

scattered over the land, thickest on the valleys and plains and thinning away up into the mountains, where it would naturally merge into the materials gathered by the later glaciers, into which the ice-sheet finally shrank. Part of the till would be deposited on the sea-floor, under the ice that moved outwards from the land.

The boulder-clay furnishes us with some scanty indications of the denizens of the country during the long period which it represents. Bones of the mammoth, reindeer, and of probably several species of oxen and deer have been from time to time dug up. And doubtless the relics of other animals will yet be discovered in the older glacial deposits of Scotland, for scanty though the fauna might be, it need not perhaps have been less than that of modern Greenland. Besides the remains of mammalia, the Scottish till near Airdrie and in other places has yielded remains of land vegetation—thin beds of peat and trunks of trees lying in what seem to have been lakes or water-courses that occupied hollows of the glacial detritus. These intercalations show that the boulder-clay is not one continuous deposit, but the result of a succession of advances and retreats of the ice-sheet, between which there were prolonged intervals of milder climate, when forests and marshes covered the land and the northern mammals found food. In some places, the boulder-clay contains marine shells. The highest level at which these have been met with in Scotland is 510 feet. At one time it was believed that the mere occurrence of such shells in a deposit sufficed to prove the submergence of the locality, the minimum amount of depression being indicated by the height of the place above sea-level. But we now know that the ice-sheet of the Glacial period was pushed along and out of some of the sea-basins around our shores. In the Moray Firth, as already stated, the ice slanted up