event is developing in more declined P/T conditions from P = 8-9 Kb and T = 420°C to P = 3-4 Kb and T = 300°C, conbined with the gradually uplift of the orogeny.

During the end of Oligocene the D_2 compressional event that followed is connected with lower P/T conditions, which are indicated by the absence of sinkinematic crystallization.

During Miocene and later, extensional tectonic in brittle conditions, breaks the studied area, giving neotectonic horsts and grabens.

THE ORIGIN AND EMPLACEMENT OF THE VRONDOU GRANITE, SERRES, N.E. GREECE

C. Kolocotroni, J.E. Dixon

Dept. of Geology and Geophysics, University of Edinbourgh, West Mains Road, Edinburgh, EH9 3JW, U.K.

The Vrondou Granite, north of Serres, N.E. Greece, is an Oligocene I-type pluton consisting mainly of quartz monzonite, but with subsidiary acid and basic members. It was emplaced in the lower tectonic unit of the W. Rhodope Massif at its western boundary, and borders the Strimon and Serres basins to the west and south.

The southern and eastern contacts are strikingly different in character and suggest that the pluton was empleced in an actively forming space during south-west directed extension. The southern boundary is a wide mylonitic shear-zone, dipping moderately to steeply to the SSE, with a gently SW plunging lineation and top-to-SW sense of shear. It affects both country rock and granite, and, importantly, is cut by late melts which are also sheared, implying active deformation during emplacement. The shear zone shallows in dip northwards, but steepens southwards into the major normal fault bounding the Serres basin. Immediately to the south of this fault and the main Vrondou body, the roof of the Elaion granite is exposed as a flat lying mylonite zone overlain by a highly deformed, stretched cover of Rhodope marble, in places as disrupted boudins, recalling aspects of Cordilleran metamorphic core complexes.

The east contact, in contrast, is apparently devoid of shearing and has a prominent hornfelsed aureole. The granite there has a variable pre-full-crystallisation fabric.

Hornfelses and granite hornblende compositions are consistent with emplacement at a pressure of 2-3Kb.

The emplacement of the body has occurred during WSW directed extension probably between WSW-ENE bounding strike-slip faults. One of these faults later served as the bounding fault for the Serres Basin. The generation of the granite may in part be related to extensional melting of subduction modified lithosphere. Initial Sr87/86 ratios for gabbro, enclaves and granites are all closely grouped between 0.705229 and 0.707916, with enclaves close to host granite values. If two separate sources are involved, very efficient mixing is implied. Alternatively a basic parental magma from a modified lithospheric mantle source,

undergoing largely closed system fractionation, with only moderate crustal input appears to be consistent with isotopic, major and trace element and rare-earth data. The implications of the granite's origin, emplacement, and uplift on basin development in the area will be considered.

THE METAMORPHICS UNDERLYING THE PLATTENKALK CARBONATES IN THE TAYGETOS MTS (SOUTHERN PELOPONNESUS)

G. Kowalczyk, U. Dittmar

Geologisch-Paläontologisches Institut, Senckenberganlage 32,
D-6000 Frankfurt am Main, Germany

Detailed mapping in the central and southern Taygetos Mts. has confirmed the observation of metaclastics underlying the Plattenkalk carbonates, as published by PSONIS (1981). Below the Plattenkalk carbonates a 5-600 m thick sequence of alternating metaquartzites and phyllites can be detected (metavolcanics and carbonates are not known up till now). These metaclastics show up to 3, mostly homoaxial, fold generations and corresponding cleavages. Abundant occurrence of chloritoid (locally in association with pyrophyllite) indicates a metamorphic overprint within the lower temperature level of the greenschist facies. We propose for these metaclastics – after the village Kastania – the informal term «Kastania-Phyllites».

The contact to the hanging wall carbonates – either conformably or formed by a thrust plane – is characterized by an up to 20 m thick sequence of metaconglomerates.

The carbonates of the Plattenkalk series correspond lithologically and stratigraphically to the series within the Ionian Zone. The Upper Jurassic chert/carbonate alternation has yielded macrofossils with Lamellaptychus sp.

In the carbonates also up to 3 fold generations and corresponding cleavages are developed. Moreover, slaty layers contain chloritoid. The Plattenkalk carbonates and the underlying metaclastics have thus apparently suffered a common tectonic and metamorphic history.

According to present knowledge the Kastania-Phyllites are lithologically not identical with the metamorphic sequence stratigraphically underlying the Stromatolithic Dolomites of the Talea-Ori (resp. Plattenkalk) series of Crete. This series is considered to be in the same tectonic position as the Plattenkalk series of the Peloponnese.