

Belgium) is represented by a thick yellowish marine limestone (Calcaire à Astéries) with *Cerithium plicatum*, *Trochus Bucklandi*, *Natica crassatina*, etc. The Aquitanian stage is represented in Languedoc by marine marls with *Cerithium*, and marine conditions are indicated by the corresponding deposits in Provence.

But over the centre and south of France marine Oligocene deposits are generally absent, their place being taken by the marls, clays, and limestones of former lakes, which have preserved many of the terrestrial plants and animals of the period. One or more large sheets of fresh water lay in the heart of the country, surrounded by slopes clothed with a tropical flora. In these basins, a series of marls and limestones (1500 feet thick in the Limagne d'Auvergne) accumulated, from which have been obtained the remains of nearly 100 species of mammals, including some palæotheres, like those of the Paris basin, a few genera found also in the Mainz basin, crocodiles, snakes, numerous birds, and relics of the surrounding land-vegetation of the time. This water-basin appears to have been destroyed by volcanic explosions, which afterward poured out the great sheets of lava, and formed the numerous cones or *puy*s so conspicuous on the plateau of Auvergne. In the south of France, the Eocene groups are sometimes surmounted by lacustrine or brackish-water beds that point to the retirement of the nummulitic sea, and the advent of those more terrestrial and shallow-water conditions in which the Oligocene deposits were accumulated. In Provence, lacustrine beds (*Physa*, *Planorbis*, *Limnæa*, *Bulimus*, etc.) lie immediately upon the Upper Cretaceous rocks. At Aix these beds have long been noted for their abundant plants (*Callitris Brongniarti*, *Widdringtonia brachyphylla*, *Flabellaria lamanonis*, *Quercus*, *Laurus*, *Cinnamomum*), insects and mammals (*Palæotherium*, *Xiphodon*, *Anoplotherium*, *Choeropotamus*).

A singular and interesting development of Oligocene deposits in France, Switzerland, and southern Germany is found where they have filled up fissures and cavities of older, especially Upper Jurassic, limestones. One of the most remarkable of these occurrences is that of Quercy, now famous for the large number of remains of mammals which have been found there. These deposits are related to Tertiary strata in their vicinity, and never occur at a higher altitude than these strata. They consist of red clay and loam, with pisolitic limonite, becoming more phosphatic toward the bottom, where the phosphate of lime occurs in such