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Assembly of allochthonous terranes in Asia

I. METCALFE[1]
[1]*Asia Centre, University of New England, Armidale, NSW 2351, Australia*

East and Southeast Asia comprises a complex assembly of allochthonous continental lithospheric crustal fragments (terranes) together with volcanic arcs, and other terranes of oceanic and accretionary complex origins located at the zone of convergence between the Eurasian, Indo-Australian and Pacific Plates. The former wide separation of Asian terranes is indicated by contrasting faunas and floras developed on adjacent terranes due to their prior geographic separation, different palaeoclimates, and biogeographic isolation. The boundaries between Asian terranes are marked by major geological discontinuities (suture zones) that represent former ocean basins that once separated them. In some cases, the ocean basins have been completely destroyed, and terrane boundaries are marked by major fault zones. In other cases, remnants of the ocean basins and of subduction/accretion complexes remain and provide valuable information on the tectonic history of the terranes, the oceans that once separated them, and timings of amalgamation and accretion. The various allochthonous crustal fragments of East Asia have been brought into close juxtaposition by geological convergent plate tectonic processes. The Gondwana-derived East Asia crustal fragments successively rifted and separated from the margin of eastern Gondwana as three elongate continental slivers in the Devonian, Early Permian and Late Triassic-Late Jurassic. As these three continental slivers separated from Gondwana, three successive ocean basins, the Palaeo-Tethys,. Meso-Tethys and Ceno-Tethys, opened between these and Gondwana. Asian terranes progressively sutured to one another during the Palaeozoic to Cenozoic. South China and Indochina probably amalgamated in the Early Carboniferous but alternative scenarios with collision in the Permo-Triassic have been suggested. The Tarim terrane accreted to Eurasia in the Early Permian. The Sibumasu and Qiangtang terranes collided and sutured with Simao/Indochiona/East Malaya in the Early-Middle Triassic and the West Sumatra terrane was transported westwards to a position outboard of Sibumasu during this collisional process. The Permo-Triassic also saw the progressive collision between South and North China culminating in the late Triassic. North China did not finally weld to Asia until the Late Jurassic. The Lhasa and West Burma terranes accreted to Eurasia in the Late Jurassic-Early Cretaceous and proto East and Southeast Asia had formed. Palaeogeographic reconstructions will be presented illustrating the evolution and assembly of Asian terranes during the Phanerozoic.