Having thus examined the contents and disposition of the various beds entering as constituent members into what are termed the coal-measures of this field, it remains to complete our survey of it, that we should notice the difficulties which perplex and impede the operations of the miner; and which arise from the frequent derangement and dislocation of the strata; the results and proofs of ancient convulsions of the globe.

The principal class of these comprises what are generally termed faults; the phenomena of which are these. The strata are rent to an immense depth by fissures usually approaching to a perpendicular direction; which not only separate them, but are also accompanied with the elevation and depression of the portions of strata occurring on their opposite sides, in such a manner that the same stratum is found on the different sides of the fissure, at very different levels; the difference sometimes amounting to several hundred fathoms. These fissures do not remain empty, but are filled with various substances in the coal-field of which we are now treating.

These, if large, are locally called *dykes;* but if inconsiderable, *troubles*, *slips*, or *hitches*.

The most celebrated of these is called the *Main* or *Great dyke*, or 90 *fathom dyke.* The latter name has been given to it, because the beds on the northern side are 90 fathoms lower than those on the southern side of it; its underlie is inconsiderable. In some places, its width is not great, but in Montagu colliery, it is 22 yards wide, and it is *filled with hard and soft sandstone.* This dyke is visible in the cliff at Whitley quarry, a short distance north of the mouth of the Tyne, from which place it traverses the coal strata in the general direction of north-north-east and south-south-west, but not in a straight line; and it is considered to be probable that it passes into the formations underlying the coal-measures: a small string of galena has been observed in it at Whitby. From the southern side of this dyke, two others branch off, one to the south-east and the other to the south-west. The latter is very remarkable: it is called from its breadth, the 70 *yard dyke*, and is filled by a body of *hard and soft sandstone.* This intersects the upper or Beaumont seam of coal, which is not thrown out of its level by the interruption. The seam however decreases in thickness from the distance of 15 or 16 yards, and the *coal first becomes sooty*, and at length assumes the appearance of *coak. This phenomenon is unknown elsewhere, except in the vicinity of basaltic dykes.* The south-eastern branch is only 20 yards in breadth.