

from the increased capacity of the air for heat, the quantity of latent heat is augmented, while the quantity remaining sensible, becomes less. Hence the temperature of the air diminishes as we ascend, exactly in the proportion that its latent heat, that is to say, its capacity for heat as produced by rarefaction, increases. In consequence of this arrangement, to use the words of Dr. Thomson, "if a quantity of cold air were suddenly transported from an elevated region to the surface of the sea, its density would be continually increasing during its descent, while its latent heat would diminish in the same proportion; and when it reached the level of the sea, its temperature would be just as high as that of other portions of air in the same latitude and elevation. Air, therefore, does not feel cold in consequence of falling from an elevated situation, though this be an opinion commonly entertained; but in consequence of its being suddenly transported from a more northerly, to a more southerly situation."* Thus, to the above beautiful and simple law, we owe the permanent state of equilibrium of temperature in the atmosphere; which, in spite of all the disturbances constantly produced by minor causes, from the natural tendency to right itself, is never very seriously affected.

* On heat and electricity, p. 129.