

CHAPTER IV.

RED MARLE, OR NEW RED SANDSTONE.

This Chapter will conclude our view of the formations above the great and important deposits of coal, and comprise the beds between the lias and those deposits: these are entirely referable to two formations very intimately connected together, viz. 1st. a series of marly and sandy beds intermixed with conglomerates derived from older rocks, containing gypsum and rock salt, and in one instance amygdaloidal trap: and 2ndly, a calcareous formation often brecciated and characterized by containing a considerable portion of magnesia: this lies beneath, or at least in the lower portion of the above series. The former deposits are commonly known by the name of Red marle or New red sandstone; the latter as the Magnesian limestone.

The first section of this chapter will therefore treat of the former, and the second of the latter of these formations; a third section will be added, dedicated to a comparison of these formations in this island and other parts of the globe, which in this instance it will be found more convenient to subjoin than prefix. (C.)

Section I.

RED MARLE.

(a) *Chemical and external characters.* This formation is by some also termed the *Red Rock*, or *Red Ground*. It is a very extensive deposit, stretching with little interruption from the northern bank of the Tees in Durham to the southern coast of Devonshire. Its texture is very various. It appears sometimes as a reddish marle or clay, sometimes as a sandstone; sometimes the clay and sandstone are interstratified or pass the one into the other; and it will farther appear that it is associated with, or contains beds of, a conglomerate consisting of masses of different rocks cemented by marle or by sand. When this deposit appears as a sandstone, its characters differ greatly in different places; it is occasionally calcareous, and sometimes