

## **SOME GEOLOGISTS IMPORTANT TO THE STUDIES OF THE VARISCAN BELT OF CENTRAL EUROPE – EXAMPLES FROM THE "GEOLOGEN-ARCHIV, FREIBURG"**

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The posters are prepared to illustrate the biography of the following geologists: Eduard Suess (1831, London – 1914, Wien), Franz Kossmat (1871, Wien – 1938, Leipzig), Hans Stille (1876, Hannover – 1966, Hannover), Adolf Wurm (1886, Günzburg – 1968, Würzburg), Erich Bederke (1895, Grünberg – 1978, Göttingen), Hans-Rudolf von Gaertner (1906, Berlin – 1982, Hannover). Portraits, signatures and other biographical materials are presented.

## **TEXTURAL EVIDENCE FOR THE EXISTENCE OF TWO-PHASE GRANITES IN THE YOUNGER INTRUSIVE COMPLEX GRANITES OF THE KRUŠNÉ HORY/ERZGEBIRGE PROVINCE**

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Intense studies of the major element and trace element geochemistry of the Krušné hory/Erzgebirge granites characterized compositionally the evolution of granitoids irrespectively of their textural variations. Evidence for existence of texturally mixed granites (two-phase variants) in the Main Range granites of the Southeast Asian tin belt by Cobbing et al. (1992) raised the question of whether such granites existed elsewhere, namely in the tin-bearing provinces of the Variscan belt of Europe.

The study of textures of fine-grained porphyritic granites also termed

- granite porphyry (Doubí near Karlovy Vary),
- porphyritic microgranites (Preisselberg near Teplice),
- hiatal-porphyritic granites from Sadisdorf/Schellerhau (Seltmann and Breiter 1993), and
- "Zwischengranite" (Krinitzberg and Walfischkopf in the Western Erzgebirge) (Schust 1965) revealed the presence of similar two-phase granites also in the Krušné hory (Erzgebirge) granite batholith.

Such granites can be differentiated into:

- 1) those with sharp contacts of phenocrysts with no interaction of the phenocrysts with the groundmass
- 2) those which show a marked interaction of their phenocrysts (quartz, biotite, plagioclase and K-feldspar) with the groundmass particles.

Whereas the first group can be well explained by an earlier growth of phenocrysts in rapidly crystallizing melt, the second type textures are elucidated by two-phase crystallization whereby the fine-grained groundmass originated at a later stage by sudden change in physico-chemical environment compared to primary texture granites (Pitfield et al. 1990). From the same granites Aleva (1960) described phenocrysts which penetrate the groundmass in an amoeboid-like fashion and he attributed these textures to crystal growth in the solid state.

The second type of phenocrysts/groundmass relationships can be observed in the Krušné hory/Erzgebirge batholith in the granites which are forerunners of the main granites of the Younger Intrusive Complex (coarse- and medium-grained). Gradational boundaries of earlier microgranites with medium-grained granites in Cínovec (Zinnwald), xenoliths of the microgranites in the medium-grained granites of the Slavkovský les and textural evidence for the blastesis of phenocrysts in the groundmass support the explanation that some fine-grained porphyritic granites (intermediate, Štemprok 1993) originated prior to the medium-grained ones and that the two-phase textures were mostly the result of discontinuous crystallization resulting in the formation of mixed rocks. In most cases, this was overprinted by additional growth of phenocrysts within the primary fine-grained groundmass, as suggested by Aleva (1960). The textures illustrated by Cobbing et al. (1992) as a distinct example of two-phase granites were observed in the so called granite porphyry from Doubí