

still seems to him—the keenest champion the doctrine of evolution has ever had—very unconvincing; “but when we turn to the higher Vertebrata, the results of recent investigations, however we may sift and criticize them, seem to me to leave a clear balance in favour of the doctrine of the evolution of living forms one from another”. It is probably safe to say that if he had given another address in 1890, he would have relented yet further.

On the other hand, the concrete investigations of palæontology continue to supply confirmation of the truth of the evolution-doctrine, though it must be frankly admitted that the so-called evidences are not *demonstrative* here or anywhere else.

Among the palæontological facts which are at once seen to be consistent with the evolution-idea, or even suggestive of it, two may be noted:—

(a) If we take differentiation and integration as standards of organic rank, we must admit that Fishes, Amphibians, Reptiles, and Birds are, as stated, in their natural sequence. But this is their order of appearance as fossils in the rocks. In other words, as the earth grew older, higher and higher types (as defined above) made their appearance. Of this there are many detailed illustrations. At the same time there are forms, like the Brachiopod *Lingula* or the mud-fish *Ceratodus*, which seem to have persisted with little change throughout countless ages, showing, as Huxley expressed it, that “progressive development is a contingent, and not a necessary result of the nature of living matter”.

(b) A second set of facts may be described as the occurrence of fossil series. “In recent years”, Von Zittel says, “a great number of closely-allied species have been traced through several superposed beds, stages, or divisions of formations, their exact morphological relationships have been studied in the most careful manner, and thus the probability at least has been established, that we are here dealing with a genealogical sequence of blood-relations. To be sure these do not as a rule form complete chains, wherein mutation is linked with mutation and species with species. They