

south-southwest direction across the northeast and east of England. Southward it flowed into the basin of the Clyde and the Irish Sea, to unite with the streams moving from the southwest of Scotland and the northwest of England and Wales. The centre of Ireland appears also to have been an area from which the ice moved outward, passing into the Atlantic on the one side and joining the British ice-fields on the other.

It is when we follow the direction of the ice-striæ, and see how they cross important hill ranges, that we can best realize the massiveness of the ice-sheet and its resistless movement. As it slid off the Scottish Highlands, for instance, it went across the broad plains of Perthshire, filling them up to a depth of at least 2000 feet, and passing across the range of the Ochil Hills, which at a distance of twelve miles runs parallel with the Highlands, and reaches a height of 2352 feet. Mountains of 3000 feet and more, with lakes at their feet, 600 feet deep, have been well ice-worn from top to bottom. It has been observed that the striæ along the lower slopes of a hill-barrier run either parallel with the trend of the ground or slant up obliquely, while those on the summits may cross the ridge at right angles to its course, showing a differential movement in the great ice-sheet, the lower parts, as in a river, becoming embayed, and being forced to move in a direction sometimes even at a right angle to that of the general advance. On the lower grounds, also, the striæ, converging from different sides, unite at last in one general trend as the various ice-sheets must have done when they descended from the high grounds on either side and coalesced into one common mass. This is well seen in the great central valley of Scotland. Still more marked is the deflection of the striæ in the basin of the Moray Firth.