different size. Clasts of pelagic limestone are also present and contain *Calpionella alpina* Lorenz whose range is late Tithonian to earliest Valanginian. The matrix of breccias is radiolarian-rich lime mudstone. The age of the platform carbonates is determined on the basis of calcareous alga *Clypeina jurassica* Favre which is characteristic of late Kimmeridgian to earliest Berriasian. In the uppermost part, carbonate breccias alternate with calcarenites. Slump folds are common.

Extraclasts and calcareous debris undoubtedly prove a platform origin of resedimented limestone. The Biancone limestone of the Tolmin Trough, which occupied an intermediate position between the Dinaric Carbonate Platform and the Bled Trough, consists of micrite without resedimented limestones. Therefore we conclude that the Dinaric Carbonate Platform could not be the source of shallow-water carbonates in the Bled Trough. We believe that these breccias represent evidence of a carbonate platform which must have been located more internally but is now not preserved. This inferred platform may have developed on top of a nappe stack, which formed during the early emplacement of the internal Dinaric units onto the continental margin.

Genetically similar isolated carbonate platforms of more or less the same age are known from several localities in the Alpine - Dinaride - Carpathian mountain belt. The Oxfordian / Kimmeridgian to Berriasian Plassen Carbonate Platform of the Northern Calcareous Alps in Austria and the Kimmeridgian? – Tithonian Kurbnesh Carbonate Platform from the Mirdita Ophiolite Zone in Albania have so far been the best documented. Other examples include Upper Jurassic reef limestones unconformably overlying the Vardar ophiolites in Serbia and the South Apuseni ophiolites in Romania.

Time constraints and plate tectonic controls for lateral extrusion in the Eastern Alps

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Late-orogenic normal faulting subsequent to the juxtaposition of European and Adriatic continental margins has been documented along the entire length of the Alps and there is a broad consensus that much of the exhumation history of deep seated rocks is related to slip along these normal faults. The structure of the Eastern Alps is characterized by a system of fault zones that developed during late Oligocene to Miocene times. This fault system is related to orogen-parallel escape of Austroalpine units towards east, a process also termed lateral extrusion. Lateral extrusion encompasses tectonic escape (plane strain horizontal motion of tectonic wedges driven by forces applied to their boundaries) and extensional collapse (gravitational spreading away from a topographic high in an orogenic belt). Northward oblique indentation by a rigid crustal block (the so-called Adriatic indenter represented by the Southern Alps) caused thickening in front of the indenter and east- directed tectonic escape. This study comprises a review and discussion of the classical model of lateral extrusion in the Eastern Alps, including the evolution of the confining fault systems in space and time. Distinct phases of extrusion are discerned by thermochronological data from the area of the Eastern Alps east of the Tauern Window. During Mid Miocene times the extrusion of the Central Australpine orogenic lid was not only lateral in terms of parallel to the trend of the orogen, but was characterized by a displacement vector at high angle to the strike of the orogen. This resulted in the exhumation of the so called Schladming block to the east of the Tauern Window and detachment of the Gurktal Block along the Katschberg - Niedere Tauern Southern Fault System. The eastern termination of the Gurktal block is defined by the Pöls-Lavanttal Fault System. Simultaneously the Pohorje Pluton intruded an extensional bridge at the southern termination of the Pöls-Lavanttal Fault System. The Dinaric trench holds a prominent position with respect to the East Alpine extrusion corridor because it separates the wedge into two domains with distinctly different evolution. The domain to the west of the trench, i.e., to the west of the Pöls-Lavanttal fault system, was continuously under compression, the area to the east was continuously under extension. The early phase of the

Ψηφιακή Βιβλιοθήκη Θεόφραστος - Τμήμα Γεωλογίας. Α.Π.Θ.

Adriatic or Southalpine plate motion (30-15 Ma) resolved in SW-NE compressive stresses and NW-SE tension. This released initial sinistral shear along the Oligocene Periadriatic lineament, which is in concordance to kinematic studies, and sinistral shear along the Inntal fault. Simultaneously Oligocene plutons, that are exclusively found to the west of the Pöls-Lavanttal fault system, intruded along the Periadriatic fault. From Mid-Miocene times onwards stresses released by the Adriatic plate became N-S compressive leading to shear reversal along the Periadriatic fault system that now became dextral. Direction of compressive stresses during this period was fairly orthogonal to the Periadriatic fault. Thus we suggest that dextral displacement is to a lesser extend stress induced but much more controlled by eastward motion (extrusion) of Austroalpine units that experienced enhanced extension between 15 and 12 Ma. During this phase the Periadriatic fault may therefore be visualized as a southern boundary fault (i.e., stretching fault) of the extruding East Alpine wedge that accommodated extrusion. Interestingly, deposition of intramontaneous basins commenced at this time (*ca.* 15 Ma) suggesting onset of enhanced extrusion induced exhumation within eastern sectors of the central Austroalpine realm. By contrast, the domain to the east of the Adriatic – Pannonic plate boundary (east of the Pöls-Lavanttal system) remained under extension throughout time.

Geoecology of the Black Sea Coast of Georgia

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The combined geoecological works, carried out within the bounds of Black Sea coastline (Georgian Section) in 2008, gave the following results: contamination of sea water surface with oil products does not exceed the regulatory values; Hydrochemical parameters of sea and the rivers discharging into the sea were determined. High concentrations of magnesium and arsenic were observed in the bottom sediments of sea and Rioni River in Poti water area; the composition of copper, lead, zinc, magnesium and arsenic highly exceed the Dutch Norms (Fomin, Fomin, 2001) in some samples of toposoils taken along the agricultural terrain and motor road. As a result of radiation measurements carried out in the Black Sea coastline, the sites are allotted where radiation is higher than the accepted norms; the concentration of magnesium in the biosamples (tea and eucalyptus) highly exceeds the maximum permissible concentration.

East Taygetos Fault Zone (Peloponnesus, Southern Greece): Dormant fault zone bordering awake neotectonic structure

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The eastern flank of Taÿgetos Mountain (southern Peloponnesus) is bordered by a normal fault zone striking NNW-SSW from Megalopolis basin to Lakonikos gulf near Gythio town, with a total length of about 80 km. A segment of this fault zone forms an impressive morphotectonic feature that is known as Sparta fault and it is located between Sparta town and Potamia village. The total length of this segment is about 20 km. Though this fault zone seems to be active since Pliocene, its present seismicity appears to be very low and sparse.

In order to assess the geometrical parameters of this fault zone, a morpho-structural analysis was carried out using combinations of Landsat ETM+ panchromatic and multi-spectral images (bands 1, 3, 4, 5 & 7) filtered with edge enhancement 3x3, the geological

Ψηφιακή Βιβλιοθήκη Θεόφραστος - Τμήμα Γεωλογίας. Α.Π.Θ.