even those most decidedly mechanical in their structure; we have already seen, p. 183, that they were equally to be noticed in the most recent members of the oolitic series in the Isle of Purbeck. The *faults*, or as they may be most appropriately termed, *dislocations*, of the coal-fields, are other and still more irresistible evidences of their having been affected by violent mechanical convulsions subsequently to their original formation. These consist of fissures traversing the strata, extending often for several miles, and penetrating to a depth in very few instances ascertained; they are accompanied by a subsidence of the strata on one side of their line, or (which amounts to the same thing) an elevation of them on the other; so that it appears that the same force which has rent the rocks thus asunder, has caused one side of the fractured mass to rise, or the other to sink; it being difficult, if not impossible to say (since in either case the relative motions of the disjoined masses would be the same) in which direction the absolute motion has taken place. Thus, the same strata are found at different levels on opposite sides of these faults, which appear to derive their name from their baffling for a time the pursuit of the miner; they are also called *traps*, and the elevation or subsidence of the strata described as their *trap up* or *down*, probably from a northern word signifying a step. The change of level occasioned by these dislocations sometimes exceeds 500 feet; whence we may infer the immence violence of the convulsion which had power to produce motions of such vast masses to such an extent. The fissures are usually filled by clay, which has subsequently filtered in, and often includes fragments disrupted from the contiguous strata; their direction usually approaches to vertical.

(*h*) *Agricultural character.* "The soil of the coal-districts," says Mr. Farey, "inclines much to clay, and is generally of an inferior quality." "Draining and liming seem to be essential to the proper occupancy of a farm in these districts; when laid down in pasture, small daisys and other insignificant weeds are more disposed to prevail than grass, on their strong soils." This character appears generally applicable to the argillaceous soils on the coal-measures: we have however known them to prove favourable to the cultivation of apple orchards. Sometimes the grits appear in particular portions of the coal-fields in such abundance as to constitute a sandy soil, but it is usually poor, hungry, and heathy.

(*i*) *Phænomena of Water.* The alternation of porous strata of grit, and retentive ones of clay, being generally frequent in the coal-measures, water is usually to be procured at inconsiderable depths. The clay filling the fissures of the faults also holds up the water, and throws out springs; as these faults,