SYN- TO POSTMAGMATIC DEFORMATION IN THE RASTENBERGER GRANODIORITE AND ITS COUNTRY ROCKS: AN ELEMENT OF THE LATE HERCYNIAN DEVELOPMENT OF THE SOUTHBOHEMIAN PLUTON

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The Rastenberger granodiorite is the most eastern pluton of the Southbohemian Batholith and cuts the collisional nappe system of the Austrian Moldanubian basement. The age of intrusion is dated by FINGER et al. (1993) with **323 ± 2 Ma.** The Rastenberger pluton mostly consists of granodiorites and quartz bearing monzonites. Frequent dioritic bodies are due to magma mingling xenoliths. The tectonic history of the plutons and its country rocks is reflected by different types of macro- and microstructures:

1.) Macrostructures
In the marginal zones of the pluton a plane magmatic foliation is usually observerd. It dips west near the eastern margin while it follows the east-dipping s-planes of the Monotonous unit in the western marginal zone of the pluton. Fine-grained granites and aplites penetrate the granodiorite and its metamorphic country rocks. The metamorphic country rocks east of the Rastenberger pluton (Dobragneis and the Varied unit) are cut discordantly. The thermal metamorphism near the contact caused a decussate texture built by equigranular quartz and feldspar as well as growth of potassium feldspar. The western pluton contact to the Monotonous unit is concordant. In the western marginal zones the granodiorite frequently shows deformation cleavage parallel to the magmatic foliation. Contactmetamorphic growth of cordierite rarely occurs.
The postmagmatic deformation in the Rastenberger granodiorite is characterized by low strain conditions in changing thermal environments. Because of the strain-sensitivity of quartz under nearly all metamorphic conditions, quartz is suitable for allocation of low-strain deformations.

2.) Microstructures
The grain boundaries of magmatic quartz in the Rastenberger granodiorite are coarse sutured (50-200μm) and mainly oriented parallel to the rhombohedral plane. After crystallization the pluton is deformed at high temperatures creating chessboard subgrains in quartz. Chessboard subgrains are developed by combination of prismatic and basal subgrain boundaries. The presence of visible basal {0001} subgrain boundaries (SGB) is considered characteristic of c-slip. Dominant c-slip seems to be connected with deformation in high temperature environments (e.g. MAINPRICE et al., 1986; KRUHL & HUNTEMANN, 1991), possibly in coherence with the stability of ß-quartz (VOLL, 1969). By way of contrast SGB parallel to prismatic planes {hki0} are associated with greenschist to middle amphibolite facies deformation.
In shearzones chessboard SGB are overprinted by greenschist facies deformation. The magmatic grain boundaries migrate with fine suture lines (10-50μm) into neigh-

bouring grains. Complete recrystallization of quartz is observed in strongly deformed zones where chessboard SGB are replaced by prismatic SGB. A weak macroscopic schistosity parallel to the magmatic foliation is a typical fabric in these areas. Deformation lamellae and undulatory extinction verifies low grade deformation of the granodiorites quartz fabric.

Chessboard SGB also occurs in quartz of the country rocks. They are strongly overprinted by prismatic SGB in the Dobragneis and the Varied unit, whereas chessboards are the dominant texture of quartz in the Monotonous unit. In general, there are distinct clues to seperated as well as common developments of the Rastenberger granodiorite and its country rocks. There is every indication that it is possible to distinguish these developments by classification of different types of chessboard SGB and comparison of subgrain textures at all.

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PETROLOGICAL STUDY OF EVOLUTION OF STROMATITIC LAYERING: AN EXAMPLE FROM THE CZECH PART OF THE GFÖHL GNEISSES

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The aim of this study is to propose a genetical model for the origin of layered leucosome from the Rokytná migmatititc complex (RMC). The RMC forms part of the Gföhl gneisses occurring at the eastern edge of the Moldanubicum of the Bohemian Massif. This migmatitic body includes a large volume of stromatites (up to 250 m thick) characterized by well-layered leucosome forming from 70 to 80% of the rock volume. The origin of this rock was explained by syntectonical migmatitization and alkalization (BECKE, 1881; PRECLIK, 1931) and more recently by the migmatitic mobilization of the rock primarily rich in the leucocratic components such as granulites or K-fsp rich sediments (MATĚJOVSKÁ, 1970). Another model suggests migmatitization of paragneisses with large import of granitic components (DUDEK et al. 1972).