

that this manner of representing their mode of formation, and the relative situation which they bear to one another in the mountain, *is the most simple way of accounting for them.* It explains the uniform law of their formation both in a general and more particular manner, and, consequently, *we shall admit it as the real one.* This hypothesis would be still more satisfactory to the naturalist, if it were equally easy for him to conceive how a new mineral substance could be formed in these fissures, of a nature different from the rocks in which the veins occur.”

One of the early attempts to conquer this difficulty is that of Lehman, who deserved more attention than Werner’s somewhat contemptuous notice.

“What is called a rent, is an open fissure in a mountain, which has been produced by a division of the rocks; and veins are, in my opinion, nothing but fissures which have been filled by nature with stones, minerals, metals, and clay—in short, which are of a very different nature from the rock itself.” Farther on he says,—“The veins which we find in mines, appear to be only the branches and shoots of an immense trunk, which is placed at a prodigious depth in the bowels of the earth; but, in consequence of its great depth, we have not yet been able to reach the trunk. The large veins are its principal branches, and the slender ones its inferior twigs. What I have said, will not appear incredible, when we consider, that in the bowels of the earth, according to every observation, is the workhouse where nature carries on the manufacture of the metals; that from time immemorial she has been working at, and elaborating their primitive particles; that these particles issue forth, *in the form of vapours and exhalations,* to the very surface of the globe, *through the rents,* in the same manner as the sap rises and circulates through vegetables, by means of the vessels and fibres of which they are composed.”*

Another effort to penetrate the mystery of metallic

* Lehman, Abhandlung von den Metalmüttern und der Erzeugung der Metalle. 1753, quoted by Werner.