

writers, who admitted the posteriority of veins to the rocks which inclose them, to suppose their contents to have been collected from the neighbouring strata, by some peculiar process of segregation, depending on electrical currents. Thus it was supposed the successive depositions, and peculiar positions of the various substances which occur in veins, might be accounted for.

Lastly, the vague suggestion of electrical agency, in depositing the materials of mineral veins, has been reduced to a regular system by Mr. Fox, who, uniting the knowledge of veins to a zeal in conducting ingenious experiments which has led to most valuable results, has successively matured his views and advanced his experiments, till they have attracted very general attention. Perhaps the most complete account of his hypothesis is that which appeared in connection with a valuable collection of facts regarding mines, in the Report of the Polytechnic Society for 1837.

In this paper, Mr. Fox assumes as sufficiently proved, the origin of fissures, from various causes, and at various intervals, and the enlargement of them from time to time; the progressive filling up of these fissures; and their penetration to great depths and regions of high temperature. In such fissures, he shows the probability of the circulation of heated water by ascent and descent; and the deposition of quartz and other earthy substances in cool parts, which had been dissolved by the water in hotter parts. In such fissures, filled with metallic and earthy solutions, the different sorts of matter on the sides must necessarily produce electrical action, which might be exalted by the peculiar distribution of temperature. The currents of electricity generated would pass more easily in the fissures than through the rocks, and in directions conformable to the general magnetical currents of the district. These would be east and west, or somewhat north or south of these points, according to the position of the magnetical poles at the period when the process was going on. Electrical currents