

depth at particular places, but also to fix those lines, if there be such, upon which the ratio is the same. We may hope to accomplish this desirable object, and it will be the duty of succeeding ages to repeat the experiments, to ascertain whether these ratios are constant, or whether they are influenced by duration, to fix their relation to the isodynamic zones, and to the line of no variation. With the most industrious exertion it will require a considerable time to solve these interesting problems, for we have as yet taken but the first step towards the investigation of the subject. Two things, however, are certainly determined, the increased subterranean temperature, and its variation of amount in different places.

A simple reliance upon these facts, without an allusion to theory, could scarcely be expected of the most cautious philosopher. Let it be admitted, that the temperature continues to increase from the surface to the centre of the earth at the rate of one degree for forty-six feet, and it follows that at the centre there is a temperature equal to $450,000^{\circ}$ of Fahrenheit's scale; and at the depth of about sixty miles, there is a temperature sufficient to fuse all known rocks. These deductions are believed by some philosophers, while others are unwilling to admit them; for though they may allow that subterranean temperature does increase within the depths to which examination has extended, yet they assign a limit to this increase, such as may suit their own theoretical notions. It is perhaps unwise to press the facts to which we have alluded into the service of any particular theory; but, at the same time, if it be true that the interior temperature increases proportionally with the depth in all those places in which experiments have been made, it will be difficult to assign any depth at which the temperature ceases to increase. It is this, in all probability, that has led M. Cordier and others to believe that the temperature continues to increase even to the centre of the earth, though at every depth it is gradually becoming less, from the radiation at the surface.

It is no new doctrine that the centre of the earth is in a state of igneous liquidity, though it has but recently been proved by experiment. Some of the ancient philosophers, imagining the principle we call heat to have a material existence, supposed the interior of the earth to have received and retained a portion of the solar rays, and thus to have stored