

Time relation of the internal deformations and the large scale rotations of the Magura and Silesian rootless nappes during the Cenozoic as manifested in the paleomagnetic declinations and in the magnetic fabrics

EMŐ MÁRTON¹ and ANTEK K. TOKARSKI²

1 – Geological and Geophysical Institute of Hungary, Columbus utca 17-23, H-1145 Budapest, Hungary,
e-mail: paleo@mfgi.hu

2 – Institute of Geological Sciences, Polish Academy of Sciences, Research Centre in Cracow,
Senacka 1, 31-002 Kraków, Poland; e-mail: ndtokars@cyf-kr.edu.pl

The paleomagnetic and magnetic anisotropy results interpreted in this presentation in terms of tectonics were obtained on the fine grained members of the flysch. A common feature of all sampled sediments is the low susceptibility (in the range of 10^{-4} SI or lower), weak remanence and the presence of pyrite. AMS measurements point to a relatively strong and probably repeated deformation in the Magura nappe, and the remanence is of post-folding age. The AMS of the Silesian nappe indicate weaker deformation, the orientations of the AMS lineations reflect compression. The remanence is of pre-folding age in the western and central segments of the Silesian nappe while some localities in the eastern segment have pre-folding, others post-folding magnetization. The rotation suggested by the paleomagnetic declinations of pre and postfolding remanences are about 50° in the CCW sense. These observations suggest that:

1. Magura and Silesian nappe stacks rotated together with the PKB and the northern part of ALCAPA microplate.
2. There was no change in general orientation of the Western Carpathian front from the late Cretaceous till the end of the deposition of the Paleogene (early Miocene) flysch of the Magura and Silesian units.
3. As the magnetizations of prefolding and postfolding ages suggest similar CCW rotation, we can conclude that the compressional deformation resulting in AMS lineations and in folds took place before the general CCW rotation.

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