

sembles that of a sea which has become suddenly frozen—not during a tempest, but at the instant when the wind has subsided, and the waves, although very high, have become blunted and rounded. These great waves are nearly parallel to the length of the glacier, and intersected by transverse crevasses, the interior of which appears blue, while the ice is white on its external surface.” Farther down, in the narrower Glacier des Bois, the séracs and needles bristle over the surface in mighty uplifts and fearful confusion.

The crevasses really run in any direction, according to the nature of the underlying surface. In length they vary from twenty feet to a mile. The downward direction is originally vertical, but as the surface of the glacier moves more rapidly than the deeper portions, the transverse crevasse assumes, after a while, an inclination which gives it a dip up the valley. Its depth may be ten or a hundred, or two hundred feet; and its width, which is a few inches at first, may grow to fathoms. Forbes measured a crevasse at the base of the Glacier du Géant, which had a breadth of not less than 1,214 feet. The two walls generally approach each other downward, and we may sometimes safely descend to the bottom. The wall-ice is absolutely immaculate, with a greenish blue transparency. Down in the crevasse we hear the rills coursing through the substance of the glacier, and sometimes the central torrent rumbling along the bottom. The surface of the glacier is white and granular, from the action of the sun. Pools of water rest here and there—pure, cool, and refreshing—and numerous rills flow over the surface, discharging themselves through crevasses and perforations in the ice-mass, into some subglacial stream.

Each of these great glaciers is bordered by a *moraine*, or long ridge of material thrown off the surface in the course of ages, and pushed up by the movements of the ice. It consists of clay and rounded boulders. It is completely unstratified, and resembles precisely, the till at the bottom of the Drift. These lateral moraines at the present epoch, tower fifty to eighty feet above their glaciers. The ice, for centuries, has