

beds of great interest in the theory of the formation of such rocks. (Jameson, M'Culloch, &c.)

In the north of England, the porphyritic masses of the Cheviot hills, the range of greenstone and basalt in Northumberland from Belford, by Alnwick, Rothbury, Whelpington, and the Roman Wall to the South Tyne, and thence along the west front of the Penine chain, to Hilton, near Appleby, and down the Tees to Middleton, with dykes passing through the mountain limestone, coal and newer strata, are the principal masses of trap rock associated with the carboniferous system. Dykes of basalt are common in the coal fields of Northumberland and Durham, but totally unknown in those of Yorkshire, Derbyshire, Nottinghamshire, and Lancashire. In Derbyshire, the limestones are separated by an irregular mass of interposed amygdaloidal trap, called "toadstone;" (by some, more than one such bed is supposed to exist).

Mr. Murchison has described the trap rocks which penetrate the coal measures of the Titterstone and Clee hills, and cut and injure the coal: at Kinlet, Arley, and Shatterford the coal based on old red is divided by eruptive masses and dykes of trap. The trap rocks which rise in bosses within the coal fields of Colebrook Dale do not appear to have charred the coal: they never appear as dykes, or enter into the fissures of the rocks. (Mr. Prestwich.)

Basaltic hills adjoin coal and limestone at Rowley, near Dudley, and at Griffé, in the Warwickshire coal field: a dyke of basalt appears in Birchhill colliery, Walsall.

It is impossible in many cases to refer the igneous rocks, associated with the carboniferous system, to their true geological date. The bedded rocks of Northumberland, Teesdale, and Derbyshire, are certainly of the same age as the mountain limestone; but the dykes of Northumberland, Durham, and Walsall, and the other basaltic excrescences and ridges, are not easily determinable in age. This difficulty belongs to almost