that heat is only the subtile fluid of light in a state of combination with its substratum, or prefer the opinion that light has always conjoined with it a certain admixture of the invisible matter of heat.

Form of the earth.

Owing to the spherical form of the earth, and the obliquity of its axis, very different quantities of light or heat are received in the several latitudes. The same portion of heat, which would raise the temperature of 135 pounds of water a degree on Fahrenheit's scale, is only capable of melting one pound of ice. The measure of ice dissolved is therefore the simplest and most correct standard for estimating the quantity of heat expended in that process. If we apply calculation to actual experiment, we shall find that the entire and unimpaired light of the sun would, at the Equator, at the mean latitude of 55°, and at the Pole, respectively, be sufficient to melt a thickness of ice expressed by 38.7, 25.9, and 13.4 feet. Of this enormous action, the greatest portion is no doubt wasted in the vast abyss of the ocean; and, of the remainder, a still larger share is perhaps detained and dissipated in the upper atmosphere, or projected again in a soft phosphorescence. Yet the light which, after those diminutions, finally reaches the surface of the earth, if left to accumulate there, would create such inequality of temperature as must prove quite insupportable.

Solar heat at the Equator and Pole.

Conducting quality of ground.

The slow-conducting quality of the ground, if not altered by extraneous influence, would fix the heat where it was received, and thus perpetuate the effect of the unequal action of the sun's beams. The mobility of the atmosphere hence performs an important office in the economy of nature, as the great regulator of the system, dispensing moderate warmth, and attempering the extremities of climate over the face of the globe. As the heat accumulates within the tropics, it occasions currents of cold air to rush from the higher latitudes. But the activity of the winds thus raised, being proportional to their exciting cause, must prevent it from ever surpassing certain limits. A perpetual commerce of heat