

2. It will be readily understood that the same mode of measurement by which we learn the constancy of climate at the same place, serves to show us the variety which belongs to different places. While the variations of the same region vanish when we take the averages even of moderate periods, those of distant countries are fixed and perpetual; and stand out more clear and distinct, the longer is the interval for which we measure their operation.

In the way of measuring already described, the mean temperature of Petersburg is 39 degrees, of Rome 60, of Cairo 72. Such observations as these, and others of the same kind, have been made at various places, collected and recorded; and in this way the surface of the earth can be divided by boundary lines into various strips, according to these physical differences. Thus, the zones which take in all the places having the same or nearly the same mean annual temperature, have been called *isothermal* zones. These zones run nearly parallel to the equator, but not exactly, for, in Europe, they bend to the north in going eastward. In the same manner, the lines passing through all places which have an equal temperature for the summer or the winter half of the year, have been called respectively *isothermal* and *isochimal* lines. These do not coincide with the isothermal lines, for a place may have the same temperature as another, though its summer be hotter and its winter colder, as is the case of Pekin compared with London. In the same way we might conceive lines drawn according to the conditions of clouds, rain, wind, and the like circumstances, if we had observations enough to enable us to lay down such lines. The course of vegetation depends upon the combined influence of all such conditions; and the lines which bound the spread of particular vegetable productions do not, in most cases, coincide with any of the separate meteorological boundaries above spoken of. Thus, the northern limit of vineyards runs through France, in a direction very nearly north-east and