

Continental Accretion of Asia Since Late Precambrian

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Asia was consisted of three microcontinents in early Paleozoic. Siberia and North China were separated by the Altaic Ocean. North China was bounded on south by a magmatic arc which extended from West Kunlun to Qinling. South China was separated from North China by the Qinling Ocean and bounded on the south by a magmatic arc which extended from western Sichuan to Vietnam and from there to Guangdong and Fujian.

The Paleozoic orogenies eliminated backarc basins on those continents and caused the collision of Siberia and North China. The ocean crust under the Junggar Basin and the ophiolites in South Mongolia melanges were the relic of the Altaid Ocean between the continents.

The Asian continent, now a part of Eurasia, grew in size after the collision of North and South China in early Mesozoic along the Qinling/Dabie/Jiaodong trend and the collision of Eurasia and Tibet in late Mesozoic along the Bagong-Nujiang trend. The Lhasa Block was a Mesozoic archipelago of basins and submarine banks or islands. The archipelago was separated from India during late Mesozoic. Back-arc basin collapses caused arc-arc collisions. The Zhangbo ophiolites were the remnants of ocean crust under the largest of those backarc basins. Separating Tibet and India was the Cretaceous and early Tertiary Neotethys. India became a part of Asia in mid-Tertiary when Neotethys was subducted down a north-dipping Benioff Zone south of a magmatic arc, which has since been raised to form the Himalayas.