

adding to this the 2 feet which the *Fram* is raised up above the ice, there is no small distance between her and the water."

The temperature on the ice in summer is about thawing-point, but gradually as the winter cold comes on, it, of course, falls rapidly on the surface, whence the cold slowly penetrates deeper and deeper down towards the lower surface, where it naturally keeps at an even temperature with the underlying water. Observations of the temperature of the ice in its different layers were constantly taken in order to ascertain how quickly this cooling-down process of the ice took place during the winter, and also how the temperature rose again towards spring. The lowest temperature of the ice occurred in March and the beginning of April, when at 1.2 metres it was about 3.20 Fahr. (-16° C.), and at 0.8 metre about 22° Fahr. below zero (-30° C.). After the beginning of April it began to rise slowly.

At these low temperatures the ice became very hard and brittle, and was readily cracked or broken up by a blow or by packing. In the summer, on the other hand, when its temperature was near melting-point, the ice became tough and plastic, and was not so readily broken up under packing. This difference between the condition of the ice in summer and winter was apparent also to the ear, as the ice-packing in winter was always accompanied by the frequently mentioned loud noises, while the packing of the tough summer ice was almost noiseless, so that