

The inclination of a glacier generally depends on the inclination of the ground it traverses ; it moulds itself upon all the irregularities it meets with. The plane of glaciers of the second rank is therefore necessarily steeper than that of the great glaciers which fill the valleys.

Some attempts have been made to estimate the surface and volume of a few remarkable glaciers. It has been found, for example, that the glacier of the Aar presents, on a length of 8800 yards, a superficial area of 9900 to 11,000 square yards ; its maximum thickness has been computed at 1500 feet, but it decreases rapidly to about 200 feet. Assuming its average density at 820 feet, it has been calculated that the volume of this part of the glacier is equal to 2200 or 3300 cubic yards. The contents of the glacier of Aletsch are put at 26,250 cubic yards.

In Switzerland there are more than 600 glaciers : 370 in the basin of the Rhine ; 137 in the basin of the Rhone ; 66 in that of the Inn ; 35 in the basins of the rivers which pour their tributary into the Adriatic. The naturalist Ebel has essayed to value approximately the total area of the ice-rivers of Switzerland. He has found that the Swiss portion of the Alpine chain between Mont Blanc and the rugged heights of the Tyrol contain a glacial surface of 138 square leagues. Hence we may conceive some idea of the fundamental part played by the glaciers in feeding the principal European rivers.

You must not figure to yourself, O reader, a glacier as a compact and homogeneous body ; it is, on the contrary, a *felted* mass (*une masse feutrée*), composed of an infinite number of blocks or fragments of rough, hard ice, hollowed by a network of fissures and ducts in which the water may freely circulate. Hence that plasticity and softness of the glaciers which are evidenced by their assuming the outlines of the soil beneath them. This property which they possess of folding and transforming themselves, is also due to the yielding character of ice when maintained at a constant temperature of zero—the ordinary temperature of the interior of the frozen bulk. The