

the north of the Friths of Forth and Clyde, together with the southern flank of the Grampians and the northern coast of Sutherland and Caithness, appear to have been girdled at some early period by immense continuous beds of Old Red Sandstone. At a still earlier time, the girdle seems to have formed an entire mantle, which covered the enclosed tract from side to side. The interior is composed of what, after the elder geologists, I shall term primary rocks — porphyries, granites, gneisses, and micaceous schists; and this central nucleus, as it now exists, seems set in a sandstone frame. The southern bar of the frame is still entire: it stretches along the Grampians from Stonehaven to the Frith of Clyde. The northern bar is also well nigh entire: it runs unbroken along the whole northern coast of Caithness, and studs, in three several localities, the northern coast of Sutherland, leaving breaches of no very considerable extent between. On the east, there are considerable gaps, as along the shores of Aberdeenshire.* The sandstone, however, appears at Gamrie, in the county of Banff, in a line parallel to the coast, and, after another interruption, follows the coast of the Moray Frith far into the interior of the great Caledonian valley, and then running northward along the shores of Cromarty, Ross, and Sutherland, joins, after another brief interruption, the northern bar at Caithness. The western bar has also its

* The progress of discovery has shown, since this passage was written, that these gaps are not quite so considerable as I had supposed. The following paragraph, which appeared in July, 1843, in an Aberdeen paper, bears directly on the point, and is worthy of being preserved: —

“ARTESIAN WELL.

“The greatest of these interesting works yet existing in Aberdeen has just been successfully completed at the tape-works of Messrs