

where the miner, availing himself of this circumstance, makes with his pick small holes about six inches apart and four inches deep, in one surface, after the other is removed; and the consequence is, that on his return in a few hours, he finds every part so treated, ready broken to his hand. (M. passim. F. 243, and seq.)

Of those remarkable derangements in the strata of Derbyshire, termed *faults* by the miner, we have no very clear geological account. The direction of some of them on the surface is detailed in the 1st volume of Farey's General View of Derbyshire, &c. to which we refer the reader: occasionally they appear to be very extensive, and their consequences very extraordinary; but a knowledge of their width, dip, and contents is yet a geological desideratum. Some of them have intersected the veins of lead ore, and are said to have introduced rounded quartz pebbles or gravel, alluvial clay, and other extraneous mineral matters, into them.

This limestone tract is, as usual in this formation, distinguished by the abrupt and wild features of its narrow rocky dales, by numerous caverns; and by the frequent engulfment of its streams in subterraneous courses, called swallow-holes. Mr. Farey's report contains a very copious list of these objects.

Section IV.

OLD RED SANDSTONE.

On the North-West of the Penine Chain.

To complete our description of the rock formations entering into the composition of the Penine chain, it now only remains to mention the old red sandstone. This rock, so extensive in the coal districts of the south-west of England, has yet been observed only in one limited portion of this chain; namely, under the escarpment of Cross Fell; where it may be traced for 15 miles from near Melmerby to near Murton; occupying an intermediate position between the mountain limestone and the adjacent tract of greywacké slate, described by Mr. Buckland in the 4th volume of the Geological Transactions. It appears here in its common form of a coarse puddingstone.