

(Not Presented)

Paper 15

**A preliminary research into the plate collision, rotation and divergence pattern of China
and its periphery since Mesozoic**

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Based on 42,000 data from 6000 points, a set of computer generated maps have been compiled, showing the distribution of sedimentary types, igneous rocks and thickness and association of strata over China and its periphery at 20 Ma interval.

Nov-Dec 1992

According to this set of maps, some preliminary conclusion can be drawn concerning the plate tectonics around China since Mesozoic under the guidance of mobilism.

1. The distribution of climate controlled formation - coal and evaporites in China was evidently moving northwards from Mesozoic to Cenozoic, suggesting a clockwise rotation of China continent, if the climate zone did not change over the period. The total rotation angle is estimated to be 35° .

2. According to the occurring time of various igneous rocks and rock types, it can be inferred that welding of the south plate to the north plate of China took place in late Tertiary, that the final combination of China continent with Eurasia was in Jurassic, that the India plate, which was separated from Gondawana in

Cretaceous, collided against the south-west part of China continent at late Tertiary and the collision was developing from west to east. This major collision is responsible for the rise of Himalaya Fold Belt and the compressional deformation of the west part of China. The NW-wards subduction of the Pacific plate started at early Jurassic, which led first to the compression and following by extensional rift subsidence in east part of China and the opening of Japan Sea after Eocene.

In general, China continent has been experiencing complex tectonic evolution since Mesozoic, such as collision, rotation and divergence, forming multiple structural deformation and rifting, which form the tectonic framework of the China Basins.
