

Sea, and in the still more ancient and more general acquaintance with land and sea winds, lies concealed, as it were, the germ of that meteorological science which is now making such rapid progress. The long chain of *magnetic stations* extending from Moscow to Peking, across the whole of Northern Asia, will prove of immense importance in determining the *law of the winds*, since these stations have also for their object the investigation of general meteorological relations. The comparison of observations made at places lying so many hundred miles apart, will decide, for instance, whether the same east wind blows from the elevated desert of Gobi to the interior of Russia, or whether the direction of the aërial current first began in the middle of the series of the stations, by the descent of the air from the higher regions. By means of such observations, we may learn, in the strictest sense, *whence* the wind cometh. If we only take the results on which we may depend from those places in which the observations on the direction of the winds have been continued more than twenty years, we shall find (from the most recent and careful calculations of Wilhelm Mahlmann) that in the middle latitudes of the temperate zone, in both continents, the prevailing aërial current has a west-southwest direction.

Our insight into the *distribution of heat* in the atmosphere has been rendered more clear since the attempt has been made to connect together by lines those places where the mean annual summer and winter temperatures have been ascertained by correct observations. The system of *isothermal*, *isotheral*, and *isochimenal* lines, which I first brought into use in 1817, may, perhaps, if it be gradually perfected by the united efforts of investigators, serve as one of the main foundations of *comparative climatology*. Terrestrial magnetism did not acquire a right to be regarded as a science until partial results were graphically connected in a system of lines of *equal declination*, *equal inclination*, and *equal intensity*.

The term *climate*, taken in its most general sense, indicates all the changes in the atmosphere which sensibly affect our organs, as temperature, humidity, variations in the barometrical pressure, the calm state of the air or the action of opposite winds, the amount of electric tension, the purity of the atmosphere or its admixture with more or less noxious gaseous exhalations, and, finally, the degree of ordinary transparency and clearness of the sky, which is not only important with respect to the increased radiation from the Earth, the organic development of plants, and the ripening of fruits, but