current varied from time to time in the same place, a stratified arrangement.

In those regions where glaciers reach the sea, and where large masses of ice break off and float away, moraines, such as I have just alluded to, may be transported to indefinite distances, and may be deposited on the bottom of the sea wherever the ice happens to melt. If the liquefaction take place when the berg has run aground and is stationary, and if there be no current, the heap of angular and rounded stones, mixed with sand and mud, may fall to the bottom in an unstratified form called 'till' in Scotland, and which has been shown in the last chapter to abound in the Norfolk cliffs; but should the action of a current intervene at certain points or at certain seasons, then the materials will be sorted as they fall, and arranged in layers according to their relative weight and size. Hence there will be passages from *till* to stratified clay, gravel, and sand.

Some of the blocks of stone with which the surfaces of glaciers are loaded, falling occasionally through fissures in the ice, get fixed and frozen into the bottom of the moving mass, and are pushed along under it. In this position, being subjected to great pressure, they scoop out long rectilinear furrows or grooves parallel to each other on the subjacent solid rock. Smaller scratches and striæ are made on the polished surface by crystals or projecting edges of the hardest minerals, just as a diamond cuts glass.

In all countries the fundamental rock on which the boulder formation reposes, if it consists of granite, gneiss, marble, or other hard stone capable of permanently retaining any superficial markings which may have been imprinted upon it, is smoothed or polished, and exhibits parallel striæ and furrows having a determinate direction. This prevailing direction, both in Europe and North America, is evidently connected with the course taken by the erratic blocks in the same