

some of the organic remains which have been referred to pleistocene deposits really belong to the tertiary, and *vice versa*; especially as the fossils do not indicate any such great and decided change of life between these periods as there was at the close of the cretaceous period. The most we can say is, that more than three fourths of the fossils in alluvium correspond to existing species.

The most important feature of the alluvial formation was the introduction of man near the close of the period, and of numerous species, both of animals and plants, much better adapted to his wants than the analogous races of earlier times.

Another interesting fact is, that during the drift period, called the *glacial* period by some, when a lower temperature prevailed, the species both of molluscs and of mammals had a more arctic character than before, and that afterwards, as a warmer climate succeeded, the more southern species again moved northward, and the northern species retreated within their present limits.

The fossil birds and mammals of this period belong almost exclusively to extinct species, and often to extinct genera. The number of species of birds is fifty-four, or more than double those in the tertiary.

By far the most important of these extinct birds are those found in New Zealand by English missionaries, and fully described by Prof. Owen. He had at first only the fragment of a femur; but by applying to it the principles of comparative anatomy, he was able to construct the whole bird, and subsequent discoveries proved his conclusions to be true. It belonged to the Struthious or ostrich tribe, strongly resembling the Apteryx, a small wingless bird still living in the island. It had no wings, and its skeleton was extremely massive, its toe bones being almost equal to those of the elephant, and the leg bones quite as large as those of an ox. Prof. Owen has been able to describe eleven species of this bird from New Zealand, under the name of *Dinornis*; though to some of the species that had a short hind toe, he gives the name of *Palapteryx*. They varied in height from three to ten feet. The natives called them Moas, and there is evidence, from their occurrence with the half burnt bones of man on spots where cannibal feasts had once taken place, that they must have lived within a few hundred years, and possibly some may still be found alive. Their bones now occur in the banks of the rivers.