

very simple proof of this is to be seen in the valley of the Lune at Kirkby Lonsdale. Here the valley, excavated in the Upper Silurian strata, is filled to a considerable extent with conglomerates of Old Red, full of pebbles of the lower groups of Hougill, and the other high slaty fells which give springs to the Lune. In other situations the Old Red rests on older beds of the slaty series, so as to be clearly unconformed to the whole of it. From this it follows that those older strata had been greatly disturbed, placed in new positions, and excavated into valleys, and that these valleys were filled with the violently aggregated detritus, which had been swept down them from about their sources. It is probable they formed land, and gave birth to streams, which ran down valleys into estuaries, and entered seas now obliterated by later convulsions.

In Yorkshire we have no trace of these very ancient valleys, no conglomerates of the Old Red; but we see, in the region below Whernside, Ingleborough, and Penyghent, the displacement of the old slaty strata; the dips in various directions which they have acquired; and, what is very remarkable, the summits of the anticlinals thus occasioned are ground, worn, or rather, we may almost say, *planed* down to a nearly level surface (some bands are a little prominent as being less abraded), and this surface is covered and preserved to us by nearly level strata of mountain limestone, contrasting strongly with the highly inclined slate, and containing in their lowest beds *pebbles* of that slate. (See Pl. 31.)

This is the fact, and most remarkable it is. What is the explanation? According to modern geology this is the effect of the sea, acting, as we see it act in particular cases, on a *shore**; it is the gradual work of the breakers of a Palæozoic sea; an effect anterior to the deposition of the mountain limestone, and probably part of that system of natural agencies which roughly excavated the valley of the Lune, and filled it with conglome-

* See De la Beche's Geological Observer for excellent observations on this subject.