

CORRELATION OF NEOPROTEROZOIC TERRANES BETWEEN THE RIBEIRA BELT, SE BRAZIL AND ITS AFRICAN COUNTERPART: COMPARATIVE TECTONIC EVOLUTION AND OPEN QUESTIONS

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Four main classes of tectonic entities may be considered for the Ribeira Belt and southwest African counterparts: 1) cratonic fragments older than 1.8 Ga and their passive margin successions, 2) reworked basement terranes with Mesoproterozoic and/or Neoproterozoic deformed cover, 3) magmatic arc associations, 4) terranes with Palaeoproterozoic basement and deformed Neoproterozoic back-arc successions. Based on comparative investigation a tectonic model of polyphase amalgamation is proposed, with c. 790 and 630 Ma major episodes of generation of intra-oceanic and cordilleran magmatic arcs along both sides of the Adamastor Ocean. Subsequent diachronous collision of the arc terranes and small plates followed at c. 630, 600, 580 and 530 Ma. The tectonic complexity reflects an accretionary evolution from Cryogenian to Cambrian times. The São FranciscoCongo and Angola palaeo-continents did probably not behave as one consolidated block, but rather may have accommodated considerable convergence during the BrasilianoPan-African episodes. The final docking of Cabo Frio and Kalahari in the Cambrian was coeval with the arrival of Amazonia on the opposite side, resulting in lateral reactivation and displacement between the previously amalgamated pieces. The transition between the Cambrian and the Ordovician is marked by the extensional collapse of the metamorphic core zones of the orogens.