

appellation "pegmatitic." In the boundary zone on the Langesundfjord are many veins, truly pegmatitic, which are less coarse-grained than the surrounding laurvikite, e. g. the hiortdahlite-bearing vein of Langodden, Ober-Arö. It is the habitus as a whole which determines this: the relatively irregular nature of mineral composition and structure in the different parts of the vein, the foreign appearance of the veinstone caused by the wealth in accessory pneumatolitic minerals, the intimate intergrowth with the wall rock, etc. The very indefiniteness of these limitations, which must always adhere to the definition of the pegmatite idea, is itself characteristic and gives a completely correct expression of the actual condition of things, that altogether between pegmatitic and not pegmatitic rock formation in nature often no sharp line can be drawn and indeed is not present.

Structure is, as Lossen<sup>1</sup> has so aptly said "of the first rank as an exponent of the geological relationships of rocks;" that the structural peculiarities of the pegmatite veins are in the main such as we otherwise find in the case of undoubtedly eruptive rocks only, is therefore one of the strongest evidences of their eruptive origin as veins formed principally through magmatic solidification.

4. In connection with the structural peculiarities, stand the age relations of the individual vein minerals, which may be comprehended under the common conception "order of crystallization" (Krystallisationsfolge).

One of the principal results of the study of eruptive rocks in the light of the newer petrography is that, within certain limits, a regularity in the order of crystallization of the minerals of these rocks can be observed; researches by Rosenbusch, Michel-Lévy, Iddings and numerous other investigators have determined pretty certainly the leading features of this regularity in the order of crystallization for a large number of rock-types. The sequence is dependent

<sup>1</sup> K. A. Lossen: "*Über die Anforderungen der Geologie an die petrographische Systematik*," Jahrb. d. kgl. preuss. geol. Landesanstalt f. d. J. 1883, Berlin, 1884, p. 512.