

ning N. and S., or N.N.W. and S.S.E., traverses another series, which runs in a more east and west direction (W.S.W. to E.N.E., or W.N.W. to E.S.E.). The latter (*c c*, *d d*, Fig. 319) in Cornwall contain the chief copper and tin ores, while the cross-courses (*b b*) contain lead and iron. The east and west lodes in the west part of the region were formed before those which cross them, for they are shifted, and their contents are broken through by the latter. To the east, near



Fig. 319.—General Map of Fissures in the mineral tracts of S.W. England (*B.*).

Exeter, the east and west faults *a a* are later than the New Red Sandstone, and in Somerset than the Lias.⁶

Relation of contents of veins to surrounding rock.—It has long been familiar to miners that where a vein traverses various kinds of “country” it is often richer in ore when crossing or touching some rocks than others. In the north of England, for example, the galena is always most abundant in the limestones and scarcest in the shales, the veins in the Great Limestone (which is 150 feet thick or less) having produced as much lead as all the rest of a mass of 2000 feet of strata put together. In Cornwall and Devon, it has been observed that some lodes yield tin where they cross

⁶ De la Beche, *op. cit.* p. 659.