

TRANSFER MECHANISM OF PERI-PROTO-GONDWANA BASEMENT TERRANES DURING THE EARLY PALEOZOIC

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Paleomagnetic data and integrated biofacies analysis of Cadomian ("late Panafrican") consolidated "western" and "northern" peri-Proto-Gondwana microplates suggest a complex evolution and pathway for the transfer movements and a diachronous timing of separation of basement terranes from post-Rodinian "Proto-Gondwana" (pre-Variscan Gondwana included Indosinian and Chinese macro- and microplates along its northeastern margin). Dispersion of the peri-Proto-Gondwana microplates was initiated by numerous aulacogen rifts which became incised into the macroplates during the latest Vendian and earliest Cambrian. These aulacogens were quickly filled by immature conglomeratic and rare shallow marine sediments and basaltic flows. During the course of the Cambrian new aulacogens originated, while some of the earlier rifts (Red Sea type) disjuncted microplates from the Proto-Gondwanan megaplate and developed initial transform fault networks. Probably depending on their respective relative palinspastic alignments to the Earth axis most of the separated terranes obtained slightly rotating or strong transtensional pathways, especially those microplates which later amalgamated into the Variscan and post-Pangaeian Europe and North America. This scenario would better explain a possible "Antarctica" derivation (Cambro-Ordovician carbonate facies in the Transantarctic Mountains) of the Argentine Precordillera Terrane than the postulated Laurentian origin and an "Amazonia" (Colombia-Venezuela) derivation of most of the Western and Central European pre-Variscan terranes. Stepwise "insertion" and amalgamation of peri-Proto-Gondwanan terranes began during the Middle Ordovician (Taconian-Ocloyic-Famatina Events) and was completed during the Late Carboniferous closure of the "Rheic Sea" along the "Central German Crystalline Rise".