

larger ones, replace, by the formation of rain, hail or snow, the evaporation continually taking place at the earth's surface. At the same time it removes some of the moisture from the atmosphere. Thus the variations in temperature, in addition to supplying us with rain and the beneficial results following it, viz., the purifying of the atmosphere from dust and various gasses, returning to the soil the fertilizing materials expended in the atmosphere, and feeding the springs and rivers, and furnishing the higher lying districts with water; they also serve to prevent the air from being at all times at its dew point.

As has been mentioned water has a great power to act as an equalizer of climate. By its evaporation during the day it has a powerfully cooling influence. This is easily observed when comparing the refreshing coolness of a lawn, which is largely due to the moisture evaporated by the grass, with bare streets and sandy plains. In addition to this cooling influence, which is the greater the warmer the day, vapour has a tendency to preserve the heat during the night, as it acts as a mantle or blanket to the earth, preventing the too rapid radiation of the heat absorbed during the day. The rapidity with which the thermometer drops during a clear star-light night, when the vapour has been partially deposited as snow or rain or drifted by the winds to other parts of the globe, is frequently observed when compared with what takes place on cloudy nights.

But the water, as such, acts also as an equalizer of temperature. We find that some materials do not increase in temperature as rapidly as others when exposed to the same source of heat; i.e., some do not vary as easily as others, notwithstanding that they may absorb the same quantity of heat. This is easily seen when comparing the rapidity of increase in temperature of dry sand with that which has been previously moistened; or water with iron or some other metal when exposed to the heat of the sun. The metal and the dry sand become warm much more quickly than the wet sand or the water. Yet, making allowance for the evaporation of water and the quantity of heat reflected from them, the water, though very much colder, will have absorbed the same quantity of heat as the other materials and can again transmit it to cooler bodies. Thus during the day, more especially during the summer months, it absorbs the heat of the sun and liberates it again at