

ginnings of life on the one hand, and the present state of things on the other, form the terminal limits,—represent each, if I may so express myself, an independent dynasty or empire. Under certain qualifications, to which I shall afterwards refer, the Tertiary division represents the dynasty of the mammal ; the Secondary division the dynasty of the reptile ; and the Palæozoic division the dynasty of the fish. Each of the divisions, too, has a special type or characteristic fashion of its own ; so that the aspect of its existences differs as much in the group from the aspect of the existences of each of the others, as if they had been groups belonging to different planets. The vegetable and animal organisms of the planet Venus may not differ more from those of the planet Mars, or those of Mars from the organisms of the planet Jupiter, than the existences of the Tertiary division differ from those of the Secondary one, or those of the Secondary one from the existences of the Palæozoic division.

Beneath the two great divisions of the Cretaceous system, and consequently of more ancient date, there occurs in the sister kingdom an important series of beds, chiefly of lacustrine or fluviatile origin, known as the Wealden. Before the submergence of what are now the south-eastern parts of England, first beneath the comparatively shallow sea of the Greensand, and then beneath the profounder depths of the ocean of the Chalk, a mighty river, the drainage of some unknown continent, seems to have flowed for many ages along those parts of Kent, Surrey, and Sussex, known as the Valley of the Weald. The banks of this old nameless river were covered with forests of coniferous trees of the Pine and Araucarian families, with cycadeæ and ferns, and were haunted by gigantic reptiles, herbivorous and carnivorous, some of which rivalled in bulk the mammoth and the elephant ; its waters were inhabited by amphibiæ of the same great class, chiefly crocodiles and chelonians of extinct species and type ; by numerous fishes, too, of the old