

injected in a molten or pasty state into some other rock, it forms an *eruptive vein*, or, if it forms a vertical wall-like mass, a *dike*. When it forms part of the igneous rock in which it occurs, but belongs to a later period of consolidation than the portion into which it has been injected, it has been called a *contemporaneous vein*. When it has crystallized or segregated out of the component materials of some still unconsolidated, colloid, or pasty rock, it is called a *segregation-vein*.

Eruptive or Intrusive Veins and Dikes are portions of once-melted, or at least pasty matter, which have been injected into rents of previously solidified rocks. When traceable sufficiently far, they may be seen to swell out and merge into their parent mass, while in the opposite direction they may become attenuated into mere threads. Sometimes they run for many yards or miles in tolerably straight lines. When this takes place along vertical or highly-inclined stratification, they look like beds, but they are of course really intrusive sheets. They may frequently be found to break across the bedding in a very irregular manner.

No rock exhibits more instructively than granite the numerous varieties of form assumed by Veins.²⁵ Three distinct kinds of granite veins may be observed. (1) Protrusions of the ordinary granite extending from the main masses into the surrounding rocks and demonstrating the intrusive character of the granite (Figs. 289, 290). These, varying in breadth from several feet or many yards down to fine filaments or threads, are often remarkably abundant and markedly irregular in the manner in which they branch and intersect. Where they are several yards broad their texture, at least in the central parts, may not sensibly differ from that of the main granite mass, though it is apt to

²⁵ On granite veins, see Prof. H. Credner, *Zeitsch. Deutsch. Geol. Ges.* 1875, p. 104; 1882, p. 500. E. Kalkowsky, *op. cit.* 1881, p. 629.