

valley of the Rhone. But in the south and southeast of France the Miocene strata are mainly of lacustrine origin, sometimes attaining a thickness of 1000 feet, as in the important series of limestones and marls of Sansan and Simorre, whence remains of numerous interesting mammalia have been obtained. Among these remains are *Deinotherium giganteum*, *Mastodon angustidens*, *M. tapiroides*, *M. pyrenaicus*, *Rhinoceros Schleiermacheri*, *R. sansaniensis*, *R. brachypus*, *Anchitherium aurelianense*, *Anthracotherium onoideum*, *Amphicyon giganteus*, *Machairodus cultridens*, *Helladotherium Duvernoyi*, *Dicroceras elegans*, and several apes and monkeys (*Pliopithecus*, *Dryopithecus*).

The Miocene deposits of France, though scattered in isolated patches, have been grouped into three stages in the following ascending order: 1st, Lhangian—sands and marls (l'Orléanais, Sologne, etc.), limestones (Sansan, Simorre); 2d, Helvetian—shelly sands, faluns (Touraine, Anjou, Aquitaine); 3d, Tortonian—marls with *Helix turonensis*.

Belgium.—In this country, the upper Oligocene strata of Germany are absent. In the neighborhood of Antwerp certain black, gray, or greenish glauconitic sands ("Black Crag," Bolderian and Anversian), of which the palæontological characters were at one time supposed to present a mingling of Miocene and Pliocene affinities. These deposits were accordingly termed by some geologists Mio-pliocene. They consist of gravelly sands at the base, containing cetacean bones (*Heterocetus*), fish-teeth, *Ostrea navicularis*, *Pecten*, *Caillaudi*, etc. They are followed by sands with *Pectunculus glycymeris* (*pilosus*), and these by sands with *Panopæa Faujasii* (*Menardi*). More recent research has shown that the lower part of this series of deposits is Miocene, and is separated by a break and erosion-line from the superincumbent Diestian group which is referable to the Pliocene series.

Germany.—Certain deposits of dark clay and sand spread over parts of the northwest of Germany containing *Conus Dujardini*, *C. antediluvianus*, *Fusus festivus*, *Isocardia cor*, *Pectunculus glycymeris* (*pilosus*), *Limopsis aurita*, etc., and are referred to the Miocene formations. These are doubtless a prolongation of the Belgian series. Elsewhere the deposits referable to this geological period are lacustrine or fluviatile in origin, and are especially marked by the occurrence in them of brown-coals which are worked.

In the Mainz Tertiary basin an important series of ma-