

EVOLUTION OF THE CARPATHIAN–PANNONIAN REGION

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Surrounded by the mountain ranges of the Alps, Carpathians and Dinarides, the Pannonian Basin is a peculiar and complex geological object, which has attracted interest of many geologists for a long time. Based on geophysical measurements, great number of boreholes and geological mappings, however, concepts on the structural evolution of the basin have been significantly modified in the last decades. It turned out that the basement of the basin consists of structural units (Fig. 1) recording strikingly heterogeneous development. They were situated relatively far from each other during the Paleozoic–Mesozoic times. The Tisza Unit was a part of the Hercynian Orogenic Belt in the Late Paleozoic, and a segment of the European margin of the Tethys in the Early Mesozoic. Dismembered from the European plate, it formed a microcontinental block from the Middle Jurassic. Blocks of the Pelso Unit belonged to the western and southern margins of the Tethys in the Triassic and were parts of the “Adriatic promontory” in the Late Mesozoic times. The two large composite blocks (“terrane”) attained their present-day juxtaposed setting only by the Early Neogene as a result of multi-stage, large displacements. Characteristic features of the recent Pannonian Basin – such as thin, attenuated crust, thermal anomaly and extremely high subsidence rate – developed in the final stage of the evolution during the Neogene. A brief review of the whole history of evolution in the Carpathian–Pannonian region will be presented, showing paleoreconstructions of the major evolutionary stages and events from the Late Paleozoic to the Neogene.

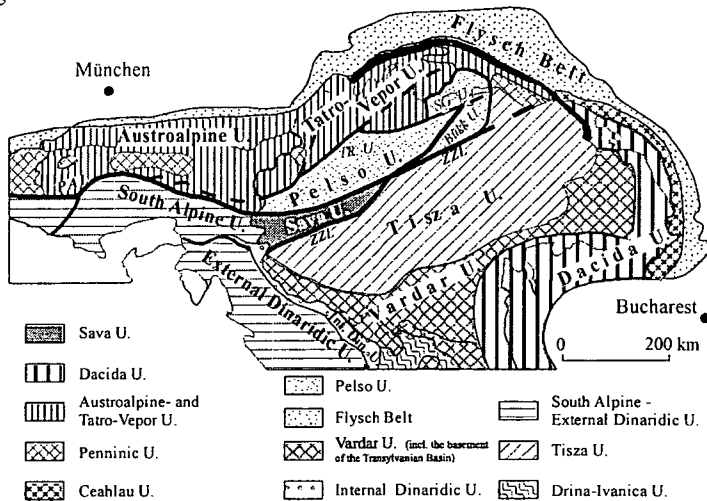


Fig. 1: Megatectonic units of the basement of the Pannonian Basin.