deposits, parts of each containing the same fossils. The exact correspondence of the European and American strata is not yet ascertained.

Chalk is a pulverulent carbonate of lime, and its varieties have resulted from the impurities that were deposited with it. The upper beds are remarkable for the great quantity of flints dispersed through them, generally in parallel position. The famous Dover cliffs in England are composed of chalk.

Greensand is a mixture of arenaceous matter, with a peculiar green substance greatly resembling chlorite, or green earth. It has been used extensively as a fertilizer, as it contains large quantities of silicate of iron and potassa.

Gault or Galt, is a provincial name for blue clay or marl, forming an interstratified bed in the greensand of England.

IV. CAINOZOIC SYSTEM.

These include all the more recent formations, viz.: 1. the Tertiary, and 2. the Alluvium.

1. *Tertiary Series.*

The Tertiary rocks have been divided into three distinct groups of marine strata, distinguished by important peculiarities in their organic remains, and separated from one another by strata which contain fresh water and terrestrial remains.

Lyell has given names to these groups which are generally adopted: 1. the *Eocene*, signifying *the dawn*, or commencement of the existing types of organic life, and containing about four per cent. of shells identical with living species. This is divided into three parts: the *Lower* Eocene, embracing the Nummulitic formation of the Alps and the London clay; the *Middle* Eocene, embracing portions of the Paris basin, etc., and the *Upper* Eocene, embracing the upper marine beds of the Paris basin, etc. 2. The *Miocene* (*less recent*), containing about twenty-five per cent. of shells identical with living species. 3. The *Pliocene* (*more recent*) or *Newer Tertiary*, containing shells, of which about two-thirds are identical with living species.

In Europe and Asia, the rocks of this period are found principally in basins, apparently deposited in lakes and estuaries of limited extent. London, Paris, and Vienna, are each situated upon Tertiary basins. Fig. 57 represents the London basin, lying in a trough of the Chalk series.

In North America the Tertiary deposits are found chiefly upon the Atlantic seaboard, and upon the Gulf of Mexico, running northerly into the Territories. There is a remarkable deposit of this age in Nebraska, upon the *Mauvais Terres or Bad Lands* upon White river. Local names have been given to the different deposits, whose relation to the European divisions is as follows: the *Claiborne Period* corresponds to the Lower Eocene; the *Vicksburg Period* to the Upper Eocene; and the *Yorktown Period* to the Miocene and Pliocene.