

are mainly the same as in passing from the first to the second under the Apipens. In passing to the *third*, there are the *semi-dilutive*, the larves being aquatic; and the *defunctionative*, the mouth in the adult failing mostly of the organs and function of feeding.

The same *potential* method, which distinguishes *Hymenopters* from *Dipters*, or the two highest subdivisions of Apipens, also distinguishes the two highest of Amplipens, or *Lepidopters* and *Homopters*, and the two highest of Pterometasthenics, or *Coleopters* and *Hemipters*.

It is not necessary to continue these illustrations further.

From the above review of the relations of the successive stages of groups, it is seen that the distinctions between them are throughout strictly *ordinal*, taking the word in its primary sense; that is, all, from the highest to the lowest, are distinctions *in rank*.

Two other points are to be observed in this connection.

a. *The lowest subdivisions of both the Pteroprosthenics and Pterometasthenics are long-amplificate; and in their subordinate subdivisions the same method is often illustrated.*—Some Orthopters of the family of Phasmids have a length of a foot: there is here a diffusion of the systemic force through a radius *twelve times as great* as in a typical Hymenopter. Besides this, the force thus diffused is much less, for the tribe is among the lowest in the order of Insects. The *long-amplificate* method is frequently that of the inferior subdivision in groups of various grades.

b. *The degradational species under a high type are often far inferior to the typical species of a very low type.*—Thus species of Aphis and Coccus under the Homopters, the former leading almost a stationary life and reproducing by budding, the latter budding also and completely stationary as regards the female, are very inferior in the attributes of life to the active Lepismæ. As the author has illustrated in his paper on Crustaceans, a type of structure requires a certain amount of force to be worked to advantage; and if this force is diminished beyond the proper limit, the animal loses activity and becomes low and stupid in every function except often the vegetative of growth and reproduction. An active animal under this amount of force can be had only by a change of type to an inferior grade adapted to the force.

These two principles are of great importance in classification. The first affords an indication of inferiority not to be overlooked; the second accounts for the association in one group of very high and very low species.

The following diagram appears to the writer to represent approximately the relative grades of the ranges of species under the several subdivisions of Insects in the proposed classification. Along side of the vertical lines standing for the groups of *Attenuates* and *Orthopters*, there are other finer vertical lines for