

with the same amount of heat during a year. When any place is more than twelve hours above the horizon, the temperature will increase; when less, it will decrease. Now, as the days lengthen in the northern hemisphere, when the earth is moving from A to B, the temperature increases; in one position there is spring, in the other summer. From B to C the days approach equality, and from D to C they decrease; so that when the earth has the position represented at D, the northern hemisphere is under the sharp government of hoary winter. From this description it will be perceived, that the effects produced as the consequents of the annual revolution are precisely analogous to those which result from the diurnal. If the temperature of any place be taken every hour during one day, at no two of the twenty-four will it be equal; and so, if this be done for an entire year, and the mean amount of each day be compared with that of every other day, it is not to be expected that any two will perfectly agree, but the temperature will be in proportion to the period of solar influence, modified by local and other disturbing causes.

#### MEAN TEMPERATURE.

These are the causes which regulate the seasons, and their influence is felt over the entire surface of the earth, though the length of the seasons, and the difference of temperature between them, may greatly vary in different places. But this is not the only thing to be considered in estimating the superficial temperature of the earth; the amount of heat received by different places varies according to their positions in relation to the equatorial regions, and consequently their temperatures cannot be equal. As a general law, it may be stated, that the mean temperature decreases from the equator to the poles, and from the level of the sea upward; both these circumstances, however, are to be considered in relation to a variety of accidental conditions, which frequently have a great influence upon their results.

The term, mean temperature, so fully expresses the meaning usually applied to it, that there seems little necessity for a definition. Nothing could be more rash than to pretend to determine the temperature of a locality by a single observation of the thermometer, and it would be still more absurd to attempt a comparison, upon such a result, with that of any