

gneissic and schistose portion of the metamorphic rocks. But its extent *downwards is not to be relied on.*

Gash veins, like segregated, occupy preexisting fissures, but of limited extent. They are usually confined to a single member of the formation in which they occur, and terminate below, *when a change in the character of the rock takes place.* The origin of these veins is referred to contraction of the rock, caused by shrinkage, either while undergoing consolidation, or by fracture of certain strata on cooling.

True veins, are fissures in the solid crust of the earth, of indefinite length or breadth, which have been filled with mineral matter. They have originated in "faults" or dislocations caused by great dynamical agencies, connected with extensive movement of the earth's crust, and thus are believed to *extend indefinitely downwards*: no well developed vein having yet being found terminating *in depth.*

Admitting these definitions to be correct, there can be no difficulty in reconciling the discrepancies of opinion which have existed on Sir Roderick Murchison's axiom on gold deposits. It is doubtful whether experience has yet furnished the means by which we can, a priori, give the character of any vein when first discovered, but we now know this to be the fact, that should it prove either a segregated or gash vein, its product of gold will be uncertain and diminish, and ultimately cease, as we descend. On the other hand, should it turn out to be a true fissure vein, all the probabilities are in favor of its increasing in richness as in depth.

GENERAL DESCRIPTION OF GOLD REGIONS.

We will now proceed to illustrate our subject by a condensed account of the principal gold fields of the world ancient and modern.