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How many are there collisions between the North China and Yangtze blocks which formed Dabie orogenic belt? When did the conclusions happen? These have been the focus of geologists in the world. Based on the study on the Dabie orogenic belt itself, most workers think that it is in India stage that Yangtze Block began subduction and collision under North China Block (Oakley et al., 1992; Maruyama et al., 1994; Hacker et al., 1996; Zhang et al., 1993a; Li et al., 1996; Wang et al., 1996), but some workers have different opinions that there were twice or three subductions and collisions respectively, and it was in late Precambrian (Ernet et al., 1991), Silurian-Devonian (Yang et al., 2000) and Triassic. However, it is impossible that so giant subduction and collision did not imprint on the both blocks themselves, and the both hold relative complete sedimentary records from Late Precambrian to Mesozoic. So, the sedimentary records might afford the constraints on the Phanerozoic tectonic evolution of the Dabie orogenic belt.

According to the study on the north margin of Lower Yangtze Block and the south margin of North China Block, there were great differences in paleogeography between the both blocks in Late Ordovician-Lower-Middle Silurian and Permian – Early Triassic, and there were three similar paleogeography stages which are Late Precambrian-Middle Ordovician, Late Silurian- Devonian and Middle-Late Triassic –Cenozoic.

From Late Ordovician to Early-Middle Silurian, Lower Yangtze developed turbidite

and contour sediments of up to thousand meters which belonged to continental slope and basin deposit, but North China Block belonged to carbonate epicontinental deposit in Middle Ordovician and subsequently became to continental environment; In Permian and Early Triassic, the north margin of Lower Yangtze block began stretching and developed deep-sea deposits. Qixia Formation developed carbonate debris and contour deposits which belonged to continental slope facies and basin silicon rocks of deposit, and the slope inclined toward north Qinling-Dabie orogenic belt. In the late stage of Early Permian, Gufeng Formation distributed in the north margin of the Yangtze Block developed radiolarian and spicule silicon rocks belonging to deep-water deposits. In Early Triassic, Lower Yangtze developed carbonate platform, shallow shelf, continental slope and deep-water basin from south toward north, and they belonged to a part of palaeo Tethys; The North China Block, in Permian and Triassic, developed terrigenous coal-bearing deposits.

Late Precambrian - Middle Ordovician, Lower Yangtze and North China blocks similarly belonged to shallow carbonate deposits, but from Late Silurian to Devonian, Lower Yangtze uplifted and caused absence of mostly strata except terrigenous detrital deposits of Late Devonian Wutong Formation, and North China had an absence of Upper Ordovician to Devonian. The Beihuaiyang region between Dabie orogenic belt and North China had Upper Devonian and Carboniferous continental and marine terrigenous and carbonate rocks. From Middle Triassic to Cenozoic, the both blocks extensively developed continental detrital rocks.

The fossils such as coral, ostracods, conodont, and cyanophytes were discovered in the carbonate gravels of Early Carboniferous Yangshan Formation in Beihuaiyang region, *Heliolites cf. Anhuiensis* of which was once discovered in Lower Silurian in Yangtze Block such as Gaojiabian Formation in Hanshan County of Anhui Province and Luoruoping Formation of Threegorge, which implicates the carbonate gravels came from Yangtze Block. There were some bryozoan fossil fragments discovered in carbonate rocks of Carboniferous Huyoufang Formation, and the fossils common appear in Carboniferous strata of Yangtze Block, which indicates that there was a lack of a disjunctive ocean between Yangtze Block and Beihuaiyang region in Carboniferous. The Protomonocarina fossils found in Carboniferous Huyoufang Formation belongs to a member of fossil groups of the lower part of Carboniferous Benxi Formation in North China. So, in Carboniferous, the both Yangtze and North China was neighbor. .

If turbidite rocks are regarded as the symbol of subduction stage and the molasses formations collision stage, the Dabie orogenic belt has underwent twice subductions and collisions since the Phanerozoic. The twice subductions were in Caledonian stage (Late Ordovician to Early Silurian) and Indian Stage (Early Triassic) respectively, and the twice collisions were in Late Silurian and Middle Triassic. The twice stretches

formed the basin with fringing sea characteristics in the Dabie region, and the subduction belonged to a continental-continental subduction. The time of twice collisions was coincident with the isotopes ages of UHP metamorphic rocks eclogites from the Dabie orogenic belt.