

cies, and probably existed under conditions of temperature, &c. similar to what these latitudes are now subjected to. Approaching the northern termination of the sub-Apennine range at Sienna, Parma, and Asti, (according to Mr. Lyell,) the proportion of species identifiable with those now living in the Mediterranean is still considerable; but it no longer predominates (as in the south of Italy) over the unknown species.

As these sub-Apennine hills, resting on each side of the Apennine range, were formed under the sea, they must have been elevated together with the Apennine range, subsequently to their deposition. Before this period, the Apennines were consequently much lower, and formed a narrow mountainous peninsula extending into the Mediterranean. Their sides were probably clothed with forests, and afforded food and shelter to the elephants and other large mammalia, that have left their bones so abundantly in some of the present valleys, particularly in the vale of Arno. These valleys, it is supposed, were once the beds of ancient freshwater lakes, in which depositions were forming at the time when the marine depositions which constitute the beds of the sub-Apennine range were taking place. By the observations of M. Bertrand Geslin, published in the *Journal de Géologie*, t. iii., it would appear, that between the source of the Arno and Florence, three distinct basins can be traced. The beds of these basins are composed of argillaceous blue marl of considerable thickness, containing fossils in the upper part of the marl. Above this are beds of sand, containing numerous bones of large mammalia. These sands are covered by beds of rolled siliceous pebbles, intermixed with sand, above which there is a bed of yellow argillaceous sand. The pebbles appear to have been derived from the mountainous range on the north. Neither remains of marine shells nor lignites occur in these depositions. The animal remains in the upper valley of the Arno are those of the elephant, the large hippopotamus, the rhinoceros, the tapir, the deer, the horse, and the ox. There are also bones of carnivorous animals belonging to the hyena, the bear, the fox, and some species allied to the tiger. From the character of the animal remains we may infer, that these freshwater depositions are of a comparatively recent date; they were, probably, coeval with the uppermost marine beds in the sub-Apennine hills. The beds, both in the sub-Apennine hills, and in the valleys of the Apennines, consist principally of marl, sand, and loosely adhering materials; hence they are exposed to rapid degradation. On the north-east side of the Apennine range, in the district of Placenza, there is a marine deposition deserving particular notice, from the extraordinary mixture of animal remains which have been found in it, and are at present preserved in the Museum at Milan.

A friend of the author, S. Banfill, Esq. of Exeter, who visited the Museum the last spring, obtained from the director of that institution, an account of the principal organic remains from this deposition, with a brief notice of the locality, of which the following is a translation:—