dine + kyanite + sillimanite + quartz (+biotite)" associations are stable. Around the invariant point of (QUARTZ) the trend curves downward and enters the field where "orthoclase + sillimanite + almandine + muscovite (+biotite)" paragenesis is stable, tha onset of high-grade metamorphism. The downward bending of this trend is reflected by the transformation of kyanite to andalusite in pegmatoids and schists.

THE RODIA FAULT: AN ACTIVE COMPLEX SHEAR ZONE (LARISSA BASIN, CENTRAL GREECE)

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The Rodia Fault defines the northern border of the Larissa Basin (East Thessaly) where the Palaeozoic substratum is in direct contact with mainly Quaternary deposits. Although the general tend is E-W to ESE-WNW, this shear zone is made of a composite and complex system of faults of different directions (from ENE-WSW to NW-SE) and partly of different ages (at least from Pliocene to Present).

In the actual stress field, the diverse segments of the fault complex moved differently and in an articulated way. The E-W wending ones are certainly the most active involving also the most recent deposits. West of Arghiropouli, the fault cuts through an alluvial fan of Late Holocene times while N. of Deleria the coeval floodplain sediments of the Pinios River are bounded by a fault scarp.

A detailed structural analysis carried out along the fault shows that the structure has been involved by two distinct tectonic phases. The first occurred during Pliocene (-Early Pleistocene?) with a direction of extension nearly NE-SW (forming or re-activating NW-SE in WNW ESE trending faults). The second phase, started during Middle Pleistocene and still active, shows N-S direction of extension.

A morphotectonic study permitted to recognize and map, in Late Pleistocene and Holocene deposits, several terraces and to measure also their height all along. They are particularly developed between Arghiropouli and the Pinios River and they generally trend E-W even though the main tectonic boundary with the substratum changes direction. According to their main characteristics (lenght, distribution, parallelism, shape, etc.), most of these morophological steps are certainly related to fault scarps and due to their extreme young age they have been probably originated by palaeoseismic slips.

Preliminary researches have clearly shown that Latest Holocene deposits (probably historical) are affected by a fault trace of at least 4 kilometers long and may be twice. The seismicity of the area is thus very recent.

The recognition in the field and through aereophotos of a large number of fault scarps, tectonic morphologies and other evidences of recent seismicity give indeed a huge amount of potential data to reconstruct the palaeoseismic avolution of the Rodia Fault and to calculate the time of recurrence and so estimate the seismic potential.

Also the Palaeozoic substratum shows straightforwards morphological features indicative of recent tectonic activity. The main striking feature is a system of triangular facets. They are developed at three different orders of magnitude probably representing three distinct periods of rapid uplift.

The kind of observations, applying pure geological and morphological methodologies, especially where no instrumantal seismic record exists, are necessary to evaluate the seismic risk of the area which is very close to the town of Larissa.

EXAMPLES OF ALPIDE DEFORMATION FROM EPIRUS LOCAL ANOMALIES OR NEED TO RE-EVALUATE THE AMOUNT OF SHORTENING IN THE WESTERN HELLENIDES?

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Epirus, in NW Greece, comprises a sequence of Tertiary thrusts and represents the destroyed eastern passive margin of the Apulian platform. A large number of thrusts with a west-ward vergence as well as east-vergent back-thrusts occur in the area. W-E trending strike-slip fault zones play an important role in the Alpine evolution of the area.

Two examples of alpine deformation, both located along the Souli strike-slip fault zone, are presented. Detailed mapping and tectonic analysis of the structures has been carried out in both areas together with an attempt for palinspastic reconstruction of the tectonic units involved. Geological cross-sections have been made considering modern perspectives in geometry and kinematics on thrust and nappe tectonics. In the light of new geological and structural data a minimum amount of shortening greater than 50% of the original width of the Ionian zone in Epirus is proposed.