it will be necessary for the observer to consider whether it came from above or below its present situation, and to allow for the heat it received or gave out in passing through rocks. If the temperature of the rock itself be taken into account, an allowance should be made for the contact of the air, and of the water that percolates through it. After estimating as nearly as possible, M. Cordier deduces from the experiments generally, and from his own in particular, a series of interesting and important principles.

It appears, then, that there is an increase of temperature according to the depth from the surface of the earth; an increase which is not at all dependant on the solar rays, but belongs essentially to the condition of the mineral components of the earth's body. This increase of subterranean heat in proportion to the depth does not follow the same law in all places; for, in some countries, the ratio between the depth and the increase of temperature is much greater than in others. From experiments made beneath the Observatory of Paris, it was deduced, that at that place a depth of fifty-one feet corresponds with an increase of one degree of heat, from which it would follow, admitting a similar continued increase, that the temperature of rocks, at a depth under the city of Paris of about a mile and a half, is equal to that of boiling water. But the same results are not obtained in all places, for we have a variety of depths as the index of an increase of one degree in temperature, varying from twenty-four to one hundred and four feet. It is probable that the difference between the increase of temperature in relation to the depth at different places, may be in some measure attributable to the imperfection of the experiments from which the results are deduced; but it is not wholly referrible to this cause, and we must concede, after making every allowance, that there is a certain irregularity in the distribution of subterranean heat, which has no constant relation to the latitudes and longitudes of places. The mean increase of temperature is calculated to be a degree for every forty-six feet; but this result cannot be considered as perfectly accurate, nor is it possible to determine whether there be any lines upon which the depth and the increase of temperature would have a constant ratio to one another. Many other experiments are necessary; and they should be made not only with the intention of ascertaining the ratio between the increase of temperature and the .