

stone were frozen into their lower surfaces, scooped out grooves in the subjacent solid strata. *Thirdly*, after the surface of the rocks had been smoothed and grated upon by the passage of innumerable icebergs, the clay, gravel, and sand of the Drift were deposited ; and occasionally fragments of rock, both large and small, which had been frozen into glaciers, or taken up by coast-ice, were dropped here and there at random over the bottom of the ocean, wherever they happened to be detached from the melting ice. *Finally*, the period of re-elevation arrived, or of that intermittent upward movement in which the old coast lines were excavated and the ancient sand bars or osars laid down.' Such are the conclusions at which Sir Charles Lyell arrived a few years since respecting the Canadian Lake District ; and he states, in the note to which I have referred, that he has ever since been applying them to Scotland. Our country, during the chill and dreary period of the boulder-clay, seems to have been settling down into the waves, like the vessel of some hapless Arctic explorer struck by the ice in middle ocean, and sinking by inches amid a wild scene of wintry desolation.

There are a few detached localities in Scotland where the remains of beds of stratified sand and gravel have been detected underlying the boulder-clay ; and in some of these in the valley of the Clyde, Mr. Smith of Jordanhill found on a late occasion shells of the same semi-arctic character as those which occur in the clay itself. And with these stratified beds the record in Scotland closes ; whereas in England we find it carried interestingly onward from the Pleistocene period, first into the newer, and then into the older, Pliocene ages. I stated incidentally in my former address, that some of the mosses of the sister kingdom, unlike those of our own country, are older than the Drift period ; and, from the existence of these under the Drift gravels and brown clay, it has been inferred by Mr. Trimmer, that as the trees which enter into their composition grew