

Section IV.

CARBONIFEROUS OR MOUNTAIN LIMESTONE.

(a) *Chemical and external characters.* The series just described reposes on that important assemblage of calcareous strata (occasionally alternating with beds of a different composition, e. g. shale-grit and amygdaloid) which has been often described by the name of mountain limestone, from its usually forming considerable hills; of metalliferous limestone, from its mineral riches; and of entrochal or encrinal limestone, from its organic remains.* We prefer to all these that of *carboniferous limestone*, derived from its association in the coal districts, as expressing a character more constant and more peculiar than any of the former. The texture of this rock is generally imperfectly crystalline, and sufficiently close and hard to afford marbles susceptible of a durable polish. Its prevailing colour is grey; passing, on the one hand, into greyish-white and yellow, and on the other, into greyish-blue and black; occasionally also a red shade of colour may be observed. Its purest beds appear to contain about 96 per cent. of calcareous matter; but by the admixture of other ingredients, it often passes into magnesian limestone, ferruginous limestone, bituminous limestone, and fetid limestone. It usually presents beds of very considerable thickness; a continuous series of which often extends many hundred feet in

* It has more than once been proposed to designate this by the Wernerian name "first flötz limestone." We have already assigned our reasons for objecting generally to all attempts to refer any part of the carboniferous series to the so-called flötz formations, and against the application of the principle in this instance we must enter our most decided protest, for no canons of nomenclature can be more positive than, 1st, that names should be applied in the sense in which they were imposed by their original authors, unless that sense has been modified by common subsequent usage; and 2dly, that where a name includes a description, it should not be applied in cases where the implied description is inapplicable. Now with regard to the first of these rules, Werner constantly applied his own term, 'first flötz limestone,' not to our carboniferous limestone, but to that associated with the bituminous and cupriferous marle-slate, which is now generally admitted to be coeval with our newer magnesian limestone. The continental writers who employ this term, still generally retain this application; and when they have occasion to describe the carboniferous limestone, appear to refer it to the transition series. With reference to the second note, we must observe that the carboniferous limestone seldom occurs in horizontal or flötz stratification, being more often highly inclined. In different countries, however, the same rocks vary so much in this particular, that it is absurd to assume it as a basis of nomenclature, otherwise we must bring ourselves to talk of the "highly inclined flötz limestone of the Jura chain, &c."