The winds exercise a powerful influence upon the climates of the regions which they visit, because they carry thither the temperature of the countries they have just quitted. The south-west wind which arrives at Boston and Quebec has already traversed the entire extent of North America, and has assumed its temperature, hot in summer, cold in winter; therefore, it can neither lower the summer temperature, nor raise the winter, on the east coast of America. But, on the contrary, when it reaches the west coast of Europe, it will carry with it the moderate temperatures of the Atlantic Ocean, and its effect will be to temper on our shores the summer heats and the severity of the winters. It is for this reason that the climates of the western coast of the Old World are less extreme than those of the eastern coast of the New, though the two represent the two borders of the Atlantic Ocean. Western America, exposed to the winds of the Pacific, possesses a far less rigorous climate than Eastern.

These different causes—the configuration of the continents, and the distribution of waters around those continents; exposure to the ruling winds; the presence of mountains serving as ramparts against those winds; the elevation of a locality above the sea-level; the distribution of the lakes, marshes, and forests, which act upon the soil as refrigerants, and a host of other circumstances more or less effective—enormously modify the course of the *isothermal** *lines*, or *lines of equal heat*, by local perturbations very difficult to define. It results that the track of the isothermal lines which we obtain by describing a series of curves through the various points possessing a similar degree of mean temperature, must exhibit the most capricious sinuosities and inflections. Between the Tropics they do not wander so far from the parallels of latitude as in the regions of the North, where the causes of variation are more numerous.

The chart, Figure 94, represents the most generally admitted isothermal lines, according to the researches of Humboldt, somewhat modified by recent observations.

* From ἴσος, equal, and θέρμος, heat.