

CLOSING OF THE PALEOTETHYS AND FORMATION OF THE CENTRAL OROGENIC BELT, CHINA

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The Central Orogenic Belt of China (COBC), including the Pamirs, Kunlun, Qilian, Qinling and Dabie orogenic belt, contains several suture zones of the Paleotethys between the Laurasia and Gondwana. Many ancient oceanic highs (such as micro-continental blocks, island arcs, oceanic islands and ridges) have been distinguished through the analyses of their sedimentary sequences, rock assemblages, geochemical characteristics and structural deformation features. The COBC showed archipelago collage in the paleogeographic characteristics. The Paleozoic orogeny in the North Kunlun, Qilian and North Qinling resulted from the back-arc basin collapse and the collisions of island arc and continental blocks to the Tarim Block and North China Block. The fore-arc accretion from north to south is revealed with ages of magmatism, metamorphism and sedimentation in the accretionary wedge. Besides, collisions between oceanic highs in the wedge happened in the Paleozoic and Early Mesozoic. The huge accretionary zone is the most important tectonic unit of the Central Orogenic Belt of China. The new finding of the Late Paleozoic fossils and 220 Ma metamorphic age in the melange in the South Qinling indicates that Triassic suture zone extends from the South Kunlun (Kangxiwa-Xidatan-Anmaqin suture zone) to the South Qinling and Dabie along the northern margin of the Yanzé Block. The formation of COBC is a result of the collisions of the Qiangtang and Yanzé blocks to the Tarim and North China blocks in the Early Mesozoic. The oceanic highs collided with continental margins and each other during the Paleozoic and Early Mesozoic, which shows a so-called polycyclic orogenic process.