

Sections

Travel from Vienna to the Carnic Alps (Kötschach-Mauthen)

(fig. 4)

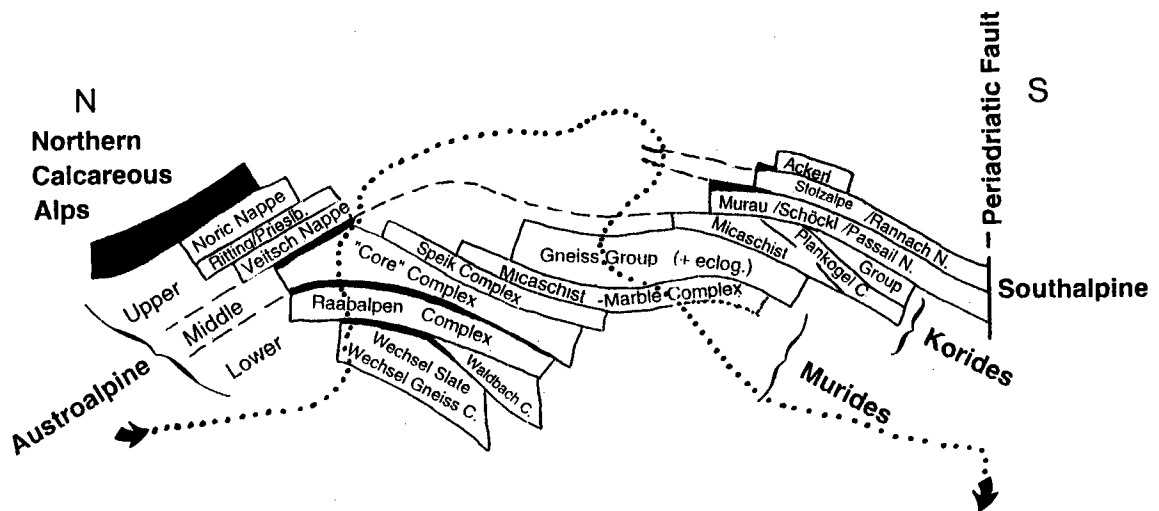


Fig. 4: Tectonic subdivisions of the Eastern part of the Alps after FRISCH et al. 1990

Route:

Vienna via Autobahn A 2 to Graz, capital of Styria (approx. 200 km); in the afternoon continuation via Autobahn to Klagenfurt, along the Wörthersee and further on through the Gail Valley to Kötschach-Mauthen (approx. 250 km).

Program:

Visit of the Upper Silurian Eggenfeld section near Gratkorn (guide F. Ebner, Leoben University). After lunch visit of the open-air museum at Stübing, Austria's finest collection of old farmhouses and the life on the countryside in older times.

Short route description:

In the introductory part of the excursion program it was outlined that the Vienna Basin has a locally more than 5000 m thick clastic Neogene sediment filling which hosts the majority of Austria's oil and gas occurrences. At present, however, only some 1.2 Mio t

oil and 1.2 Mio m³ gas/year are exploited in Austria. In the Vienna Basin the majority of the oil-bearing horizons is in a depth between 900 and 2000 m.

For the formation of the basin a non-uniform extension model is applied. All drillings have shown that subsidence started simultaneously at 17.5 Ma, i.e. approx. at the lower/middle Miocene boundary. This event corresponds to the first strike-slip phase of the model. Renewed subsidence is reflected in a second strike-slip phase while locally also a third subsidence event can be recognized which presumably took place at the boundary between the Pontian and Pliocene Stages.

After leaving the Vienna Basin some 60 km south of Vienna the autobahn crosses the northeastern end of the Alps. In the sketch below the route is schematically indicated (fig.4). Due to Alpine contraction and N-S shortening in this segment the Austroalpine tectonic block represents a thick pile of nappes which consists of different low to high-grade metamorphosed pre-Variscan and Variscan basement rocks and their Permian and Mesozoic cover. The highest position is occupied by the Northern Calcareous Alps; the Wechsel unit on the other side represents a deep tectonostratigraphic unit. With regard to the formation of this nappe stacking we refer to the introduction.