## J. Milne-Ice and Ice-work in Newfoundland.

to observers on the land, they would be lost sight of; but in the spring of the year the winds are more or less northerly, which would only aid the current in bringing the ice along shore. The most apparent suggestion for the detention of the ice before reaching the shores of Labrador and Newfoundland is of course the distance it has to travel; but considering the steady rate at which this is carried on in the stream which bears them, the effects of wind, and the delay in the breaking up of the Southern Arctic barrier must have the precedence.

Theoretical considerations on the Flotation of Icebergs .- The icebergs I had the opportunity of seeing daily for several weeks whilst in the neighbourhood of St. John's, although irregular in their outlines, were by no means of such varied forms as many that were seen afterwards. Several apparently very small pieces, projecting perhaps not more than a foot out of water, when approached showed themselves as considerable masses, their magnitude being hidden by their submergence. In the "offing" "islands of ice," as the bergs are here called, were to be seen moving southwards, whilst in the bay several of them were always to be seen aground. These latter, as they slowly rose and fell with the ever-varying swell caused by the wind and tide, were deranging and grinding away the beds on which they rested. he enormous power that one of these islands of ice must possess to do such work may faintly be conceived by approaching one of them in a boat, and then considering that, although there is a mountain above water, there is from seven to nine times its mass beneath the surface. The depth of water in which one of these ponderous masses of ice can ground may often be more limited than has generally been expressed. When the berg first leaves its parent the glacier, its sides may be more or less parallel to each other, and we may sometimes get a near approach to a prismatic form. In this case not only would there be about eight times the bulk of ice beneath the water as there is above, but also there will be about eight times the depth, and we might conceive, as Jukes and Geikie tell us in their "Geology" (p. 416), that if the mass rises "300 feet above the waves," we may imagine that it "has its bottom 2,400 feet below them." In the Arctic and Antarctic regions we may therefore understand the immense depths at which an iceberg can ground, and there disturb the strata. As bergs travel towards lower latitudes, as towards Newfoundland, what with the beating of the waves and the changing of temperature they of necessity lose a great deal of the regularity of character they may previously have possessed. The greatest loss appears to be upon the portion exposed to the atmosphere, but, perhaps, more noticeable "between wind and waters."

As this waste goes on, the berg must rise, and the ratio of the height of the exposed portion to the depth of that which is hidden grows greater. The result of this is that the exposed portion becomes less and less in diameter than that which is protected benefth the surface of the water, which at last may be looked upon as a kind of foot or pedestal. T surfa base at a A actu seen De l bein the grou land used

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