, and general decline in grade. The progress thence is backward, toward a plant-like condition; it is a degradation of the type, as much as when the digestive system of certain Nematoid Worms becomes atrophied with growth.

Exceptions like these do not set aside the embryogenic law of grade: they only show that this law must sometimes, at least, be tested by the profounder law of cephalization, before it can be safely followed in determining the grade of species. For, as the writer has observed elsewhere (*this Jour.*, [2], xxv, 213, 1858), the steps in embryogenic development are, in a general way, steps in the cephalization of individual growth. The former affords aid toward understanding the latter; and the latter principle, once recognized, more than reciprocates.