nating either in mechanical disturbance, or from contraction in mineral masses during their consolidation; and these veins are generally found filled by subsequent segregation, or infiltration. It is obvious that all veins must be of later origin than the rock which they traverse. Thus the veins of granite, represented in this diagram, (Tab. 151, fig. 1), are more modern than the mass through which they are disseminated. It therefore follows that when rocks of granite are intersected by veins or dikes of the same substance, the latter are of later origin than the former, and have been injected into rents and openings of pre-existing granite rocks; a proof that the formation of granite has taken place at more than one epoch.

The mode in which slate is intersected by granite veins is well shown in this representation (Tab. 151, fig. 1). Granite veins traversing other rocks are themselves sometimes intersected by intrusions of other melted materials. This sketch (Tab. 151, fig. 2) represents a mass of schistose rock, which is intersected by granite veins (*a a*) in one direction, and is again traversed by veins of porphyry (*b b*), which cut through both the schist and the granite. When gneiss is intersected by granite, it becomes shifted, as in this representation (Tab. 151, fig. 3), where the granite veins (*a a a*) have displaced the laminæ of gneiss (*b b*). By numerous observations of phenomena of a like nature, it is now clearly established that granite has been ejected during the