

eastern extremity of the field in Townsend's *Vind. Mos.* p. 163. Every variety of coal appears to occur in this field. Hard stone coals, which neither flame nor run together in the burning; soft or crozzling coals, which do both; Cannel coal; and irridescent or peacock coal are mentioned; and we are told that the same bed of coal in different parts of its course varies from one to the other quality, i. e. from an hard to a crozzling coal.

According to Mr. Farey, the strata of this field are traversed and dislocated by an immense *fault* proceeding from near the termination of the magnesian limestone range on the south, northwards, in a zig-zag direction, on the western side of that limestone, quite into Yorkshire. Of this fault, nothing has, we believe, been said in regard to its size or contents: but it is believed to be owing to it that the coal strata of Derbyshire and Yorkshire, through which it passes, are on the west of it, so dislocated, that it would be extremely difficult so to connect the beds of coal, and the interposed substances, as to form a reasonable conclusion as to their number and nature. The beds of coal east of the fault, are known to pass beneath the magnesian limestone, since they are worked beneath it.

The rise of the strata is said to be much more rapid on the western than on the eastern side of this fault. It must be added, however, that the existence of this fault rests entirely on the authority of Mr. Farey, and is disputed by many miners. Many other faults, however, and some of considerable magnitude, are ascertained to traverse the field in various directions. The vegetable remains of these coal-measures agree with those discovered in the Northumberland field: most of them are accurately figured in Martin's "Petrifactions of Derbyshire."

This coal-field terminates abruptly on the south near Nottingham; horizontal strata of the newer red sandstone and red marle prevailing on the south of a parallel of latitude passing through that town, and abutting against the inclined strata of the coal-formation, carboniferous lime, &c. Mr. Farey was at first inclined to attribute this relative position of these formations to the effects of an enormous dislocation or fault: but the more probable explanation appears to be that in this, as in many other instances, the rocks of the coal series had assumed their inclined position previously to the formation of the newer red sandstone: which, being deposited in horizontal beds, by a necessary consequence, was brought successively in contact, at the same level with the various beds of older formation as their inclined position caused them to rise in succession to the surface, in the same manner that the waters of the sea washing the foot of a cliff composed of inclined strata, would successively bathe