

THE CRETACEOUS PERIOD.

THE name *Cretaceous* (from *creta*, chalk) is given to this epoch in the history of our globe because the rocks deposited by the sea, towards its close, are almost entirely composed of chalk (carbonate of lime).

Carbonate of lime, however, does not now appear for the first time as a part of the earth's crust ; we have already seen limestone occurring, among the terrestrial materials, from the Silurian period ; the Jurassic formation is largely composed of carbonate of lime in many of its beds, which are enormous in number as well as extent ; it appears, therefore, that in the period called *Cretaceous* by geologists, carbonate of lime was no new substance in the constitution of the globe. If geologists have been led to give this name to the period, it is because it accords better than any other with the characteristics of the period ; with the vast accumulations of chalky or earthy limestone in the Paris basin, and the beds of so-called Greensand, and Chalk of the same age, so largely developed in England.

We have already endeavoured to establish the origin of lime, in speaking of the Silurian and Devonian periods, but it may be useful to recapitulate the explanation here, even at the risk of repeating ourselves.

We have said that lime was, in all probability, introduced to the globe by thermal waters flowing abundantly through the fissures, dislocations, and fractures in the ground, which were themselves caused by the gradual cooling of the globe ; the central nucleus being the grand reservoir and source of the materials which form the solid crust. In the same manner, therefore, as the several eruptive substances—such as granites, porphyries, trachytes, basalts, and lava—have been ejected, so have thermal waters charged with carbonate of lime, and often accompanied by silica, found their way to the surface in great abundance, through the fissures, fractures, and dislocations in the crust of the earth. We need only mention here the Iceland geysers, the springs of Plombières, and the well-known thermal springs of Bath and elsewhere in this country.

But how comes lime in a state of bicarbonate, dissolved in these