

teacher on this subject, and which I think may serve to show the nature of the difficulty;—one by no means easily removed, and by the general reader, not even readily comprehended with distinctness. Giseke began by conceiving that an Order *must* have that attribute from which its name is derived;—that the *Umbellatæ* must have their flower disposed in an umbel. The “mighty master” smiled,¹⁸ and told him not to look at names, but at nature. “But” (said the pupil) “what is the use of the name, if it does not mean what it professes to mean?” “It is of small import” (replied Linnæus) “*what you call* the Order, if you take a proper series of plants and give it some name, which is clearly understood to apply to the plants which you have associated. In such cases as you refer to, I followed the logical rule, of borrowing a name *a potiori*, from the principal member. Can you” (he added) “give me the character of any single Order?” *Giseke*. “Surely, the character of the *Umbellatæ* is, that they have an umbel?” *Linnæus*. “Good; but there are plants which have an umbel, and are not of the *Umbellatæ*.” *G*. “I remember. We must therefore add, that they have two naked seeds.” *L*. “Then, *Echinophora*, which has only one seed, and *Eryngium*, which has not an umbel, will not be *Umbellatæ*; and yet they are of the Order.” *G*. “I would place *Eryngium* among the *Aggregatæ*.” *L*. “No; both are beyond dispute *Umbellatæ*. *Eryngium* has an involucre, five stamina, two pistils, &c. Try again for your Character.” *G*. “I would transfer such plants to the end of the Order, and make them form the transition to the next Order. *Eryngium* would connect the *Umbellatæ* with the *Aggregatæ*.” *L*. “Ah! my good friend, the *Transition* from Order to Order is one thing; the *Character* of an Order is another. The *Transitions* I could indicate; but a *Character* of a Natural Order is impossible. I will not give my reasons for the distribution of Natural Orders which I have published. You or some other person, after twenty or after fifty years, will discover them, and see I was in the right.”

I have given a portion of this curious conversation in order to show that the attempt to establish Natural Orders leads to convictions which are out of the domain of the systematic grounds on which they profess to proceed. I believe the real state of the case to be that the systematist, in such instances, is guided by an unformed and undeveloped apprehension of physiological functions. The ideas of the form, num-

¹⁸ “Subrisit ô παυυ.”