

Eocene rocks lie sometimes on upper beds of Chalk, and sometimes on beds lower in the series. They are, therefore, highly *unconformable* to each other, and this alone marks a great interval of time, unrepresented in England by the deposition of strata. The subject is evidently connected with the nearly total break in succession of *evident species* between the Cretaceous and Eocene formations; for, great continental areas of Chalk were heaved above the sea and remained as dry land for a period of time so long, that, when they were again submerged, the life of Cretaceous times had mostly been remodelled by slow evolution, and newer forms, in time became the legitimate successors of their long-buried ancestors.

When critically examined, it soon becomes evident that the strata of the basins mentioned above were not originally deposited in two distinct basin-shaped hollows, but that they were once united, and formed one great area of Eocene age. Long after, a disturbance of the Secondary and Lower Tertiary strata took place, which threw them into broad anticlinal and synclinal curves. One long and broad anticlinal curve passes along the Wealden area from east to west, and still further on through part of the Chalk. South of this we find the synclinal curve of the Hampshire basin, bounded on the south by the Cretaceous strata of the Isles of Wight and Purbeck, and on the north by the Chalk of the Salisbury, Winchester, and Brighton area, while north of the Weald, the Eocene rocks of the London basin bounded by Chalk lie in a similar synclinal curve, broad at its east or seaward end, and narrow at its western end towards Marlborough. When still more closely examined, it is found that many beds of our Eocene strata were deposited in fresh and in