

Let us then return to the Cumbrian mountains, and mark the nature of the forces indicated by the superficial area and the geographical features of the region covered by the erratic detritus. It is remarkable, in the first place, that the detritus in question has been transported chiefly to the south and east, slightly to the north, and hardly at all to the west. The same thing is true for the greater part of the diluvial accumulations in England. In the southward direction, the moving forces were sufficient to conquer such obstacles as the bay of Morecambe, and all the undulated and hilly region between the mountain border of Yorkshire and Derbyshire, and the Irish Sea, but not to pass that mountain boundary; and of such continuity, as to be recognised as far at least as Bridgnorth, 130 miles and more from their origin. In an eastward direction, the boulders have crossed the bold limestone ridges of Orton and the deep and broad vale of the Eden; from this they have been raised over the Penine chain of mountainous land, *but only at one and that the easiest pass*, which, however, is 900 feet above the Eden. Could we venture to assume, in this case, that one long slope of surface *formerly* continued from Shap fells, and Carrock fell, to Stainmoor, the arrival of the blocks on the latter point might be explained: but the hypothesis is wholly gratuitous; for the rocks of the Penine chain, of which Stainmoor is a part, must have been elevated above the strata of what is now the vale of Eden, even at so ancient a period as the deposition of the new red sandstone; since the Penine fault, to which that elevation is due, was anterior to all, or nearly all, the red sandstone formation; and there is no proof, nor reason to imagine, that any strata were superimposed on that red sandstone, so as to fill up in any degree the ancient vale of the Eden.

Whatever hypothesis be proposed for the transit of the blocks from Shap to Stainmoor, must include the consideration of this original difference of level on the line of the movement. Once on the summit of the pass