STUDIES ON THE PERMIAN-JURASSIC CARBONATE SEQUENCES OF TALEA ORI, CRETE, GREECE

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The microfacies types, the diagenetic features and the porosity of the Permian-Jurassic carbonate sequence of Talea Ori, Crete in the area of Sisses-Aloides have been studied. This study verifies a sequence of diagenetic episodes with various evolution stages of the carbonatic platform.

We propose a depositional model of those sediments where the Stromatolitic dolomite formation is controlled by synsedimentary tectonics.

Tectonic episodes interrupt the development of stromatolite two times. In the first step, on top of the homocline ramp, ooids banks and balts formed under high energy intertidal conditions. In the second step, the stromatolite development was abruptly interrupted by debris flows originated by probable uplift of the surrounding intertidal areas. Once reinstalled the normal stable conditions, the growth begun again with shallow intertidal facies of stratified stromatolites in thick layers indicating continous subsidence of the basin. The lower-seated Plattenkalk formation corresponds with a sedimentation at a subtidal platform with strong transgressive features.

APPLICATION OF SCHREINEMAKER'S METHOD TO A METAMORPHIC AREA LOCATED AT THE NORTHERN FLANK OF THE MENDERES MASSIF - WESTERN TURKEY

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In the study area, the rock succession of the Menderes Massif is comprised of gneisses at the base and schists at the upper levels. The trend of progressive metamorphism, from garnet - mica schists at the top of the sequence to the sillimanite-garnet gneisses at the bottom was drawn on a simplified P/T diagram after the Schreinemakers' method. The metamorphic trend beginning by "almandine + chlorite + muscovite" paragenesis passes through the fields where "staurolited + almandine + quartz (+biotite)", "almandine + staurolite + kyanite + sillimanite (+biotite)" and "alman-

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.