

8-6. - SEISMIC ACTIVITY IN THE ALPINE-MEDITERRANEAN REGION AND THE TECTONIC MODELS PROPOSED TO INTERPRETE THIS ACTIVITY

by B. C. PAPAZACHOS - National Observatory of Athens
Seismological Institute - Athens - Greece.

The most reliable data concerning the distribution of the foci of the earthquakes which occurred between 1901 and 1971 in the Alpine-Mediterranean area have been used to determine the main seismic zones in this area. The data have been plotted on the maps in such a way as to make allowance for the magnitude and year of occurrence. The determined seismic zones define the boundaries of several aseismic blocks.

Whether these aseismic blocks are active lithospheric plates which make simple movements relatively to the big lithospheric plates or fragments which do not move in a simple way or they are passive is an unsolved problem.

Certain seismotectonic properties of the Aegean and Calabrian arcs have been also investigated. While the Hellenic arc moves in an almost north-south direction and with the same rate as the Eurasian lithospheric plate relatively to the African plate, the Calabrian arc moves in an almost west-east direction.

The distribution of the earthquake foci, the attenuation of the body waves and several other seismic evidence strongly suggest that the tectonic models proposed to interpret the seismotectonics of this area must be reconsidered.

BERCKHEMER - Frankfurt Univ.

- 1 - Where has the cross section through the Island arc been drawn ?
- 2 - What are your arguments that the north Algerian trough does not represent a rifling zone ?

Answer :

- 1 - It is not an individual section but a plot of all earthquakes as a function of the distance from the Island arc thus eliminating the curvature of the arc.
- 2 - The shear waves which cross it are not affected as they are in the southern and central Algerian. Such motion of the Algerian lithosphere does not explain the seismicity and the focal mechanism.