

Thuringia; the Palæosaurus and Thecodontosaurus of Bristol are, according to Murchison, of the same age. The Saurians are found in large numbers in the muschelkalk,* in the keuper, and in the oolitic formations, where they are the most numerous. At the period of these formations there existed Plesiosaurs, having long, swan-like necks consisting of thirty vertebræ; Megalosaurs, monsters resembling the crocodile, forty-five feet in length, and having feet whose bones were like those of terrestrial mammalia, eight species of large-eyed Ichthyosaurs, the Geosaurus or *Lacerta gigantea* of Sömmering, and, finally, seven remarkable species of Pterodactyles,† or Saurians furnished with membranous wings. In the chalk the number of the crocodilian Saurians diminishes, although this epoch is characterized by the so-called crocodile of Maestricht (the Mososaurus of Conybeare), and the colossal, probably graminivorous Iguanodon. Cuvier has found animals belonging to the existing families of the crocodile in the tertiary formation, and Scheuchzer's *antediluvian man* (*homo diluvii testis*), a large salamander allied to the Axolotl, which I brought with me from the large Mexican lakes, belongs to the most recent fresh-water formations of Oeningen.‡

The determination of the relative ages of organisms by the superposition of the strata has led to important results regarding the relations which have been discovered between extinct families and species (the latter being but few in number) and those which still exist. Ancient and modern observations concur in showing that the fossil floras and faunas differ more from the present vegetable and animal forms in proportion as they belong to lower, that is, more ancient sedimentary formations. The numerical relations first deduced by Cuvier

Saurian asserted to have been found in the mountain limestone (carbonate of lime) of Northumberland (Herm. von Meyer, *Palæologica*, s. 299), is regarded by Lyell (*Geology*, 1832, vol. i., p. 148) as very doubtful. The discoverer himself referred it to the alluvial strata which cover the mountain limestone.

* F. von Alberti, *Monographie des Bunten Sandsteins, Muschelkalks und Keupers*, 1834, s. 119 und 314.

† See Hermann von Meyer's ingenious considerations regarding the organization of the flying Saurians, in his *Palæologica*, s. 228-252. In the fossil specimen of the Pterodactylus crassirostris, which, as well as the longer known P. longirostris (Ornithocephalus of Sömmering), was found at Solenhofen, in the lithographic slate of the upper Jura formation, Professor Goldfuss has even discovered traces of the membranous wing, "with the impressions of curling tufts of hair, in some places a full inch in length."

‡ [Ansted's *Ancient World*, p. 56.]—Tr.