

explain the manner in which these chasms in solid rocks have become filled with metallic ores, and with earthy minerals, often of a different nature from the rocks containing them. Werner supposed that veins were supplied by matter descending into them from above, in a state of aqueous solution ; whilst Hutton, and his followers, imagined that their contents were injected from below, in a state of igneous fusion. A third hypothesis has been recently proposed, which refers the filling of veins to a process of *Sublimation* from subjacent masses of intensely heated mineral matter, into apertures and fissures of the superincumbent Rocks.* A fourth hypothesis considers veins to have been slowly filled by *Segregation*, or infiltration ; sometimes into contemporaneous cracks and cavities, formed

* In the London and Edin. Phil. Mag. March, 1829, p. 172, Mr. Patterson has published the result of his experiments in making artificial Lead Ore (Galena) in an Earthen tube, highly heated in the middle. After causing the steam of water to pass over a quantity of Galena, placed in the hottest portion of this tube, the water was decomposed, and all the Galena had been sublimed from the heated part, and deposited again in colder parts of the tube, in cubes which exactly resembled the original Ore. No pure Lead was formed. From this deposition of Galena, in a highly crystalline form, from its vapour in contact with steam, he draws the important conclusion, that Galena might, in some instances, have been supplied to mineral veins by *sublimation* from below.

Dr. Daubeny has found by a recent experiment that if steam be passed through heated Boracic Acid, it takes up and carries along with it a portion of the Acid, which *per se* does not sublime. This experiment illustrates the sublimation of Boracic Acid in volcanic craters.