Alps. This process probably started during latest Oligocene, and accelerated during the Early Miocene. The main dextral slip was accommodated along the Periadriatic and Mid-Hungarian shear zones. This dextral separation was associated with the lateral extrusion of the Alcapa wedge. During and/or after this tectonic episode, within the Ottnangian the eastern (Pannonian-Carpathian) part of the Alcapa suffered 50° CCW, the southern Tisza-Dacia block 60°-80° CW rotations.

The Pannonian basin system was born by rifting of back-arc style during the late Early and Middle Miocene time. The tension was oriented initially eastward, toward the free interface of the Carpathian subduction front. From the middle Badenian onward the direction of tension were controlled both by the retreating subducted slab and by the gradual cessation of thrusting in the Western Carpathians. The norheastward drag (NE-SW tension) was gradually replaced by E-W to SE-NW tension. After the cessation of thrusting along the northeastern segment, the whole basin was slightly compressed and some parts were inversted. During the Late Miocene, E-W to NE-SW tension renewed. From the latest Miocene the compressional tectonism has propagated from the Southern Alps gradually into the Pannonian basin and resulted in Pliocene through Quaternary inversion and uplift.

Miocene tectonic evolution of the Periadiatic Zone and surrounding area in Slovenia: repeated dextral transpression

László Fodor[1], Bogomir Jelen[2], Emö Márton[3], Dragomir Skaberne[2], Joze Car[4], Marko Vrabec[4]

[1] Department of Applied and Environmental Geology, Eötvös University, Budapest, Hungary
[2] Geoloski Zavod Ljubljana, Slovenia
[3] Eötvös Loránd Geophysical Institute, Budapest, Hungary
[4] Department of Geology and Paleontology, University of Ljubljana, Slovenia

Dextral separation of the Periadriatic zone was postulated by several authors using divers criteria, but detailed kinematics and timing of movements were not yet investigated along its whole length. Stratigraphic and sedimentological study, structural and paleomagnetic measurements, mapping, borehole data analysis permitted to unravel the Miocene-Quaternary tectonic evolution of its Slovenian segment.

The brittle deformation was characterised by NNW-SSE (NW-SE to N-S) compression and perpendicular tension. The prominent style of deformation within the two main shear zones, the Periadriatic line-Sostanj fault system and the subparallel Sava-Celje fault zone is penetrative dextral strike-slip faulting associated with folding and verticalisation of beds. Such dextral transpression took place in the Early Miocene (Ottnangian), than during the Karpatian, and reoccurred several times during the Late Miocene and Pliocene and lasted up to the Quaternary. Between the two shear zones, the western Smrekovec area is characterised by sinistral transpression, while the eastern Savinja block was affected by dextral transtension.

The highly strained rocks within the dextral shear zones show mainly clockwise, sometimes counterclockwise rotations, variable in amount. The non-coaxial nature of faulting was detected by the comparison of paleomagnetic and stress data; NE-SW compression occurred in sites where important CW rotation took place. The area of sinistral transpression could be rotated slightly in clockwise direction, following domino-type rotation induced by the boundary dextral shear zones.

Relationship between tectonic zones of the Albanides, based on results of geophysical studies

Alfred Frasheri

Faculty of Geology and Mining, Polytechnic University of Tirana, Albania

The Albanides link the Dinarides and the Helenides, with which they form the southern branch of the Mediterranean Alpine Belt. Our analysis of the Albanides and their extension into the Adriatic Sea integrates surface geological observations, well data and results of seismological, refraction and reflection seismic, gravity, magnetic and geoelectric surveys.

Evolution of the Albanides began with the Triassic subsidence of their Hercynian substratum under a tensional regime, culminating in crustal separation and opening of the Subpelagonian and Hellenic-Dinarid oceanic basins. The Alpine orogenic history of the Albanides spans Late Jurassic to Quaternary times and can be subdivided into a Late Jurassic-Early Cretaceous tectonic, a Mid-Cretaceous to Eocene main-tectonic, an Oligocene-Miocene late tectonic and Plio-Pleistocene neo-tectonic cycle.

The Albanides consists of two major paleogeographical domains. The Internal Albanides formed part of the oceanic Subpelagonian Trough, whereas the External Albanides developed out of the western passive margin and continental shelf of the Adriatic plate. During the early-tectonic phase, the ophiolitic Mirdita nape was obducted onto the margin of the Adriatic plate. This was accompanied by the development of a flexural foreland basin.