

changes of their nature or structure. (See the papers of Mr. Carne, Fox, &c. in Trans. of Geol. Soc. of Cornwall; Mr. Taylor's Report, &c.)

The same truth of the dependence of the contents of mineral veins upon the containing rocks is put in a strong light by Von Dechen, in his translation of De la Beche's Geological Manual. He notices the mechanical dependence of the *width* of the vein upon the solidity of the neighbouring strata, and points out other phenomena analogous to what have been mentioned above. "The veins of Kupferberg, in Silesia, bear ore only in hornblende schist, and become impoverished in mica schist." "At Stadtberg, veins which divide zechstein, kupferschiefer, and the subjacent clay slate and flinty slate, never bear ore above the kupferschiefer." At Bieber, cobalt veins traverse the kupferschiefer, and are unproductive in the subjacent red mica schist."

It has been generally thought that depth below the surface of the earth was influential on the quantity and quality of ore contained in a vein. Pryce, writing in 1778; says,—“The richest strata for copper is between 40 and 80 fathoms deep; and for tin between 20 and 60; and though a great quantity may be raised of either at fourscore or 100 fathoms, yet the quality is often decayed, or *dry of metal*.”* This does not appear confirmed by recent experience, which has in some instances (Dolcoath mine) gone to the depth of 260 fathoms without exhausting the supply. That copper, upon the whole, occupies greater depths than tin, is a common opinion in Cornwall. Mr. W. Phillips observes, “At about 80 or 100 feet under the surface, the first traces of copper or tin are usually found; rarely nearer to it than 80 feet. If tin be first discovered even without a trace of copper, it is not unusual that, in the course of sinking 80 or 100 feet or more, *all trace of it is lost*, and copper only is found; but if, instead of tin, copper be first discovered at a

* Mineralogia Cornubiensis, p. 79.