

PERTEMUAN PERSATUAN (MEETINGS OF THE SOCIETY)

CERAMAH TEKNIKAL (TECHNICAL TALKS)

Neil Harbury: Evolution of a passive margin in Western Tethys

Abstrak (Abstract)

An investigation of a stratigraphical, sedimentological and structural study three Dodecanese islands (Rhodes, Symi and Karpathos) in the SE Aegean has been made. An account of the Mesozoic and lower Tertiary rocks of this region is given with consideration of depositional environments, age, lateral variations and palinspastic restoration. The geology of the region is interpreted in terms of continental margin evolution.

An Apollona Supergroup comprising both autochthonous and allochthonous units has been defined on the islands of Rhodes and Symi to incorporate four newly established Groups. Both the Embonas Group on Rhodes and the Kokkimidi Group on Symi consist almost entirely of carbonate sediments. The overlying Flysch Groups include a variety of redeposited and fine-grained sediments of uppermost Mesozoic and lower Tertiary age. Prior to thrusting the Apollona Supergroup showed a lateral transition from a carbonate platform in the W, through a carbonate slope to a pelagic basin in the E, all founded on Continental basement.

The evidence presented suggests that the SE Aegean was part of the eastern passive continental margin of Apulia. Mesozoic rifting, volcanism and crustal thinning record the extensional phase of the margin. Differential subsidence of the shallow-water carbonate regions gave rise to a seamount and basin topography that closely controlled the facies developments. Subsidence episodes can be recognised during the Late Triassic, late Lias and Aptian-Albian times when parts of the margin collapsed into deeper water.

Compressional events commenced in the latest Cretaceous in the basin and in lower Tertiary-middle Oligocene on the slope and platform. A migrating fore deep and peripheral bulge advancing ahead of the allochthon largely controlled the timing, character and evolution of the flysch sequences. Imbrication of the units and the formation of a tectonic melange accompanied nappe emplacement to the west.

Laporan (Report)

The above talk was given by Dr. Neil Harbury, Dept. of Geology, Birkbeck College, University of London, on the 9th of Sept. 1986 (Tuesday) at the Geology Lecture Hall, Geology Dept., University of Malaya.

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