The Lias, in England, is generally in three groups: 1, the upper, clays and shales, underlying sands; 2, the middle, lias or marlstone; and 3, the lower, clays and limestone; but these have been again subdivided—the last into six zones, each marked by its own peculiar species of Ammonites; the second into three zones; the third consists of clay, shale, and argillaceous limestone. For the purposes of description we shall, therefore, divide the Lias into these three groups:—

1. *Upper Lias Clay*, consists of blue clay, or shale, containing nodular bands of claystones at the base, crowded with *Ammonites serpentinus*, *A. bifrons*, *Belemnites*, &c.

2. The *Middle Lias*, commonly known as the Marlstone, is surmounted by a bed of oolitic ironstone, largely worked in Leicestershire and in the north of England as a valuable ore of iron. The underlying marls and sands, the latter of which become somewhat argillaceous below, form beds from 200 to 300 feet thick in Dorsetshire and Gloucestershire; the fossils are *Ammonites margaritaceus*, *A. spinatus*, *Belemnites tripartitus*. The upper rock-beds, especially the bed of ironstone on the top, is generally remarkably rich in fossils.

3. *Lower Lias* (averaging from 600 to 900 feet in thickness) consists, in the lower part, of thin layers of bluish argillaceous limestone, alternating with shales and clays; the whole overlaid by the blue clay of which the lower member of the Liassic group usually consists. This member of the series is well developed in Yorkshire, at Lyme Regis and Charmouth in Dorsetshire, and generally over the South-West and Midland Counties of England.

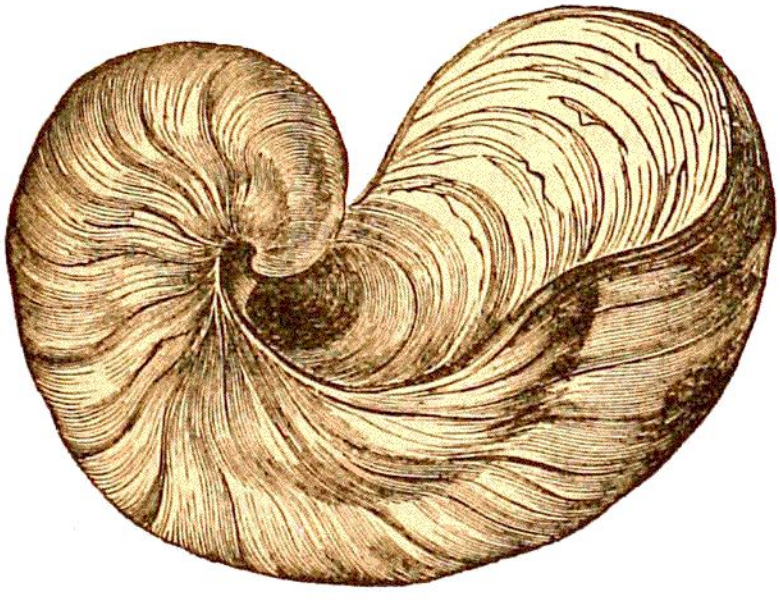

Fig. 88.—Gryphæa incurva.

Gryphæa incurva (Fig. 88), with sandy bands, occurs at the base, in addition to which we find *Ammonites planorbis Bucklandi*, *A. Ostrea liassica*, *Lima gigantea*, *Ammonites Bucklandi*, &c., in the lower limestones and shales.

Above the clay are yellow sands from 100 to 200 feet thick, underlying the limestone of the Inferior Oolite. These sands were, until lately,