introduced by Echinoderms, Acalephs, and Protozoans, the two highest and the lowest of the four classes. True coral animals perhaps made their appearance a little later. In the sub-kingdom of Molluscs all the classes stand abreast on their first advent; in that of Articulates, the two lower classes, Crustaceans and Worms, preceded by a long interval the Insecteans; and in the sub-kingdom of Vertebrates the classes followed each other in regular gradational succession. Thus we see that, so far as class-groups are concerned, it is impossible to reduce the order of succession to any general formula. How is it with the orders of the respective classes? Among Echinoderms, Cystideans appeared before the successively higher Crinideans, Starfishes, and Sea-urchins; among Acalephs, the horny Graptolites appeared before the Coral-builders; among Protozoans, the Sponges, which ally themselves to Polypi, appeared before the lowest types—always disregarding the mysterious *Eozoön*. On the whole, the order of succession among the groups, based upon relative rank, is, with Radiates, from below upward. With Molluscs we find the straight and simple Orthoceratites preceding the higher Cephalapods; the arcuate and the entire-mouthed Gasteropods leading the higher spiral and flesh-eating families; the asiphonal Lamellibranchs antedating those with more complete respiratory apparatus, and the horny-shelled *Lingula* and *Discina*, among Brachiopods, appearing before the stony-shelled and stony-armed Spirifers and Terebratulas. Among the Articulate and Vertebrate classes the gradational succession of the various orders is tolerably perfect. But I must refrain from alluding to specific facts. The following grand generalization rests on a broad survey of data upon which it would be inappropriate, in this place, to enter.

There is no successional relation between the four sub-kingdoms of animals, nor even between the several classes