

that is, by earthquake and volcano. For this reason, it deserves to receive in our pages the most serious consideration.

We shall, therefore, divide into two sections our study of the temperature of the terrestrial globe, and consider, successively,—

*First*, The Effects of the Solar Heat ; and,  
*Second*, The Effects of the Central Fire.

To the first section will be referred the study of the temperatures of the earth's surface, that is to say, its *climates* ; to the second, the exposition of the phenomena of volcanoes and earthquakes.

*First*, The expression "climate," in its most general sense, comprehends the total or aggregate of those atmospheric variations by which our organs are effected in a sensible manner ; that is, temperature, humidity, the barometric pressure, atmospheric calm, the winds and storms, the electric tension, the purity of the air or the presence of miasma, and, finally, the relative degree of the transparency and serenity of the sky. All these questions are connected, as we shall see, with the condition of the atmosphere ; in other words, they belong to Meteorology—a science which it is not the object of this book to expound. It is nevertheless our duty to put before the reader some considerations on the distribution of heat over the globe's surface, and on the division of climates.

The principal source of heat—the superficial heat of our planet—is, as we have said, the Sun. The duration of his presence above the horizon and his elevation are the same for all places situated on the same degree of latitude. If, then, the terrestrial surface were composed of one homogeneous substance, presenting everywhere the same colour, the same density, the same absorbent and emissive power for the radiating heat, the mean temperature ought always to be the same on the same parallel of latitude, so that the parallels would also be *isothermal lines*, *isothermal*, and *isocheimal lines*—that is, lines of