Island (7000′ high) in lat. 53° 10′ S., long. 73° 30′ E., several glaciers were seen which came down to the coast-line, and made cliffs of ice on the shores. On the New Zealand Alps, whose peaks are 7500′ to 12,350′ in height, there are glaciers, of which the Tasman is 18 miles long and 2 wide. The snow-line is at 5000′, and the ice descends on the west side to 600′ above the sea.

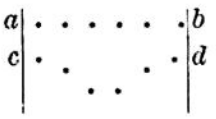
The so-called *hanging-glaciers* occur about steep slopes of many glacier regions, as the peaks of the Mont Blanc region, and between the snow-covered plateau of Norway and the sea. *Reconstructed glaciers* (glaciers remaniés) are made out of the fallen ice of avalanches by regelation. At the Jökuls Fiord is a fine example of it. Geikie, describing it, says the ice slips off in occasional avalanches from the edge of the high snow-field into the defile, and there becomes recemented into a tolerably solid mass, which moves on as a glacier, and continues to the sea level.

2. The Flow of Glaciers.

1. *Conditions of flow.* — In addition to the relations of glaciers to rivers already mentioned, there are the following: —

As with rivers: (*a*) Friction impedes flow along the sides and bottom, and consequently the most rapid movement of the glacier is along the middle portion above. This effect is least in large and deep streams, and at a minimum in great continental glaciers.

The more rapid flow of the middle at the surface of the stream is proved by the observation that a straight transverse line marked by poles set up in the ice (*ab*) becomes a curved line (*cd*) in consequence of the movement; also by the fact that the transverse crevasses of glaciers become arched in front, as in the Rhone Glacier (Fig. 207), and that transverse dirt bands become similarly arched (right half of Figs. 205, 206, Forbes, Tyndall), representing the condition in a tributary glacier, the Géant, after union with other tributaries on the left (page 235). Further, the retardation at bottom is proved by the fact that vertical blocks made by transverse crevasses take an up-stream dip, which gradually increases with the flow. (Guyot, 1838.)



(*b*) At a bend in the stream, the movement is more rapid on the convex side than on the concave; and the medial line of greatest rapidity is nearest the convex side.

(*c*) When the stream abruptly narrows, the ice above becomes more or less heaped and slower in movement, and then passes the narrows with an increased rate of flow.

(*d*) On passing small rocky islets, the glacier sometimes bends about the obstacle and envelops it without breaking, as in the case of two islets of rock in the midst of the Brenva Glacier, showing a molecular adjustment in the ice. (Guyot, 1838.)

But, *unlike rivers:* (*e*) Winds neither impede nor accelerate the surface movement; and (*f*), as with other solid substances, the yielding to resistance is commonly attended by fractures called *crevasses*, and by displacements.