compatible with their derivation from a metasedimentary source isotopically similar to the Moldanubian paragneisses.

The variability of Sr-isotopic data from Bílý kámen and their alignment in the 1/Sr vs. $^{87}Sr/^{86}Sr_i$ diagram can be attributed to interaction of strontium from two sources, one primitive, isotopically similar to Pavlov, and one evolved, close to typical Eisgarn s.l. The most plausible interpretation invokes a progressive contamination of a Pavlov-like magma by local metasedimentary material (or melt derived from such a source), with higher degree of contamination in Sr-poor members of the Bílý kámen intrusion. A similar process (assimilation and fractional crystallisation: AFC) could have been also responsible for generation of the Boršov type and even of the fractionated Čeřínek granite, as documented by observed Sr–Nd isotopic variation.

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Ductile Strain Partitioning VS Viscosity Partitioning in Transpression Zones (Obliquely Convergent Orogens)

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This contribution deals with two contrasting types of partitioning of deformation that are called here ductile strain partitioning and viscosity partitioning. The first model of ductile strain partitioning considers the transpression domain of convergent orogens to be split into a zone of prevailing pure shear (PSZ) and a zone dominated by simple shear (SSZ). For ductile strain partitioning, a given large proportion of the instantaneous shortening of the transpression domain is accumulated in PSZ and similarly instantaneous lateral motion is prescribed to act mainly in SSZ. In the second model, the viscosity ratio of high viscosity zone (HVZ) to low viscosity zone (LVZ) defines the partitioning of the instantaneous shortening and of the lateral motion between the zones. In both models we can evaluate components of the velocity gradient tensor (the rates of pure shear and simple shear) and compute strain patterns and other characteristics.

We assume that the ductile strain partitioning may appear due to a pre-deformational structure of the transpression domain and to the imposed (side and bottom) boundary conditions. We compare our model to that of partitioning of displacement of Tikoff and Teyssier (1994) who demonstrated that for an angle of convergence > 20° the lineation is vertical across the whole transpressional domain. This is also valid for displacement partitioning in their work. In contrast to their model, the ductile strain partitioning allows us to obtain the degree of horizontal stretching for any angle of convergence. It is possible to construct regions of vertical fabrics of a relatively low finite strain intensity, limited by narrow zones of simple shear with horizontal stretching and high finite strain intensities. The other consequence of the model is the fact that on the erosional surface originally deeper rocks will be observed in PSZ rather than in SSZ.

In the viscosity partitioning model the transpression domain is split into zones of low viscosity and high viscosity. The viscosity contrast may appear due to different rheology and/or temperature. The type of deformation is equal in both LVZ and HVZ. They differ only in strain rate and consequently in accumulated finite strain. Therefore, for small convergence angles (strongly oblique convergence) the competent zones (HVZ) will accumulate strain slowly - and will maintain horizontal stretching for longer periods than in weaker zones. Incompetent areas (LVZ) will accumulate strain more rapidly and consequently, if the angle of convergence < 20°, the switch of lineation to the vertical direction will occur earlier. LVZ will exhibit higher elevation rates than rheologically stronger HVZ. The direct consequence on the erosional surface is the occurrence of originally deeper rocks in zones of more intense strain and with horizontal stretching.

Thermally induced incompetent zones will behave in the same way as LVZ. The viscosity partitioning will be strongly dependent on thermal contrast which also generates viscosity contrast. Basically this partitioning will be less evident than vertical lithological variations. In this model, hotter and originally deeper rocks will be exhumed in zones of higher ductile strain where, in the case of oblique convergence, vertical stretching will appear first. Colder domains will maintain horizontal stretching for longer duration; lower strain intensities and vertical elevation will be less important.