Phillippi, the anterior teeth of which (see fig. 288 *a*) are sharp and cutting, while the posterior or palatal teeth (*b*) are flat, and analogous to the fossil (fig. 287).

But we meet with no bones of land animals, nor any terrestrial or fluviatile shells, nor any plants, except sea-weeds, and here and there a piece of drift wood. All the appearances concur in leading us to conclude that the white chalk was the product of an open sea of considerable depth.

The existence of turtles and oviparous saurians, and of a Pterodactyl or winged lizard, found in the white chalk of Maidstone, implies, no doubt, some neighboring land; but a few small islets in mid-ocean, like Ascension, formerly so much frequented by migratory droves of turtle, might perhaps have afforded the required retreat where these creatures laid their eggs in the sand, or from which the flying species may have been blown out to sea. Of the vegetation of such islands we have scarcely any indication, but it consisted partly of cycadeous plants; for a fragment of one of these was found by Capt. Ibbetson in the chalk marl of the Isle of Wight, and is referred by A. Brongniart to *Clathraria Lyellii*, Mantell, a species common to the antecedent Wealden period.

The Pterodactyl of the Kentish chalk, above alluded to, was of gigantic dimensions, measuring 16 feet 6 inches from tip to tip of its outstretched wings. Some of its elongated bones were at first mistaken by able anatomists for those of birds; of which class no osseous remains seem as yet to have been derived from the chalk, or indeed from any secondary or primary formation, except perhaps the Wealden.

Upper greensand (Table, p. 105, &c.)—The lower chalk without flints passes gradually downwards, in the south of England, into an argillaceous limestone, "the chalk marl," already alluded to, in which ammonites and other cephalopoda, so rare in the higher parts of the series, appear. This marly deposit passes in its turn into beds called the Upper Greensand, containing green particles of sand of a chloritic mineral. In parts of Surrey, calcareous matter is largely intermixed, forming a stone called *firestone*. In the cliffs of the southern coast of the Isle of Wight, this upper greensand is 100 feet thick, and contains bands of siliceous limestone and calcareous sandstone with nodules of chert.

The Upper Greensand is regarded by Mr. Austen and Mr. D. Sharpe, as a littoral deposit of the Chalk Ocean, and, therefore, contemporaneous with part of the chalk marl, and even, perhaps, with some part of the white chalk. For as the land went on sinking, and the cretaceous sea widened its area, white mud and chloritic sand were always forming somewhere, but the line of sea-shore was perpetually varying its position. Hence, though both sand and mud originated simultaneously, the one near the land, the other far from it, the sands in every locality where a shore became submerged, might constitute the underlying deposit.

Gault.—The lowest member of the upper Cretaceous group, usually about 100 feet thick in the S. E. of England, is provincially termed