are not Allocotyledones, and that any group of animals which unites Mollusks, Worms, and Radiates in one great mass cannot be founded upon correct principles. As to his classes, I can only say that if there are natural classes among animals, there never was a combination of animals proposed since Linnæus, less likely to answer to a philosophical idea of what a class may be, than that which unites Tunicata with Polyps and Acalephs. In his latest work, Van Beneden has introduced in this classification many important improvements and additions. Among the additions, the indication of the orders, which are introduced in brackets in the diagram above, deserve to be particularly noticed. These changes relate chiefly to the Mollusks and Polyps; the Tunicata and Bryozoa being removed from the Polyps to the Mollusks. The Acalephs and Polypi, however, are still considered as forming together one single class.

The comparison, instituted by Van Beneden between his classification of the animal kingdom and that of the plants most generally adopted now, leads me to call again attention to the necessity of carefully scrutinizing anew the vegetable kingdom, with the view of ascertaining how far the results I have arrived at concerning the value of the different kinds of natural groups existing among animals,[1] apply also to the plants. It would certainly be premature to assume, that because the branches of the animal kingdom are founded upon different plans of structure, the vegetable kingdom must necessarily be built also upon different plans. There are probably not so many different modes of development among plants as among animals; unless the reproduction by spores, by naked polyembryonic seeds, by angiospermous monocotyledonous seeds, and by angiospermous dicotylodonous seeds, connected with the structural differences exhibited by the Acotyledones, Gymnospermes, Monocotyledones, and Dicotyledones, be considered as amounting to an indication of different plans of structure. But even then these differences would not be so marked as those which distinguish the four branches of the animal kingdom. The limitation of classes and orders, which presents comparatively little difficulty in the animal kingdom, is least advanced among plants, whilst botanists have thus far been much more accurate than zoölogists in characterizing families. This is, no doubt, chiefly owing to the peculiarities of the two organic kingdoms.

It must be further remarked, that in the classification of Van Beneden the animals united under the name of Allocotyledones are built upon such entirely different plans of structure, that their combination should of itself satisfy any unprejudiced observer that any principle which unites them in that way cannot be true to nature.

[1] See Chap. II., p. 137 to 178.