

hensiveness compared with the former. But this point is sufficiently illustrated in my article on the classification of Insects and requires no additional explanation here.

4. Our objector says that the position of the wings in the Dipters is half a segment nearer the head than that of the anterior pair in the Hymenoptera, and that *therefore the Dipters ought to stand first in the system.* But he errs from failing to note that the wings in Dipters do not pertain to a *more anterior segment*, or nervous ganglion (center of force), than the fore-wings in Hymenoptera, but, on the contrary, to the very same; whence, there is no parallelism between this difference and that separating the Hymenoptera and Coleoptera. The difference of position alluded to has, consequently, little or no dynamical value, and little or no weight in a classification based on cephalization.

5. Our objector applies his mistaken definition of cephalization further, and argues as follows:

“If we apply the principle of Cephalization in its original signification to Insects, we shall find that there are certain families and genera, e. g. in Orthoptera *Mantidæ*, in Neuroptera *Mantispa*, in Heteroptera *Myodocha*, *Phymata*, *Macrocephalus*, *Syrtis*, *Reduviidæ* and *Nepidæ*, and in Diptera *Hemerodromia*, which have what are commonly known as raptorial front legs; in other words the front legs are used, not as *legs* but as *arms* to catch their prey with. In other species, e. g. the dipterous *Calobata antennæpes* Say, which takes its name from that peculiarity, and in many Nemocerous Diptera, the front legs are not used at all for locomotive purposes, but are elevated in the air and vibrated after the fashion of antennæ. Here therefore it is strictly true that “the anterior members of the thorax are transferred to the cephalic series;” and if, as Prof. Dana maintains, the cephalization of the anterior pair of limbs in Man, or in other words the conversion of his front limbs into arms, “places Man apart from the whole series of Mammals” (Sill. Journ., vol. xxxv, p. 68), then by parity of reasoning, if the principle of cephalization is universally applicable, all the above-mentioned families and genera of Insects ought to be placed in a group by themselves.”

The prehensile or raptorial modification of the anterior limbs and the transfer of members to the cephalic series are here mixed up, although both characteristics are the subject of extended explanations in my paper; and hence our objector's remarkable result.

I have stated that there were but three examples of the *transfer of members to the cephalic series* in the whole animal kingdom—the Entomostracans or degradational Crustaceans excluded, in which the examples are not well-defined. One is that from Tetracapods to Decapods, the *four anterior* of the *fourteen* feet in the former being mouth-organs in the lat-