

III. Chap. II. *Coal, and associated beds.*

the vallies traversing the eastern slope of the same chain. They are thus seen in the vallies of the North and South Tyne for some miles above their confluence; in Weardale, Teesdale, Gretadale, Swaledale as low down as Richmond, Yoredale as far as Middleham, Coverdale, Netherdale and Wharfedale.

Between Clitheroe and the north of Derbyshire, the rocks of this formation are every where concealed by the formations of millstone-grit and shale.

The mountain limestone tract of *Derbyshire* extends from Castleton, which is its northernmost point, about 25 miles south of that place; its breadth does not appear any where to exceed about fifteen miles. Its form on the surface is very irregular. Buxton is situated on the north-western edge of this tract, Castleton on its north-eastern, and Matlock is on its south-eastern extremity. The surface of this district is occupied by the *out-crop of four strata of limestone, and of three beds of toadstone which lie between the strata of limestone.*

This tract is encircled (as has been already stated in treating of these formations) by superstrata of shale and millstone-grit: from beneath these, it rises on the eastern side, the strata ascending, though under a small angle, towards the west: but along its northern, western and south-western edge, there ranges (as we are informed by Mr. Farey) a great fault, which by elevating the limestone tract, or depressing the district beyond it, has produced the effect of bringing the lowest bed of the limestone into immediate contact at the same level, with the strata of the shale formation; from which, were there no such disturbance, it would be separated by the intervention of the three upper beds of limestone and all those of toadstone. This is described by Mr. Farey as the great limestone fault. It is observable, that from the line joining the two eastern extremities of this fault, as from a hinge, all the strata rise more rapidly to the west.

The *lowest stratum of limestone*, being that, on the outgoing or outcrop of which are situated the Peak forest, Buxton and many towns on the south of it, passes across Dove dale and Wetton dale: the Weaver hills consist of it. In it are many caverns, as the immense one called Elden hole, north of Peak Forest town; the Devil's hall, connected by a tunnel with the Speedwell mine; Pool's hole near Buxton, and several of less note.

The thickness of the lower limestone is not known; it certainly exceeds 250 feet. We are consequently ignorant of the rock on which it rests. It is regularly stratified, consisting of very many beds, several of which are of considerable thick-