defined maximum with the mean direction oriented WSW–ENE, plunging 10° to ENE. Also the magnetic foliation poles are well concentrated with a maximum indicating NW–SE direction, and flat plunges of 10° to 20° to the NE. In the KGD, magnetic lineation forms an irregular girdle orientated NE–SW and plunging SE at moderate angles. The magnetic foliation poles form an imperfect girdle with three conjugated sub-maxima orientated in a NW–SE direction. In the LG, magnetic lineation forms a well-constrained irregular girdle orientated in the NE–SW direction, plunging to the NW at a low angle. The magnetic foliation poles form a sharp anisometric maximum with a tendency to incipient steep girdle directed NW–SE.

Our AMS investigations revealed slightly different magnetic fabrics in individual granite types supporting an idea of multistage pulse character of the Ľubochňa massif of the Veľká Fatra Mts. inferred from field, petrological and geochemical studies. These differences also testify that the Alpine overprint of the magnetic fabric of the Hercynian granite frequent in other parts of the Western Carpathians (Hrouda et al., 2002) was only weak, if any, in the Veľká Fatra Mts. This enables to identify the original Hercynian magmatic fabric to a large extent. The ST is interpreted as an Upper Carboniferous metaluminous intrusion of the I-type granite into the Lower Carboniferous peraluminous S-type granite of the crystalline basement.

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Upper Morava and Nysa Pull-apart Grabens: Implication for Neotectonic Dextral Transtension on Sudetic Faults System

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Pull-apart basins are an integral part of intraplate and interplate strike-slip fault zones (Sylvester, 1988). Bends or sidesteps (jogs) in the main strike-slip fault system generally produce zones of extension (pull-apart basins) at releasing bends or sidesteps. Releasing sidesteps or jogs characteristically produce rhombic pull-apart basins in the overlying sedimentary section (e.g., Aydin and Nur, 1985; Sylvester, 1988). Published synoptic models usually depict pull-apart basins as simple rhombohedra bounded by two vertical, laterally offset strike-slip faults linked by two steep, parallel, oblique-slip extensional faults (e.g., Crowell, 1974; Aydin and Nur, 1985). The experiments made by Dooley and McClay (1997), however, show that pull-apart basins are significantly more structurally complex than these previous synoptic models.

The performed morphotectonic analysis of the Upper Morava and Nysa pull-apart grabens and adjacent areas is based on 3D visualization and interpretation of digital elevation models (DEM), which have been compiled on the basis of detailed digitization of topographic map of 1:50,000 scale. DEM of particular areas were integrated using general DEM of the present relief of the Bohemian Massif based on GTOPO30 database (http://edcdaac.usgs.gov/gtopo30/gtopo30.html). The interpretation of DEM was compared with field mesoscopic structure-tectonic and paleostress analysis of fault populations. Special attention was focused on the architecture and kinematics of the main Sudetic fault system in the studied and adjacent areas.

The genesis and tectonic activity of the Nysa and Upper Morava pull-apart grabens are genetically related to dextral strike-slip kinematic on WNW–ESE- and NW–SE- striking fault zones, namely the Intra-Sudetic Fault, Bušín Fault, Temenice Fault and Konice Fault. Long-term dextral wrench movements and/or dextral tangential (transtensional) stress fields on the above mentioned fault systems has been sufficiently documented from the Late Variscan tectogeny to the neotectonic and Recent stages (e.g., Grygar et al., 1993; Aleksandrowski et al., 1997; Uličný, 2001; Kontny, 2001, etc.). A typical feature of the Sudetic fault system is the *en echelon* pattern of fault network. Releasing sidesteps or jogs superimposed on individual faults characteristically produce rhombic pull-apart basins: the Nysa pull-apart graben (NPAG) and Upper Morava pull-apart graben (UMPAG). Also the Mohelnice pull-apart graben (geomorphologically corresponding to the Mohelnice furrow) belongs to this system.

The NPAG is genetically related to the offset between the Intra-Sudetic Fault zone and the Bušín Fault. It represents markedly asymmetrical (half-graben) and hinge-like structure (with pivot hinge near Štíty in the area of southern termination), with Cenomanian to Santonian sedimentary filling (e.g., Don, 1996). The master fault of the Nysa pull-apart graben is a high-angle normal fault on the western limit of the Sněžník Crystalline Unit. Significant post-sedimentary (post-Santonian) movement on this fault is documented by upturned to overturned strata due to flexural deformation, which is related to drag folding on the eastern normal fault.

Tectonically initiated subsidence of the UMPAG started in the Lower Badenian and was related to a sidestep (offset) of the Bušín and Temenice faults by the Konice Fault zone. The typically rhombic pull-apart basin (Fig. 1) is active up to the Recent.

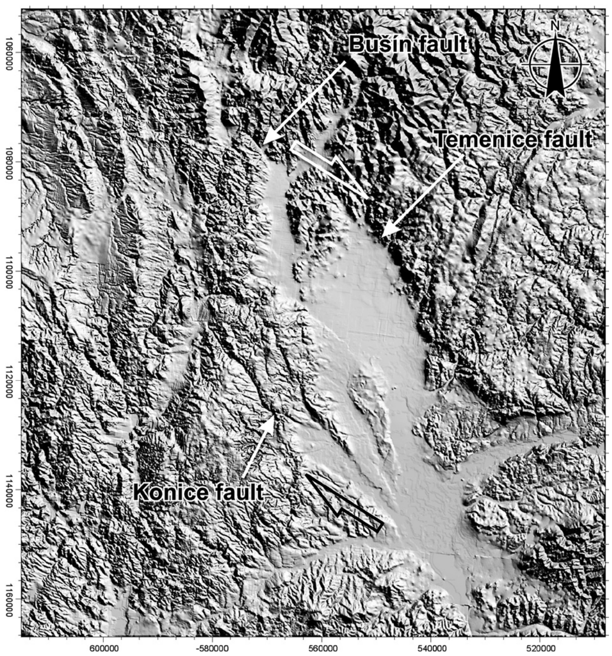

Fig. 1. Digital elevation model (shaded relief illuminated from NNE) of the Upper Morava pull-apart graben and adjacent areas.

Based on geophysical and other structural data, the structure of UMPAG can be assigned to the southeastern prolongation of the Elbe tectonic zone and its long-lived dextral wrenching kinematics and stress field activity.

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On the Mineralogy and Origin of the Śnieżnik versus Gierałtów Gneisses, Międzygórze Unit, OSD, West Sudetes

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The Międzygórze Unit in the eastern part of the Orlica–Śnieżnik Dome (OSD) consists of two major groups of gneisses. One is commonly referred to as the migmatitic *Gierałtów* gneisses, the other as the mylonitic *Śnieżnik* orthogneisses. The *Gierałtów* gneisses embrace bodies of apmhibolitized eclogites. Bulk and mineral composition as well as origin and mutual structural relationships of these gneisses within the OSD have been studied for a long time; this resulted in a bunch of controversial interpretations (Smulikowski, 1979; Don, 2001; Dumicz, 1989b; Borkowska et al., 1990; Don et al.,