

Mesozoic epoch. But in North America and on the Continent there has been an adverse current. The near relationship of the floras and faunas of the Permian deposits with those of the Carboniferous seemed to make it injudicious to draw any such sharp line of division at the conclusion of the Carboniferous period as would be indicated if the Permian rocks were transferred to Mesozoic time. And so close had the relationship between the Permian and Carboniferous systems appeared, that A. de Lapparent, in the first two editions of his admirable Text-book of Geology, had united them under the name of "Permo-Carboniferous System."

F. *The Triassic System*.—The fossils preserved in the older horizons of the Triassic system in Western and Southern Europe afford evidence that the plants and animals which flourished and abounded in these areas during Permian and earlier epochs had largely given place to new forms of life. European geologists therefore sought to give expression to local disconuities of the palæontological chain by regarding the Triassic system as the first of a Mesozoic epoch, when the characteristic forms of life were intermediate between the faunas and floras of the very ancient or Palæozoic epochs and the younger or Cainozoic epochs. The Mesozoic epoch is subdivided into three systems or formations: Triassic, Jurassic, and Cretaceous.

In the eighteenth century, Lehmann and Füchsel recognised in Thuringia the Bunter (or variegated) Sandstone and Muschelkalk (or shell limestone) as independent members of the Flötz series, and had separated them from the Red Underlyer and Zechstein. The characteristic fossils of the Thuringian Muschelkalk are admirably described and figured in Schlotheim's *Nachträge zur Petrefaktenkunde* (1823). Nevertheless, there was for a long time great insecurity in Germany regarding the Bunter Sandstone and the limestone above it, as many geologists, even such travelled observers as Leonhard, Charpentier, and Voltz, confused the Bunter Sandstone with the North German Underlyer, and the grey limestone or Muschelkalk with the Zechstein.

Peter Merian, in his first treatise (1821) on the geology of the neighbourhood of Bâle, was uncertain about the stratigraphical position of the Bunter Sandstone, but showed that this horizon of rock was succeeded both in the Vosges and in