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LATE MIOCENE PALAEOGEOGRAPHY OF SLOVENIA AND THE SOUTHERN ALPS: A PALINSPASTIC APPROACH

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Major Late Miocene and younger strike-slip and thrust faults (>5 km offset) were considered in restoring the palaeogeography of northern Slovenia and the eastern part of the Southern Alps.

Most of the fill of the transtensional Lavanttal Basin in Austria is Middle to Late Miocene (Ottnangian to Pannonian). The major slip along the **Lavanttal** (Labot) **Fault** occurred after the Pannonian, indicated by 20 km right-lateral offset of the Konjice Basin. Northward the Pliocene-Quaternary Lavanttal Fault does not reach the Fohnsdorf Basin, but disappears in a fan-like form within and to the NE of Saualpe (e.g. there is 8 km dextral displacement within the Saualpe).

Pre-Pliocene features of various ages are fitted on both sides of the Lavanttal Fault, excluding the possibility of earlier Tertiary displacement in excess of 5 km: dacite at St. Paul *vs* dacite at the NW corner of Pohorje, Granitztal Miocene basin *vs* the Miocene basin north of Pohorje, Granitztal sheared phyllite zone *vs* 'blade mountains' N of Pohorje, Permian and Triassic of Paški Kozjak *vs* Permian and Triassic in Boč.

The **Mölltal Fault** dextrally displaced the Gailtal-Karavanke Fault (Periadriatic Lineament) by about 15 km; it joins the longitudinal faults within the Karavanke Mts. Its precise age is to be determined, but a close relationship to the Sarmatian flower structures of the Karavanke Mts is suggested (POLINSKI & EISBACHER, 1992).

Major displacement along the **Sava Fault** is post-Sarmatian, suggested by the vertical position of an Oligocene-Lower Sarmatian sequence adjacent to the fault at Kamnik. A 40 km dextral

displacement is suggested by fitting the western (faulted) margin of the Oligocene Smrekovec Basin and the western margin of the Radovljica basin. Westward the Sava and Fella faults resolve in the South Alpine **Valsugana Thrust**. We suggest, that the main activity of the Valsugana thrust is post-Sarmatian; its coupling with the Sava/Fella fault indicates 30 km SE-ward overthrust of the Dolomites nappe.

The eastern part of the Sava Fault becomes part of **Sava Folds**. Dextral offset of 30 km is shown along the northern margin of the Folds (Celje Fault). The remaining 10 km was probably consumed by the dextral, transpressional, flower-like structure of the Sava Folds.

The **Idrija Fault** produces perceptible dextral offset even today. 3D geometry of the mercury deposit proves 1.5 km dextral displacement; the fit of Mesozoic strata in map view indicate an apparent 15 km dextral displacement due to tilted blocks. Sub-parallel lateral faults accommodate dextral slip of several kilometres. Total right-lateral displacement was in more than 10 km. These faults are coupled with the Belluno and Veneto thrusts in the Southern Alps. They are still active, producing the Friuli earthquakes. The **Veneto thrust** (the Veneto foreland basin) started to develop in Middle Miocene (MASSARI et al., 1986).

These data helped us to restore once contiguous, now dismembered stratigraphic and tectonic units in Slovenia (Oligocene basins, the Mesozoic Slovenian Trough, the zone of Triassic magmatites, etc.). In Italy, sound estimates are given for the age and magnitude of slip along major Miocene–Recent thrust zones.

The Southern Alps, Dinarides and western Pannonian region display widely distributed, large-scale deformation due to the NW displacement of the Adria plate: southeast verging thrusts are formed on the front while lateral faults and transpressional flowers develop in a >100 km wide zone along flanks.

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