

CONSTRAINTS ON THE PRE-CENOZOIC TECTONIC EVOLUTION OF THE MALAY PENINSULA

K.R. CHAKRABORTY

Dept. of Geology, University of Malaya

Pre-Cenozoic tectonic evolution of the Malay Peninsula remains poorly understood. Petrological and other geological observations cannot be properly accommodated within the framework of published subduction-collision related models.

Space-time-composition relationships of the Permian to Triassic granitoid batholiths of the eastern block (i.e. central and eastern belts of the three-fold division), as evident from the currently available data, are not consistent with eastward (present day) subduction. The difficulties that are encountered can be partly resolved by assuming a westward migration of the trench, but it would create additional problems with respect to both magmatic pattern and spatial disposition of the stratigraphic units.

The calc-alkaline to alkali-calcic nature of the batholiths, the presence of bimodal association, the occurrence of high potassic basic plutonic suite, and many other petrochemical discriminants strongly suggest that the eastern block batholiths have evolved in an intraplate continental extensional setting. The progressive closure of an ocean basin during Permian-Triassic thus seems unlikely. The question of whether the extensional setting was related to failed continental rift, to rhomb graben within a transcurrent zone, or to continental back-arc basin, remains open. The latter, however, would require a westward subduction with a trench on the east of the eastern block, which is not incompatible with the space-time-composition relationship of the eastern block batholiths.