

diminish from the equator to the poles. There is also an internal source of heat, the cause of which has not yet been determined, but is probably connected with the original constitution of our planet. It has been ascertained, by careful experiments, that below the depth to which the solar heat can penetrate, there is an invariable increase of temperature, amounting to  $1^{\circ}$  of Fahrenheit for every fifteen yards : so that it is possible that at the depth of 100 miles beneath the surface of the earth, even the least fusible mineral masses may be in a state of incandescence.

#### 10. NATURE OF THE CRUST OF THE GLOBE.—

The greatest thickness of the superficial crust of the globe, that is, *of the mass of solid materials which the ingenuity of man has been able to examine*, from the highest mountain peaks to the greatest natural or artificial depths, is estimated at about ten miles. As the earth is nearly eight thousand miles in diameter, the entire series of strata hitherto explored is, therefore, but very insignificant compared with the magnitude of the globe ; bearing about the same relative proportion, as the thickness of this paper, to an artificial sphere a foot in diameter ; the inequalities and crevices in the varnish of such an instrument would be equal in proportionate size to the highest mountains and deepest valleys. In the following diagram,\*

\* From the Penny Cyclopædia.