

far the limitation of species to certain minor formations has been due to the local influence of *stations*, or how far it has been caused by time or the creative and destroying law above alluded to. But we recognize the reality of the last-mentioned influence, when we contrast the whole oolitic series of England with that of parts of the Jura, Alps, and other distant regions, where there is scarcely any lithological resemblance; and yet some of the same fossils remain peculiar in each country to the Upper, Middle, and Lower Oolite formations respectively. Mr. Thurman has shown how remarkably this fact holds true in the Bernese Jura, although the argillaceous divisions, so conspicuous in England, are feebly represented there, and some entirely wanting.

The Bradford clay above alluded to is sometimes 60 feet thick, but, in many places, it is wanting; and, in others, where there are no limestones, it cannot easily be separated from the clays of the overlying "forest marble" and underlying "fuller's earth."

The calcareous portion of the Great Oolite consists of several shelly limestones, one of which, called the Bath Oolite, is much celebrated as a building-stone. In parts of Gloucestershire, especially near Minchinhampton, the Great Oolite, says Mr. Lycett, "must have been deposited in a shallow sea, where strong currents prevailed, for there are frequent changes in the mineral character of the deposit, and some beds exhibit false stratification. In others, heaps of broken shells are mingled with pebbles of rocks foreign to the neighborhood, and with fragments of abraded madrepores, dicotyledonous wood, and crabs' claws. The shelly strata, also, have occasionally suffered denudation, and the removed portions have been replaced by clay."\* In such shallow-water beds shells of

Fig. 363.



*Purpuroidea nodulata*.  $\frac{1}{2}$  nat. size. Great Oolite, Minchinhampton.

Fig. 369.



*Cylindrites acutus*, Sow. Syn. *Actæon acutus*. Great Oolite, Minchinhampton.

Fig. 367.



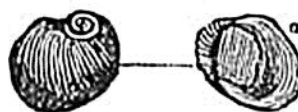
*Terebratula digona*. Nat. size. Bradford clay.

Fig. 370.



*Patella rugosa*, Sow. Great Oolite.

Fig. 371.



*Nerita costulata*, Desh. Great Oolite.

Fig. 372.



*Rimula (Emarginula) clathrata*, Sow. Great Oolite.

\* Lycett, Geol. Journ. vol. iv. p. 183.