

Mammalia of the Miocene Period.

The second, or Miocene System of Tertiary Deposits, contains an admixture of the extinct genera of lacustrine mammalia, of the first or Eocene series, with the earliest forms of genera which exist at the present time. This admixture was first noticed by M. Desnoyers, in the marine formations of the Faluns of Touraine.*

Although carbonate of lime occurs not in distinct masses among rocks of igneous origin, it forms an ingredient of lava and basalt, and of various kinds of trap rocks. The calcareous matter thus dispersed through the substance of these volcanic rocks, seems to afford a magazine from which percolating water, charged with carbonic acid gas, may, in the lapse of ages, have derived sufficient carbonate of lime to form all the existing strata of limestone, by successive precipitates at the bottom of ancient lakes and seas. Mr. De la Beche states the quantity of lime in granite composed of two-fifths quartz, two-fifths felspar, and one-fifth mica, to be 0.37; and in greenstone, composed of equal parts of felspar and hornblende, to be 7.29. (Geol. Researches, p. 379.)—The compact lava of Calabria contains 10. of carbonate of lime, and the basalt of Saxony 9.5.

We may, in like manner, refer the origin of those large quantities of silex, which constitute the chert and flint beds of stratified formations, to the waters of hot springs, holding siliceous earth in solution, and depositing it on exposure to reduced degrees of temperature and pressure, as silex is deposited by the hot waters that issue from the geysers of Iceland.

* Here, the remains of *Palæotherium*, *Anthracotherium*, and *Lophiodon*, which formed the prevailing genera in the Eocene period, are found mixed with bones of the Tapir, Mastodon, Rhinoceros, Hippopotamus, and Horse: these bones are fractured and rolled, and sometimes covered with flustra, and must have been derived from carcasses drifted into an estuary, or sea. *Annales des Sciences Naturelles*. Février, 1828.