heat felt in any part of America, merely by measuring its distance from the equator. The maxims which are founded upon experience in the old hemisphere, will not apply to the new, where the cold maintains a manifest preponderance. Various causes contribute to render the climate of America different from that of the old continent. America advances much nearer to the pole, than either Europe or Asia. Both these have large seas to the north which are open during part of the year, and even when covered with ice, the wind that blows over them is less intensely cold than that which passes over land in the same high latitudes; but in America the land stretches from the St. Lawrence towards the pole, and spreads immensely to the west. The wind in passing over enormous mountains, covered with snow and ice, becomes so impregnated with cold, that it acquires a piercing keenness, so that over the whole of North America, a north-west wind and cold are synonomous terms. This difference in heat is supposed to be equal to twelve degrees, but Dr. Mitchell contends that it amounts to fourteen or fifteen degrees.

It is an undoubted fact, that in the same degrees of latitude, the winters are colder and the summers warmer in North America than in Europe. This general observation is very important with respect to agriculture, commerce and navigation. The following facts are interesting as proving the foregoing assertion:—Hudson's Bay, in the same latitude as the Baltic Sea, is even in summer encumbered with ice. In New York, in the latitude of Madrid and Naples, the winter accompanied with ice, lasts, on an average, 164 days; and the Delaware is frozen over five or six weeks. New York has the summer of Rome and the winter of Copenhagen; Quebec the summer of Paris and the winter of St. Petersburgh. In America it must then be recollected, that the climate by no means depends altogether on the degrees of latitude but is influenced, more or less, by the winds, the lakes, the great tracts of land in the north, the ocean and the gulf stream. In the northern part of the United States the medium temperature amounts to about 45, and in the southern to 68. Fahrenheit, whilst the foregoing tables shew the mean temperature of the Canadas to be 45.77°.—

			Winter.	Summer.
The medium temperature of Lake		Superior, is	21.	63.
do	do	Lake Ontario	30.	72.
do	do	New Orleans	59.	83.
do	do	Key West	70.	81.

In Quebec, the thermometer sinks to 30. below zero, and rises in summer to 95. above zero. In Baltimore, the thermometer rose twice in the course of eight years to 98., and sank four times below zero; whilst in Montreal and Hamilton (at the head of Lake Ontario) it has been noted as high as 103. of Fahrenheit in the shade.

Humboldt reckons the mean temperature of the air, overland, nearly on a level with the sea, at the equator, at 81.5°. The mean temperature of latitude 45°. At the pole, judging from the observations of Capt. Parry, the mean temperature cannot be taken to exceed 13 below zero.

In the immense valley of the Mississippi, to the west of the Alleghanies, the mean temperatures are nearly the same as in the corresponding latitudes on the Atlantic; but, as in Upper Canada, compared with the Lower Province, the winters are not so cold, nor the summers so hot. The mean temperature of the west coast of America appear to correspond with the mean temperatures of the western parts of Europe.

The preceding remarks apply only to the temperature of those parts of the earth that are nearly as low as the surface of the sea; but as we ascend into the atmosphere the temperature constantly diminishes, so that even in the torrid zone, at a certain elevation, we come to the region of perpetual congelation. The cause of this diminution of temperature is the expansion of the air in proportion to its elevation, which occasions an increase in its capacity for heat, and a consequent lowering of its temperature. This diminution is partly counteracted by large masses of earth which communicate heat to the air. This is probably the reason why the temperature of Mexico and Peru diminishes, according to the observation of Humboldt, only one degree of Fahrenheit for every 495 feet of elevation; while in Scotland, Dr. Hutton, of Edinburgh, states the diminution to amount to one degree for about 268 feet of elevation. He kept a thermometer on the top of Arthur's Seat, and another at Leith, near the level of the sea, for three years. The mean difference between the two was 3., and the height of Arthur's Seat, above the level of the sea, is very nearly 803 feet.

M. Arago has demonstrated that during the last 2,000 years the temperature of the earth has not varied so much as one-fifth of a degree, as otherwise the length of the day would have altered, which is not the case.

When we dig to a certain depth below the surface of the ground, we come at last to a situation in which, if the bulb of a thermometer be put, it remains unaltered during the whole year. The heat at this depth is considered as represent-