

and Devonian slates of Cornwall, tin-ore has segregated in rudely parallel zones or "floors." At Botallack, at the side of ordinary tin lodes, floors of tin-ore from six to twelve feet thick and from ten to forty feet broad occur. The name of *Fahlbands* has been given to portions of "country" which have been impregnated with ores along parallel belts.

Origin of mineral-veins.—Various theories have been proposed to account for the infilling of mineral veins. Of these the most noteworthy are—(1) the theory of lateral segregation—which teaches that the substances in the veins have been derived from the adjacent rocks by a process of leaching, or solution and redeposit; and (2) the theory of infilling from below—according to which the minerals and ores were introduced (*a*) dissolved in water or steam, or (*b*) by sublimation, or (*c*) by igneous fusion and injection.

The structure and characteristic mineral combinations of metalliferous veins are precisely such as would be produced by deposition from aqueous solution. There can hardly be now any doubt that the contents of these veins have generally been deposited by water. But the source from which the metals were derived is not so obvious. The fact that the nature and amount of the minerals, and especially of the ores, in a vein so often vary with the composition of the surrounding rocks shows that these rocks have had an influence on the precipitation of mineral matter in the fissures passing through them, if they were not themselves the source from which the metals were obtained; for, as already remarked, the presence of the heavy metals has now been detected in rocks of almost every kind and age. On the other hand, in some volcanic districts at the present time, various minerals, including silica, both crystalline and chalcedonic, metallic sulphides, and even metallic gold, are being deposited