

these beds being separated by dark-colored narrow argillaceous partings, so that the quarries of this rock, at a distance, assume a striped and riband-like appearance.*

The Lias comprises, 1, the Upper Lias—thin limestone beds with clay and shale; 2, the Marlstone—a coarse shelly limestone; and 3, the Lower Lias—consisting of limestone, shells, and clay. These divisions have certain fossils in common, and in some places pass the one into the other.

Although the prevailing color of the limestone of this formation is blue, yet some beds of the lower lias are of a yellowish white color, and have been called white lias. In some parts of France, near the Vosges mountains, and in Luxembourg, M. E. de Beaumont has shown that the lias containing *Gryphæa arcuata*, *Plagiostoma giganteum* (see fig. 400), and other characteristic fossils, becomes arenaceous; and around the Hartz, in Westphalia and Bavaria, the inferior parts of the lias are sandy, and sometimes afford a building-stone.

The name of Gryphite limestone has sometimes been applied to the lias, in consequence of the great number of shells which it contains of a

Fig. 400.



Plagiostoma (Lima) giganteum, Sow.
Inf. Ool. and Lias.

Fig. 401.



Gryphæa incurva, Sow.
(*G. arcuata*, Lam.)
Lias.

species of oyster, or *Gryphæa* (fig. 401; see, also, fig. 30, p. 29). A large heavy shell called *Hippopodium* (fig. 402), allied to *Isocardia*, is also characteristic of the lower lias shales. The Lias formation is also remarkable for being the oldest of the secondary rocks in which brachiopoda of the genera *Spirifer* and *Leptaena* (figs. 403, 404) occur: no less than nine species of *Spirifers* are enumerated by Mr. Davidson as belonging to the lias. These palliobranchiate mollusca predominate greatly in strata older than the trias; but, so far as we yet know, they did not survive the liassic epoch. The marine beds of the lias also abound in cephalopoda of the genera *Belemnites*, *Nautilus*, and *Ammonites* (see figs. 405, 406, 407).

Among the Crinoids or Stone-Lilies of the Lias, *Pentacrinus Briareus*

* Conyb. and Phil. p. 261.