

banded or zone-form arrangement of the vein material. This however is never laminated, as in the case of mineral veins deposited from genuine aqueous solution, <sup>1</sup> but only indistinctly zonal inasmuch as the outer zones pass continuously into the inner. <sup>2</sup> The zonal structure, when any such is present, which however is generally not the case, usually makes itself evident only in a finer-grained condition of the vein boundaries, and sometimes (especially in the case of granitic pegmatite veins) in a zone with graphic structure next the fine-grained eugranitic marginal zone, upon which there frequently follows (especially in acid granitic pegmatite veins) in the middle of the vein a tremendous size of grain, here often with special enrichment in rarer minerals and (also particularly in acid veins) not seldom with open or distinctly drusy cavities filled with peculiar mineral deposits.

Thus, this "zonal," band-form, etc., structure, as it occurs in genuine pegmatitic veins, may without any great difficulty be accounted for through magmatic crystallization. <sup>3</sup> Finer grained structure along the sides of the veins is in general characteristic of eruptive veins, the graphic structure is explainable only through magmatic crystallization, and the drusy structure of the middle of the vein, which however is frequently wanting, <sup>4</sup> may be explained as quite in accordance with the formation of miarolytic drusy cavities in normal grained eugranitic rocks. Moreover, it must again be remarked, that the minerals which have crystallized out in the drusy cavities have in part frequently had a different mode of formation to those of the

<sup>1</sup> Compare also G. Vom Rath, l. c. p. 649. "It reminds one of the almost symmetrical grouping of the minerals of certain ore veins. Nevertheless the two phenomena are quite distinct."

<sup>2</sup> I must distinctly remark, that I here leave out of the question a part of the "granitic" veins described by H. Credner in his treatise; in this treatise certain mineral deposits belonging to 'regional metamorphism' are evidently treated from the same point of view as true pegmatitic vein formations. To enter here more into detail would lead too far.

<sup>3</sup> Compare also J. Lehmann, *Granulitgebirge, &c.*, p. 46. "A zonal structure of our granitic veins has in it nothing exceptional and speaks neither for nor against formation by injection."

<sup>4</sup> In the veins of the Anneröd Peninsula this is very rare.