

the freezing point, the coldest water will rise to the surface, and the congelation will take place there; and the ice so formed will remain at the surface, exposed to the warmth of the sunbeams and the air, and will not survive any long continuance of such action.

Another peculiarity in the laws which regulate the action of cold on water is, that in the very act of freezing a further sudden and considerable expansion takes place. Many persons will have known instances of vessels burst by the freezing of water in them. The consequence of this expansion is, that the specific gravity of ice is less than that of water of any temperature; and it therefore always floats in the unfrozen fluid. If this expansion of crystallization did not exist, ice would float in water which was below forty degrees, but would sink when the fluid was above that temperature: as the case is, it floats under all circumstances. The icy remnants of the effects of winter, which the river carries down its stream, are visible on its surface till they melt away; and the icebergs which are detached from the shores of the polar seas, drift along, exposed to the sun and air, as well as to the water in which they are immersed.

These laws of the effect of temperature on water are truly remarkable in their adaptation to the beneficial course of things at the earth's surface. Water contracts by cold; it thus equalizes the temperature of various times and places; but if its contraction were continued all the way to the freezing point, it would bind a great part of the earth in fetters of ice. The contraction then is here replaced by expansion, in a manner which but slightly modifies the former effects, while it completely obviates the bad consequences. The further expansion which takes place at the point of freezing, still further facilitates the rapid removal of the icy chains, in which parts of the earth's surface are at certain seasons bound.

We do not know how far these laws of expansion