night, or during the colder part of the year, at the same time remaining itself comparatively uniform in temperature. Even a small lake frequently protects plants growing on its shores from injury, while those at some distance may be killed by an early autumn frost. The larger the body of water the more marked its equalizing influence will be, and the greater the extent of country benefited by it.

Generally bodies expand with heat and contract with cold. Water is no exception to this rule at the higher temperatures, but when below 4°C. it acts exactly opposite to this law. At this point, therefore, it has its maximum density, i.e., is heavier than at any other temperature. by this property water is still further preserved from variation, for the heaviest portion (that nearest 4°C.) will remain at the bottom where it is protected by the layers overlying it.

A popular impression is that, owing to this peculiarity of water rivers and lakes are prevented from being frozen solid to the bottom in winter. Although, in addition to the high specific heat of water, it doubtless helps to prevent this, the principal cause is to be sought for in the properties of ice. During its formation it expands very considerably and, therefore, occupying more space than the water is lighter than it and floats on the surface. Being a bad conductor of heat it serves as a mantle, retarding very materially the action of the cold atmosphere on the water. That ice occupies more space than water is shown by the fact that when water is allowed to freeze in pipes or other vessels they are very frequently broken by it. The heaving of fence posts and, to some extent, the bad roads in spring are also indications of this property Although doubtless sometimes doing considerable injury this expansion of water when solidifying has been of immense value in the formation of soils.

Ice follows the general law of expanding with heat and contracting with cold. The rolling, thundering noise sometimes heard on large planes of ice, when the temperature is falling is caused by the contraction and subsequent cracking of ice. The fissures being filled with new ice, the plane, on the advent of warmer weather, expands increasing in area. The force with which this takes place is very considerable, as frequently large stones are moved and heavy timbers broken by it.

As the melting point of ice is always the same under ordinary