

Microstructures in Selected Folds of the Vrbno Group (Silesicum)

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Microstructures of five selected folds which differ in orientation and morphology were studied in the Drakov quartzites (Devonian, Vrbno group, Silesicum) in order to describe their relations and mechanism of folding. Various generations of folds (see e.g. Rajlich 1974 or Orel 1975 for review) are related to the Variscan tectonic events in the Hrubý Jeseník Mts. Thin-sections from limbs and hinges were cut perpendicular to fold axes, parallel to fold axes and parallel to L3 lineation.

The fold from the locality of Ondřejovice (SW of Zlaté Hory) represents the most common fold system (folds F3 with stable SW-NE-oriented folds and vergency to the SE) of the eastern part of the Hrubý Jeseník Mts. Asymmetric pressure shadows along recrystallized quartz pebbles in section parallel to the fold axis confirm the supposed *a*-type of the fold.

Older generation of folds is represented by an overturned N-S-oriented fold from the locality of Vinná hora (W of Oskava). The older metamorphic structure with quartz grains elongated nearly perpendicular to the foliation was folded by the mechanism of dynamic recrystallization here.

The oldest generation of the studied folds seems to be the

E-W-oriented one with varied character of axial plane. Primary (sedimentary) S-planes are folded. New S-plane is developed as axial cleavage. Polygonal character of quartz mosaic indicates later static recrystallization at the locality of Starý Rejvív, interpretation of the fold from Panská Paseka (N of Vrbno p. P.) is complicated by its sheath character.

Chevron folds with WNW-ESE-trending axes are locally developed. Extremely elongated quartz grains are conspicuous in section perpendicular to the axes. They are oriented subparallel to the axial plane and indicate pressure solution mechanism of deformation in the hinge zone. This type of fold can be explained as a kink band perpendicular to L3 lineation.

References

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