

it were, of Italy, throwing out many spurs, the formations on either side, and on both sides of the Adriatic, are Tertiary strata; they form in many cases, low hills lying between the Apennines of Secondary formation and the sea, the strata generally being a light-brown or bluish marl covered with yellow calcareous sand and gravel, with some fossil shells, which, according to Brocchi, are found all over Italy. But this wide range includes some older Tertiary formations, as in the strata of the Superga near Turin, which are Miocene.

The *Antwerp* Crag, which is of the same age with the Red and Coralline Crag of Suffolk, forms great accumulations upon divers points of Europe: at Antwerp in Belgium, at Carentan and Perpignan, and, we believe, in the basin of the Rhône, in France. The thickest deposits of this rock consist of clay and sand, alternating with marl and arenaceous limestone. These constitute the sub-Apennine hills, alluded to above as extending on both slopes of the Apennines. This deposit occupies the Upper Val d'Arno, above Florence. Its presence is recognised over a great part of Australia. Finally, the seven hills of Rome are composed, in part, of marine Tertiary rocks belonging to the Pliocene period.

In PLATE XXV. an ideal landscape of the Pliocene period is given under European latitudes. In the background of the picture, a mountain, recently thrown up, reminds us that the period was one of frequent convulsions, in which the land was disturbed and upheaved, and mountains and mountain-ranges made their appearance. The vegetation is nearly identical with the present. We see assembled in the foreground the more important animals of the period—the fossil species, as well as those which have survived to the present time.

At the close of the Pliocene period, and in consequence of the deposits left by the seas of the Tertiary epoch, the continent of Europe was nearly what it is now; few permanent changes have occurred since to disturb its general outline. Although the point does not admit of actual proof, there is strong presumptive evidence that in this period, or in that immediately subsequent to it, the entire European area, with some trifling exceptions, including the Alps and Apennines, emerged from the deep. In Sicily, Newer Pliocene rocks, covering nearly half the surface of the island, have been raised from 2,000 to 3,000 feet above the level of the sea. Fossil shells have been observed at the height of 8,000 feet in the Pyrenees; and, as if to fix the date of upheaval, there are great masses of granite which have penetrated the Lias and the Chalk. Fossil shells of the period are also found at a height of 10,000 feet in the Alps, at 13,000 feet in the Andes, and at 18,000 feet in the Himalayas.