

to perpetuity, is but a passing phase; and when we shall have passed away with the other transient existences around us, some succeeding intelligence, gifted with the power to travel from sphere to sphere, will note the world in an altered condition.

I step here upon ground which has been somewhat contested. It was long since alleged that if our world be still in process of refrigeration, a sensible reduction in temperature ought to have taken place in 2000 years. But no such reduction has been satisfactorily established, though it will be confessed that we scarcely have exact observations on temperature which are more than two hundred years old. It was also alleged that since a reduction of temperature must be accompanied by a reduction of volume, the rate of the earth's rotation upon its axis must have been accelerated. But Laplace has demonstrated from ancient observations on eclipses that the mean day has not been diminished $\frac{1}{500}$ th of a second since the time of Hipparchus, or during an interval of 2500 years. These negative results have been opposed to the theory of Cordier in reference to the former high temperature of the earth, and it has, till recently, been customary to speak of the thermal, no less than the astronomical conditions of our planet as constant. Poisson, an eminent French mathematician, proved, as was supposed, that the heat escaping from the earth in the latitude of Paris was only sufficient to elevate the temperature of a column of water eighteen inches high the trifling amount of one degree and a half. Vogt, a celebrated German geologist, affirms that the existing temperature of the surface of the earth is but one twelfth of a degree higher than it would be if the earth were completely cooled to the core. According to the later researches of Pouillet, the heat communicated to the surface of the earth from the central fire is but one fortieth the amount received from