

of the large bones of terrestrial and marine animals. Let us farther suppose, that subterranean fire, like that which exists under various parts of Italy, should upheave the chalk hills of the South Downs, and all the surrounding country, to the height of two thousand feet above the present level: the bed of the Newhaven estuary would then resemble, in all its essential characters, the deposition at Castello Arquata, in Italy.

The freshwater strata at Æningen, near Constance, are, perhaps, the most recent of all that have been described as tertiary or quaternary formations. Quarries have for many years been worked in these strata, and they have been long celebrated for the great variety of organic remains which they contain, consisting of quadrupeds, birds, a vast number of fishes, reptiles, insects, and innumerable plants. These quarries were, for a considerable time, supposed to contain human skeletons: it has been ascertained by Cuvier, that the bones belonged to the aquatic salamander, an animal nearly resembling the lizard in form. The body is about four feet in length, and it had beside a long tail. One of these skeletons is in the British Museum. The strata are chiefly indurated calcareous marl, and freshwater limestone or marlstone. Mr. Murchison, who has lately visited the quarries at Æningen, and brought from thence the entire skeleton of a fossil fox, has given a brief but very clear description of this formation:—

“The Rhine, in its course from Constance to Schaffhausen, flows for many miles in a depression of the molasse (or sandstone), which being cut through transversely, is exposed in hills on both banks, at heights varying from seven to nine hundred feet. These hills, consisting of micaceous sandstone and conglomerate, form the western prolongation of that great range of tertiary deposits, which extends along the flanks of the Austrian and Bavarian Alps, and has been described by Professor Sedgwick and myself. The marls and limestone of Æningen are recumbent on the molasse, they are seen in various patches on the sides of the hills, and are worked in two quarries at different elevations above the Rhine. The lowest is about two hundred feet above the level of the Rhine; the highest is about six hundred feet above its level. The marl beds in both, rest on molasse, which, forming the bottom of the basin, is exposed beneath the lower quarries in the denudation of the Rhine, and rises behind them into the hills of Schienen. It would, therefore, appear, that the valley in which the Rhine now flows was, at a remote period, deeply excavated in the molasse; and that, subsequently, a lake was formed in one of the broader parts of the valley, in which marls and limestones were deposited. The nature of the organic remains, and their deposition in successive layers, not only prove the long period of time which must have elapsed during their accumulation, but also demonstrate the lacustrine origin of the deposit.”

Mr. Murchison has annexed some judicious observations on the relative geological age of the tertiary limestone of Æningen:—