

“There is, therefore, no difficulty in imagining the combustion to be kept up by means of silicon and aluminium, when once it has commenced, by the action of water upon the potassium, sodium, or calcium present.”

If this answer to our objections were as conclusive as it is undecided, imperfect, and objectionable, we might add, as a farther reason for our dissent, that many arguments might be gathered from the invasion it makes upon the laws which would govern the arrangement of a metallic nucleus; the improbability of water reaching it; the uncertainty whether atmospheric air could reach it; and the doubt whether any chymical action would be developed under great pressures;—each of these might, and the sum of them would, lead us to the conclusion that the theory is doubtful, if not visionary.

Dr. Daubeny makes an admirable and comprehensive classification of the theories of volcanic action, when he says, “the theories which have been propounded with the view of accounting for the existence of volcanic action, may be divided into two classes—those which assume some chymical process, of which the heat is merely an effect; and those which, assuming the existence of the heat, deduce the other phenomena from its presence.” We have explained the only theory worthy our attention, belonging to that class which assumes the existence of heat as an effect of the volcanic cause, and must now refer to the arguments by which those who maintain the primordial agency of heat defend their opinions.

That the earth's interior has a much higher temperature than its surface, has long been a prominent feature in geological hypotheses. But cosmogonists and theorists have not been satisfied with assuming a present condition, but have stoutly asserted the igneous fluidity of the primitive earth. It has been sometimes stated that the earth is a fragment of a body that was, at the time of partition, in a state of fusion; and this being assumed, its form may be readily traced to the diurnal revolution it is known to have. Sir William Herschel seems to have been enticed from his practical studies by a theory not less fascinating. This celebrated astronomer believed the earth to have been, at some past period, a mass of vapour, and attributes its present form to the condensation of the elastic fluid, an intense heat being given out during the process of reconstruction. It is not,