and fixed stars, the condensation has gone on so far that cohesive attraction begins to operate, the latent heat of the vapour is extricated, and melted luminous worlds are the result. Around them, however, there probably still floats a wide atmosphere of the more elastic materials, which the heat dissipates, of which the zodiacal light, perhaps, furnishes us with an example. The nebulosity which surrounds the asteroids, Ceres, Pallas, Juno, Vesta, and Astrea, renders it probable that, though they have advanced so far in the process of refrigeration as to become opaque, they may still retain heat enough to dissipate much of their substance. Still farther advanced towards the condition of a habitable world is the moon; and yet volcanic desolation covers its surface. Not improbably Jupiter is nearly surrounded with a fluid like water, and Saturn by a fluid lighter than water, being still farther advanced towards the condition of the earth.

I acknowledge that these are but slight glimpses of the geology and chemistry of other worlds. And yet, taken in connection with the geological history of our own globe, do they not furnish us with some extremely probable examples of those changes to which our earth has been subject? They show us that worlds may exist in the form of vapour, and that some are actually at this time in the various conditions through which geology supposes this world to have passed. Do we not, in these examples, gather strong intimations of a great law of chemical change in the universe? Gaseous matter, so far as we know, appears to have been the earliest state of the universe; and then, by the agency of heat, it passes through the successive changes of liquid and solid, which have been described.

The chemical changes that take place on the earth, under our immediate cognizance, through the agency of water, usually proceed, under favourable circumstances, in a cycle; that is, the substance, after passing through a series of changes, returns at length into the same condition from which it started. Thus aqueous vapour, by the loss of heat, is first converted into water, next into ice, and then, by the access of heat, into water again, and at last into vapour. The question naturally arises, whether those mutations, through which worlds are passing, may not form a similar cycle. We are able to trace them through several steps, from gaseous to liquid, and from the liquid to the solid; and we are assured, on the testimony