

there be a solid nucleus ; and whether such nucleus be close-grained, or more probably cavernous, the solid partitions being infusible and the disseminated vesicles filled with gaseous substances at a very high temperature ; thus presenting an analogy to the appearance of ordinary boiling liquids ;—are parts of the problem upon which eminent geologists are not agreed. But in this they are agreed, that they will not put conjecture, however probable, in the rank which is due only to decisive evidence ; and that they will wait with patience till such evidence shall be attained. In the mean time the highest efforts of mathematical genius are on the stretch for the resolution of the problem. But that a large part of the interior matter of the earth, and that part in contact with the solid crust on which we dwell, is in the state of fusion by heat, appears to be a doctrine established by most satisfactory proofs. It should be considered, that the mean density of the earth is not quite five sevenths of that of iron, nor half that of silver, or one fourth of that of gold : facts utterly inconsistent with the supposition that the interior is a solid mass, or occupied by vast bodies of water, united or detached ; or indeed any thing but a fluid or fluids maintained in that state by the action of heat as an antagonist power to gravitation. This mean density is rather more than double that of granite.

III. The rocks which lie the lowest in the descending order, and which of course are under all the stratified deposits, are in the state which has been produced by the prodigious heat that has been mentioned, acting under a pressure from above so great as incomparably to exceed any familiar weight or force that we could mention as a measure of comparison. Those rocks bear clear marks of having crystallized in cooling from a state of fusion. It has been objected, that the component parts of those