

The consolidation of such a mass would, therefore, be accompanied by a struggle for superiority between pressure and temperature, both of which would be at their maximum at the centre of the mass.

At the surface, it would be a question of rapidity of cooling, by radiation, as compared with the internal condition—for comparing which relations we are without data; but on the result of which depends whether such a body would most rapidly solidify at the surface by radiation, or at the centre by pressure.

The effect of the first would be solidification at the surface, followed by condensation at the centre through pressure. There would thus be two masses, a spherical fluid nucleus, and a spherical shell or envelope, with a large zone of semi-fluid, pasty matter between, continually changing its temperature as its outer or inner surface became converted to the solid state.

If pressure, on the other hand, gained the victory, the centre would solidify before the circulation of the heated matter had ceased; and the solidifying process would proceed through a large portion of the globe, and even approach the surface before that would become solid. In other words, solidification would proceed from the centre until the diminishing power of pressure was balanced by radiation, when the gradual abstraction of heat would allow the particles to approximate and become solid.

The terrestrial sphere may thus be a solid indurated mass at the centre, with a solid stony crust at the surface, and a shifting viscous, but daily-decreasing, mass between the two; a supposition which the diminished and diminishing frequency and magnitude of volcanic and other eruptive convulsions seem to render not improbable.

It is not to be supposed that amongst the various hypotheses of which the cosmogony of the world has been the object, a literal acceptation of the scriptural account finds no defenders among men of science. "Why," asks one of these writers,\* after some scornful remarks upon the geologists and their science—"why an omnipotent Creator should have called into being a gaseous-granite nebulous world, only to have to cool it down again, consisting as it does of an endless variety of substances, should even have been supposed to be originally constituted of the matter of granite alone, for nothing else was provided by the theory, nobody can rationally explain. How the earth's centre now could be liquid fire with its surface solid and cold and its seas not boiling caldrons, has never been attempted to be accounted for. How educated gentlemen, engaged in scientific

\* "Fresh Springs of Truth." R. Griffin and Co.