

This basalt has a greyish-black colour. Its fracture is small conchoidal, and nearly even, with here and there a little tendency to the splintery. Its lustre is glimmering, owing to very small black crystals being interspersed. They appear to be prisms. Their lustre would indicate them to be augite; but, as their colour is black, I rather consider them as hornblende. The basalt is opaque, brittle, not easily frangible, breaks into fragments with sharp edges, and the paviers in Birmingham complain that they cannot break it into the shape adapted for paving the streets. It is hard enough to cut glass, and to strike fire with a steel. It melts before the blow-pipe; and, when heated in an open fire, becomes magnetic, and loses three per cent. of its weight.

Dr. Withering seems to have missed the lime and soda, which no doubt exist in Rowley rag. But the analysis of mineral was at that time in so imperfect a state, that we have more reason to admire the accuracy which he actually attained, than to be surprised at the mistakes into which he fell. The basalt in these hills has a very distinct columnar structure.

The above account, which gives a clear summary of the geology of these hills, is extracted from a memoir of Dr. Thomson, but it should be in justice added that Mr. Kier, the first investigator of this district, whose observations are inserted in the 1st volume of Shaw's history of Staffordshire, left nothing to succeeding enquirers but the task of compilation. These hills at their border evidently overlie the coal-formation which has been pursued to some distance beneath them. But it is very possible that they may nevertheless be connected with a vast dyke, penetrating the strata beneath their centre; and overlying only at its edges. This was the opinion of Mr. Kier.

It should be observed that the columnar structure, though very frequent, is far from universal in this trap, which very commonly occurs in large spherical masses decomposing on the surface into concentric layers, as described in the general account of the rocks of this formation at the beginning of the article. An amygdaloidal variety containing calcareous spar and zeolite occurs on the south of the town of Dudley. The highest point of the Rowley Hills is stated by Dr. Thomson to be 900 feet above the Thames at Brentford, this height having been deduced from observation on the canal levels.

#### B. *Trap in the Colliery of Birch Hill near Walsall.*

This colliery, as described by Mr. Aikin, presents many interesting facts connected with our present subject; it is