within the higher many-celled organisms is but small, the reason lies far more in the great difficulty of these researches than that such cases are rare. Examples are known, however, of insects which, transferred from Europe to America, completely change their habits; viz. the bean beetle in Europe (*Haltica rufipes*), which in America attacks fruit-trees; *Anthrenus scrophulariæ*, which in Europe feeds on blossoming fruit-trees, but in America lives in houses and causes great damage to carpets and furniture. Further species occur, *e.g.*, among gall-flies, morphologically not to be distinguished, but biologically very different, and producing galls of great diversity in appearance (*Cynips caput-medusæ*, *C. calicis*). Also, the attacks of the Kea upon the New Zealand sheep may be mentioned.

From these biologically separated groups of individuals the morphological form series may arise, the specific biological functions produced by external circumstances causing variation in outer shape. The reason why such cases are so rare is the great difficulty of following the development or of finding any fixed stages in the chains of forms which might show the development. As examples may be noted the biological division of species of parasitic insects with regard to the different animals on which they live and their consequent variation in colour (Sajó, 1904, p. 372); the nut-cracker (*Caryocatactes nucifraga*), which in Siberia lives on the seeds in the cones of the Siberian cedars, in Europe mainly on nuts, acorns, etc.; in Siberia its beak is longer and narrower, in Europe stronger (Weismann, 1902, p. 378); here we possibly have to deal with a horizontal series of forms derived from a morphological series, which again has had its starting-point in biologically separated groups.

It hardly requires to be pointed out that the single links in a chain of forms are naturally not arranged either horizontally (through space) or vertically (through time) with such great regularity that the forms with the best buoyancy apparatus are invariably found farther south or in higher earth-strata than those with less developed apparatus. During the melting period of the ice there have been times when the temperature fell after rising; and in many tracts of land where the climatic conditions might ordinarily be considered as temperate, localities occur with temperatures many degrees lower than the normal for the latitude of those parts. Far to the north, on the other hand, there are places, for example on the southern faces of mountains, where the temperatures are much higher than the normal for the region (G. Andersson, 1902, p. 1; 1906, p. 45). At such periods and localities there will naturally be some irregularities in the chain of forms. At times and places, possibly with higher temperatures, forms will appear with a greater development of the apparatus for floating than those in recent geological strata and farther south, just as the reverse may