

viz. to the central parts, implies a total incoherence or fluidity of the mass of the globe. Such fluidity appears perfectly intelligible, as the effect of a general and pervading high temperature ; and, perhaps, this is the only supposition which will at all meet the case. But it derives a considerable accession of probability from the fact that the earth is even *now hot* within ; a point on which all experiments on subterranean temperature, and, perhaps, the grander phenomena of volcanoes, appear to agree ; and a variety of evidence will be hereafter adduced to show that it was formerly *hotter*, at small depths below the surface, than it is at present.

From all this we obtain, as the most probable solution of the problem of the constitution of the interior parts of the earth, that the substances therein occurring have such analogies to those now seen near the surface, that they would have been subjected to very much greater condensation than they have suffered,—the globe would have been denser than it is,—were it not for the expansive influence of heat in the interior of the planetary mass. Whether the inner or medial parts of the substance of the globe be fluid or solid, must remain for very refined researches in physical astronomy to decide, if, indeed, evidence can be collected, on points involving the consideration of fixity or motion of the interior masses, sufficiently precise to give authority to the rigorous results of calculations applied for the purpose of testing this great question. Mr. Hopkins is understood to have been engaged in the great labour of discussing the phenomena of precession and nutation with this view.

*Mass of the Globe whence derived.*

With this knowledge of the *nature of the mass* of the globe, the modes of *combination* of the several ingredients of the mass, and the properties under certain physical conditions of these ingredients *existing separately*, one of two conclusions must be