very much in the fluctuations of the surface temperature. In general, perhaps, it may be stated, that the temperature of the surface of the earth, is a little above that of the incumbent atmosphere by day, and below it by night; though much will depend, in this respect, upon the nature of the soil; on its radiating and conducting powers; and on a multiplicity of other conditions, which will readily occur to the reader. At a certain distance, however, below the surface, and varying with the latitude and other circumstances, there must be a determinate stratum, where the temperature is uniform, or nearly so, throughout the year. Experiments on this subject are very limited; but there is reason to believe, that the temperature of this *invariable stratum* coincides nearly, with the mean annual temperature of the place; and that its depth below the surface, in different latitudes, varies between forty and eighty feet. The reader need scarcely be reminded, that the well known uniformity of the temperature of cellars and caves, depends chiefly upon the circumstances we are now considering. As an instance of the uniformity of temperature in such places, it may be mentioned, that a thermometer placed in the caves under the observatory in Paris, at a depth of about eighty-five feet below the surface, has, during fifty years, scarcely