

of connecting links would not have occurred. Further, a new difficulty would have sprung up in the geographical and geological relations of species and genera, which would then have assumed too much of the aspect of a preconceived plan. It is only fair to a well-known and somewhat extreme European evolutionist, Karl Vogt, to state that he launches boldly into the ocean of multiple evolution, not fearing to hold that identical species of mollusks have been separately evolved in separate Swiss lakes, and that the horse has been separately evolved in America and in Europe, in the former along a line beginning with *Eohippus*, and in the latter along an entirely separate line commencing with *Paleotherium*. The serious complications resulting from such admissions are evident, but Vogt deserves credit for faith and consistency beyond those of his teachers.

With reference to the actual distribution of species, the question of time becomes most important when applied to the glacial period, since it is obvious that much of the present distribution must have been caused or greatly modified by that event. The astronomical theory would place the close of the glacial age as far back as 70,000 or 80,000 years ago. But if we reject this theory, we are not under this limitation as to time, and the geological evidence would lead to the conclusion that the glacial period was much nearer to our own epoch. Croll himself has shown that in Scotland the removal of material from the surface since that period might be taken to indicate a much shorter time. In Canada, the character of the river-courses cut through the glacial beds, and their very unformed and imperfect excavations, would lead to the belief that only a few thousands of years have elapsed since the glacial beds were laid down. The same conclusion can be drawn from the good preservation of the glaciated surfaces and of the shells and bones found on the terraces. Similar evidence is afforded by the rate of recession of coasts and waterfalls, and by the condition of eskers and lake ridges. If we adopt the shorter estimates afforded by these facts, it will follow that the submergences and emergences of land in the glacial age were more rapid than has hitherto been supposed, and that this would react on our estimate of time by giving facilities for more rapid denudation and deposition. Such results, would greatly shorten the duration assignable to the human