

where they rested, evidently *in situ*, in Banffshire,—on the top, in one instance, of a giddy cliff, elevated two hundred and thirty feet over the beach,—in another, lying deep in the side of a valley once a long withdrawing firth, but now fully six miles from the sea, and raised about a hundred and fifty feet above it. In Caithness they have been detected by Mr. Robert Dick at the greatest heights to which the boulder-clay attains ; they occur also at very considerable heights in the boulder-clay of the Isle of Man ; and were found by Mr. Trimmer in the drift of Moel Tryfon, in North Wales, at the extraordinary elevation over the sea of *fifteen hundred feet*. When the boreal shells at Airdrie lived, Scotland must have existed as a wintry archipelago, separated into three groups by the oceanic sounds of the great Caledonian Valley, and of the low flat valley, now traversed by the Union Canal, which extends between the Firths of Forth and Clyde. And when the shells of Moel Tryfon lived, only the higher parts of the Highlands of Scotland, and of the Cheviot and Lammermuir groups, could have had their heads elevated over the wintry ice-laden sea of the Pleistocene agents. There are grounds for holding that the period, though one geologically, was of vast extent,—that the degree of submergence was greater at one time and less at another ; or, more strictly speaking, that the commencement of the period was one of gradual depression in the British area,—that about its middle term all was submerged, save the hill-tops and higher table-lands,—and that our country then began gradually to rise, until, about the close of the wintry *eon*, its level was mayhap scarce a hundred feet lower than it is at present. But though comparatively greater and less at different times, there seems to have been no time during the period, in which the depression was not absolutely great.

Let us next remark, as very important to our argument, that not only was the period one of depression in the British