

unequal loading of the parts broken, and the varying thickness of unequally resisting masses, &c., must have contributed to the weakening of parts of the crust of the earth, the want of *perfect* accordance between the joints and all the lines of vein fissures, is no sufficient argument against the anteriority and real influence of the former over the latter.

The curious circumstance, not uncommonly seen in the mining district of Aldstone Moor, of the change of the "hade," or inclination of the vein, in its passage through different rocks, is perhaps explained by this admission of the relation of vein fissures and joints. The veins which pass perpendicularly through limestone beds, acquire an inclination in the alternating shales, and they are usually wider in the limestone than in the shale. Now, in both of these circumstances, the vein fissures resemble common joints, which not uncommonly are more inclined and much narrower in shales, than in the limestone strata of the same district.

Another curious fact, noticed in Cornwall, appears intelligible by considering the disturbing force as having opened at once two parallel discontinuous natural joints; so that opposite the point where one fissure ended, the other became open enough to receive substances of the same kind, and thus, as the miners say, to "splice" the vein.

All the principal circumstances which attend the dislocations of the strata along the planes of mineral veins, are equally witnessed in the cases of common rock dykes, and faults; the same general laws as to the relation of planes of strata and planes of dislocation apply, with similar exceptions; nor are there wanting in all these cases, proofs of the fact that some of the fissures have been subject to more than one movement. In mineral veins this is manifested by the striated surfaces of rock and veinstones ("slickenside"); it equally appears on the lines of disturbed strata (coal shales, carboniferous limestones), and with equal variation and confusion of direction, so as in many cases to suggest the