

of Palaeo-Tethys, the nature and geometry of the Hercynides and the Pan-African belt and the mechanism of blueschist uplift. I shall also suggest avenues along which a Greco-Turkish collaborative effort may make contributions to the solution of these problems.

KINEMATICS OF PELAGONIAN NAPPES IN THE KRANEA AREA, NORTH THESSALY, GREECE

A. Sfeikos*, Ch. Böhringer*, W. Frisch*, A. Kilias**, L. Ratschbacher*

*Institute of Geology, University of Tübingen, D-7400 Tübingen, F.R. Germany

**Dept. of Geology, Aristotle University, 54006 Thessaloniki, Greece

Pelagonian crystalline basement overthrusts Mesozoic marbles and Lower Tertiary flysch ascribed to the Gavrovo-Tripolis Zone, forming a series of tectonic windows in the Olympos-Kranéa region. Pelagonian Permomesozoic units, in turn, overthrust the basement. Serpentinite lenses ascertain the crustal dimension of the thrust planes. The tectonic windows (Rizomata, Olympos, Ossa, Kranéa Window) form metamorphic domes.

A mylonitic foliation and a consistently WSW-ENE trending stretching lineation are the predominant structural features in the basement and the Permoscythian siliciclastic rocks. They formed after Eocene crustal stacking. The foliation runs subparallel to the thrust planes and other low-angle shear zones within the Pelagonian Zone. Finite strain measured on feldspar clasts in orthogneisses ($R_f/\bar{\sigma}$ and density distribution methods) is in general of the flattening type. Shear criteria in the mylonites (S-C fabrics, shear bands, crystal tails around clasts, mica fish, and quartz- c -axis fabrics) indicate SW-directed flow. Only on the northeast flank of the Olympos dome a reversed sense of shear is observed.

A two-stage model is proposed for the Lower Tertiary orogeny: Thrusting occurred under high-pressure conditions in the first stage as indicated by relictic glaucophane-bearing assemblages. Subsequent decompression and rheological softening caused uprise of domes and crustal thinning due to gravity spreading during the collapse of the orogenic wedge. A penetrative mylonitic foliation formed under falling P-T conditions during this second stage. Flow was to the SW but in a late stage reversed to the opposite direction on the northeast flank of the Olympos dome.

The mylonitic fabric obliterated nearly all the older structures formed during the Eohelletic (Lower Cretaceous) and Variscan orogenies.