

strong analogical presumption that the other dykes of the coal-field, are likewise subsequent, and not contemporaneous phenomena.

These circumstances render the course of this dyke through the more recent formations, a point of much geological importance, and Mr. Bakewell has fortunately published a sufficiently detailed account of this. His statement is as follows.

From Berwick on the Tees it may be traced in an easterly direction, near the villages of Stanton, Newby, Nunthorp and Ayton. At Langbath ridge a quarry is worked in it; it passes south of the remarkable hill called Roseberry Toppin, near Stokesly, and from thence by Lansdale to Kildale; it may be seen on the surface nearly all the way in the above track. From Kildale it passes to Denbigh Dale end, and through the village of Egton bridge, and hence over Leace ridge through Gothland, crossing the turnpike road from Whitby to Pickering near the seven mile stone, at a place called Sillow Cross on a high moor. I examined it at this place, where it is quarried for the roads, and is about ten yards wide. From hence it may be traced to Blea Hill near Harwood Dale, in a line towards the sea, near which it is covered with alluvial soil; but there can be no doubt that it extends into the German ocean. It is a dark greyish brown basalt which turns brown on exposure to the atmosphere; it is the principal material for mending the roads in the district called Cleveland.

It is only necessary to add to this account that the dyke enters the lias near Nunthorp and the sand of the inferior oolite near Roseberry Topping.

## II. *Trap rocks of Derbyshire.*

These chiefly occur in three strata, conformably alternating in the formation of carboniferous limestone, which, by their interposition, they divide into four separate beds; but other masses of trap, of more limited extent, are occasionally found contained within the limestone beds; especially in that usually called the third limestone (the numbers following a descending series.) An instance of a dyke is also mentioned by Whitehurst. It does not appear to have been ascertained, whether these occasional masses of trap are or are not in any manner connected with the principal strata of that class; though a knowledge of this fact would be of the utmost importance in determining the relations of the whole formation. It should also be observed that the upper toadstone exhibits in Hockley lime quarry, south of Ashover, portions of limestone imbedded in its mass, near the entrance of the quarry; and some other probable