

Old red sandstone.—A mass of arenaceous and argillaceous rocks, — the former containing conglomerates of extreme or moderate coarseness, and sandstones of many kinds: among the argillaceous beds are concretionary limestones, irregularly developed. Colour mostly red, or grey liable to become red. Thickness variable, from 100 to 10,000 feet.

This triple system becomes modified in the north of England, so as to constitute, in Derbyshire, a quadruple system, without any red sandstone, thus:—

Coal formation.

Millstone grit group.—A series of very pebbly quartzose and felspathic gritstones, with other sandstones and shales, and some thin bad coal, several hundred feet.

Limestone shale.—A nearly uniform series of laminated shales or plates, mostly bituminous, with some ironstone and thin black limestones, but no coal — 1000 feet or more.

Mountain limestone formation.

(Old red sandstone almost wholly absent.)

Slight representatives of millstone grit and limestone shale may be seen at the gorge of the Avon, at Bristol, round the South Wales coal field, base of the Cleve hills, &c.

Further north, viz. in the north-western parts of Yorkshire, the series is still more complicated and varied: as under:—

1. Coal formation.
2. Millstone grit.—A series of three mostly pebbly gritstones, separated by shales and several other flaggy, calliard and freestone grits; cherts; thin limestones; iron-stones; and several coal seams. — 1000 feet.
3. Yoredale rocks (equivalent of the lower part of limestone shale), a series of five or more limestones, with many freestones, flagstones, abundance of plates, some ironstone, chert, and several coal seams. — 1000 feet.
4. Scar limestone, divided by partitions of grits and shales, and even some beds of coal — 800 feet.
5. Alternations of red sandstone, red clays, and limestone. 800 feet.
6. Red sandstone and conglomerate, very limited in their range; thickness variable. — 100 feet and upwards.

Pursuing the system to Northumberland, we find the scar limestone broken up into very many parts by inter-