

14. *All true veins appear to have been formerly open fissures; and these fissures seem to have been filled from above with the mineral substances they now contain\**. Such is the theory of WERNER.

a. These fissures may have been formed in different ways; as by the unequal accumulation of rocky matter, at the time of deposition; by the loss of support, owing to the diminution of the water; by the desiccation of strata, caused by the consolidation of crystalline depositions; sometimes by earthquakes, and the softening of strata during long-continued rains.

b. That all veins have been formerly open fissures, is shewn by the perfect agreement of veins and fissures in their various characters. Thus, veins agree perfectly with fissures in their shape and position. Like them, they are seldom much contorted in their course; they wedge out at their extremities, and diminish in breadth towards their bottom; and in many cases even close completely; and they have frequently lateral branches on their hanging side.

c. Their inclination, like that of fissures, is always more inclining to the perpendicular than the horizontal line; and they generally dip in the direction of the declivity of the mountain in which they are situated; and, lastly, veins of the same formation, like fissures, have usually the same direction.

d. That

\* This does not, strictly speaking, include cotemporaneous veins, for reasons sufficiently obvious.