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Sea Mount as Strain Indicator. Szarvaskő Area, N Hungary

Zoltan GULACSI

Geological Institute of Hungary, 1143 Budapest, Stefania 14, Hungary

In the Szarvaskő area two tectonic units are resting over the Bükk paraautochtonious. The Szarvaskő tectonic unit is a mid Jurassic (Árva-Sós 1989) complex, composed of MORB-like basic-ultrabasic rocks (Balla and Dobretsov 1984), shales and sandstones. The Monosbél tectonic unit is a complex composed of shales, cherts, radioloarites, oolithic sandstones, forming mostly olitostromes. The age of this complex vas determined from radiolarites as upper Jurassic (Csontos 1991).

In spite of that the upper Jurassic Monosbél tectonic unit is younger than the Szarvaskő tectonic unit, field evidences show that the Monosbél tectonic unit has lower position compared with the Szarvaskő tectonic unit. It has been reconstructed the volcanic build-up of the szarvaskő area as well, developing a distorted seamount structure, which rests over Monosbél tectonic unit.

Pinch and swell structures, boudines, suggests that the first, layer-parallel shistosity has been developed by an early burial metamorphism. The second shistosity is related by dinamic metamorphism and has enhanced the asymmetry of the formerly developed structures. Shear sense indicators as asymmetrical boudins, asymmetrical folds, asymmetrical pinch and swell (extended than shortened) structures show tectonic transport direction towards SE. In this way we can consider that the two units have been thrusted over the Bükk paraautochtonious from N-NW, in accordance with Csontos (1999), between the forming of the two shistosities.

Starting from the consideration that the seamount structures are circular features it can be estimated the bidimensional bulk strain as well.

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Permian Granites in the Southern Veporicum Unit (Slovak Ore Mountains)

Lubomír HRASKO and Ján KRÁL

GeologicaL Survey, Mlynská dolina 1, 817 04 Bratislava, Slovakia

A Permian age of some types of granitoid bodies have been recognised according to an intensive research and dating in the Veporic (Kotov et al. 1996) and Gemeric tectonic domains (Kovách et al. 1986, Finger and Broska 1999, Poller et al. 2000).

Two principle granitoid types are present in the Southern Veporicum Unit:

1st: **A specialized two-mica peraluminous granite** and granite–porphyries of "Klenovec" type emerges northern of "Rimavica complex" of granitoids (Lower Carboniferous). Its composition is close to specialized granitoids of Ss type in the Gemericum. The age is defined according to EMPA monazite dating at **266±16 Ma** (Finger et al. 2003). The granite is enriched on Rb, B, U, Sn, W, Y and F. The Rb/Sr ratio is usually above value 3.5. The typical feature is the presence of Fe rich biotite, as well as turmalinization. Granite is forming stock–like body. Hraško et al. (1997) presumes its generation by dehydrating melting of biotite in the deep crustal horizons, simultaneously probably with contribution of heat from subcrustal source.

2nd: **Leucocratic muscovitic granites and aplites** are partly member of the Lower Carboniferous intrusions.

Younger aplites intrusions are present too. These aplites caused contact metamorphism of low metamorphosed sediments of the Upper Carboniferous – Slatvina formation (sensu Vozárová and Vozár 1982). Aplites are connected to shear zone, intruding both Upper Carboniferous metasediments to Lower Permian metaclastics and Lower Carboniferous granitoids.

There are two possible geological scenarios of its intrusive age: Middle Permian or Cretaceous one.

Some $^{40}Ar/^{39}Ar$ data from muscovites point out at the older age than Cretaceous and in the higher temperature steps of $^{40}Ar/^{39}Ar$ analyses, values are very close to Permian age. $^{40}Ar/^{39}Ar$ apparent ages spectra are disturbed and lower than Rb/Sr ages (apatite –muscovite two points "isochrones" – **260–280 Ma**).

The high isotopic characteristics of $^{87}Sr/^{86}Sr$ ratio of apatites (0.7118–0.7249) are very similar to the initial whole-rocks ratios of the granites of the Gemericum Unit.

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Contrasting Magnetic Fabrics in Sedimentary Rocks of the Accretionary Prisms of the Western Carpathians and the Eastern Rheno-Hercynian Zone

Frantisek HROUDA[1], Martin CHADIMA[2], Oldrich KREJCI[3], Jiri OTAVA[3] and Zdenek STRANIK[3]

[1] AGICO Ltd., Jecna 29a, 621 00 Brno, Czech Republic
[2] Institute of Geology, Rozvojova 135, Praha, Czech Republic
[3] Ceska geologicka sluzba, Leitnerova 22, Brno, Czech Republic

Sediments of accretionary prisms involved in processes of subduction at convergent margins may undergo variegated deformation history. The sediments deposited on the subducting plate may be off-scraped and frontally accreted, partially or entirely thrust beneath the overlying plate, or transferred from the subducting plate to the bottom of the overlying plate via underplating. If the sediment supply exceeds the capacity of the subduction zone, part of the sediment double back and flow up the subduction zone.

The rock deformation history can be investigated using methods of structural analysis among which the anisotropy of magnetic susceptibility (AMS) has the steadily growing importance. This is probably because the sediments of accretionary prisms mostly contain no strain markers and the AMS is one of the most sensitive indicators of strain in rocks. Using modern instruments, the AMS can be reliably measured in rocks exhibiting the degree of AMS as low as 1%.

The magnetic fabrics in sedimentary rocks of the Alpine thrust sheets of the Flysch and Klippen Belts of the West Carpathians range from essentially sedimentary to mostly deformational in origin. The former magnetic fabrics are characterized by virtual parallelism of the magnetic foliations to the bedding and by close relationship of magnetic lineations to the current directions, if observable. These magnetic fabrics are typical of the thrust sheets at both margins of the Flysch Belt. The sheets were probably detached from the wedge relatively early and underwent deformations as rigid bodies (translation and perhaps rotation) without being affected by detectable ductile deformation. The latter magnetic fabrics show significant deflections of the magnetic lineations from the current directions and important deflections of magnetic foliations from the bedding evolving into girdle pattern in magnetic foliation poles. These magnetic fabrics are typical of the central thrust sheets where the magnetic fabric was relatively strongly