

NEW RED SANDSTONE.

In this new phase of the revolutions of the globe, the animated beings on its surface differ much from those which belonged to the Primary epoch. The curious Crustaceans which we have described under the name of *Trilobites* have disappeared; the molluscos Cephalopods and Brachiopods are here few in number, as are the Ganoid and Placoid Fishes, whose existence also seems to have terminated during this period, and vegetation has undergone analogous changes. The cryptogamic plants, which reached their maximum in the Primary epoch, become now less numerous, while the Conifers experienced a certain extension. Some kinds of terrestrial animals have disappeared, but they are replaced by genera as numerous as new. For the first time the Turtle appears in the bosom of the sea, and on the borders of lakes. The Saurian reptiles acquire a great development; they prepare the way for those enormous Saurians, which appear in the following period, whose skeletons present such vast proportions, and such a strange aspect, as to strike with astonishment all who contemplate their gigantic, and, so to speak, awe-inspiring remains.

The *Variegated Sandstone*, or Bunter, contains many vegetable, but few animal, remains, although we constantly find imprints of the footsteps of the Labyrinthodon.

The lowest Bunter formation shows itself in France, in the Pyrenees, around the central plateau in the Var, and upon both flanks of the Vosges mountains. It is represented in south-western and central Germany, in Belgium, in Switzerland, in Sardinia, in Spain, in Poland, in the Tyrol, in Bohemia, in Moravia, and in Russia. M. D'Orbigny states, from his own observation, that it covers vast surfaces in the mountainous regions of Bolivia, in South America. It is recognised in the United States, in Columbia, in the Great Antilles, and in Mexico.

The Bunter in France is reduced to the variegated sandstone, except around the Vosges, in the Var, and the Black Forest, where it is accompanied by the Muschelkalk. In Germany it furnishes building-stone of excellent quality; many great edifices, in particular the cathedrals, so much admired on the Rhine—such, for example, as those of Strasbourg and Fribourg—are constructed of this stone, the sombre tints of which singularly relieve the grandeur and majesty of the Gothic architecture. Whole cities in Germany are built of the brownish-red stones drawn from its mottled sandstone quarries. In