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ment, not only in the different orders of the class, but even in different genera of the same family. The larvæ of many have a close resemblance to diminutive Ctenophoræ, and may be homologized with this type of Acalephs.

As I shall hereafter refer frequently to the leading divisions of the animal kingdom, I ought to state here, that I do not adopt some of the changes which have been proposed lately in the limitation of the classes, and which seem to have been pretty generally received with favor. The undivided type of Radiata appears to me as one of the most natural branches of the animal kingdom, and I consider its subdivision into Coelenterata and Echinodermata, as an exaggeration of the anatomical differences observed between them. As far as the plan of their structure is concerned, they do not differ at all, and that structure is throughout homologi-In this branch I recognize only three classes, Polypi, Acalepha, and Echinodercal The chief difference between the two first lies in the radiating partitions of mala. the main cavity of the Polypi, supporting the reproductive organs; moreover, the digestive cavity in this class consists of an inward fold of the upper aperture of the common sac of the body, while in Acalephs there exist radiating tubes, at least in the proles medusina, which extend to the margin of the body where they anastomoze, and the digestive cavity is hollowed out of the gelatinous mass of the This is equally true of the Hydroids, the Medusæ proper, and the Ctenobody. phoræ; but nothing of the kind is observed among Polypi. Siphonophoræ, whether their proles medusina becomes free or not, and Hydroids agree in having, in the proles medusina, simple radiating tubes, uniting into a single circular tube around the margin of the bell-shaped disk. These two groups, constitute together, one natural order, in contradistinction from the Covered-eyed Medusæ, whose radiating tubes ramify towards the margin and form a complicated net of anastomoses. Morphologically, the proles polypoidea of the Acalephs, is as completely an Acaleph, as their

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