of a large volume of hydrogen, again to combine with oxygen (supposing atmospheric air present), or with sulphur, *at a high temperature.* In the former case, nitrogen gas will be liberated, which may rise uncombined, or may unite with hydrogen to form ammonia; and this will be neutralised by free muriatic acid, and produce sal ammoniac.

The hydrogen not thus disposed of may combine with sulphur to form sulphuretted hydrogen gas; but this may be again decomposed by rising and meeting with oxygen; as long, therefore, as oxygen abounds, there will be evolution of water and sulphurous acid; afterwards sulphuretted hydrogen will prevail toward the end of the eruption. As long as heat remains in the lava, the combustion of sulphur, and the decomposition of the sulphurous acid by sulphuretted hydrogen, would regenerate water, to maintain, by combination with metals and metalloids, a continuance of similar though feebler actions.

There is not, we believe, any attempt on record to deduce all the *chemical* phenomena of volcanos from the hypothesis of general heat below the surface of the earth: we must therefore, at present, suppose this is difficult, except upon the admission of that powerful absorption of oxygen from water, which the "chemical" hypothesis provides. Granting, then, the truth of these opinions as to the origin of the substances ejected from volcanos, do they involve the rejection of the hypothesis of a pervading high temperature below the surface of our planet? Surely not.

For what account does the peculiar series of gaseous and earthy ejections from a volcano give of the *origin* of the volcanic action? What opens the fissure and gives passage for the water to the base of volcanic mountains? The whole crust of the globe, stratified and unstratified, is a mass of metallic oxidation; how can there yet remain, at so many points, access for water through this oxidated crust, to the unseen primitive nucleus? How happens it, that really volcanic effusions are so limited