

district. The *lower coal-field* of Northumberland, as already stated, is of the age of the Carboniferous Limestone series of Wales, and the Berwickshire coals of Scotland are of the same general age. There is another much smaller coal-field near Ingleton in North Lancashire which contains 8 beds of coal, and in Cumberland the Whitehaven Coal-measures, which lie on the Carboniferous Limestone, have 14 beds.

The great Scottish coal-fields lie in a broad synclinal curve, in which are the valleys of the Clyde and Forth. Beneath the Calciferous Sandstone and Carboniferous Limestone series, Old Red Sandstone, underlaid by Silurian rocks, rises on the south-east between St. Abb's Head on the east and Girvan on the west; while on the north-west the Old Red Sandstone resting on the Lower Silurian rocks of the Highlands, rises from beneath the same Carboniferous strata between the Frith of Tay and the Clyde, near Dumbarton. The whole tract is about 100 miles in length, by 40 to 50 in breadth.

The lower Carboniferous strata are much intermingled with igneous rock, sometimes felspathic, sometimes augitic. Some of these are intrusive, but large masses consist of truly interbedded lavas, associated with strongly marked and thick strata of volcanic ashes and conglomerates, well seen, for example, on the cliffs between Dunbar and Belhaven. The Carboniferous Limestones, which in occasional bands overlie the Calciferous Sandstone, do not lie in a mass at the base of the Coal-measures, but, as in the North of England, the limestone occurs in several beds, chiefly in the lower part of the series, interstratified with beds of sandstone, shale, and occasionally of coal. In Linlithgowshire and the Campsie Hills limestones are interbedded with trap. Marine, fresh or brackish water, and terrestrial