strata of the water; nor can ice (except from some very sudden and powerful accessions of frost) form on the surface of such a lake, till, as before observed, the whole of the water in it, is cooled down to 40°; at which temperature all circulation ceases. When a coat of ice has been once formed; this ice, as we shall see presently, has also a powerful tendency to prevent the further cooling of the inferior strata.

With respect to *waters in motion*, as small streams, or rivers of no great depth and magnitude, and containing fresh water; though unfavourably circumstanced for freezing, they do nevertheless congeal. The process usually commences at the shores, where the water is shallowest, and its motion is least rapid; from whence, the ice gradually advances towards the middle of the stream. When the whole of the surface has once become fixed; congelation goes on actively, particularly by night. As the thickness of the ice increases, however; the quantity added daily, even supposing the cold to remain the same, gradually diminishes; on account of the bad conducting power of the ice. Hence, in a block of ice taken from a river or lake, we may often observe the strata corresponding with the daily, or rather nightly additions, presenting a gradually decreasing series, from several inches, down to a few lines in thickness.

Of the Temperature of the Waters of the Ocean