

RODINIA ASSEMBLY AND DISPERSAL: PALEOMAGNETIC EVIDENCE

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The assembly of Rodinia involved a long history of Mesoproterozoic convergence along two long orogenic belts. One runs along the eastern margin of Laurentia and possibly further southwest, and the second from Central Australia through the Fraser and Albany belts of southwestern Australia into the eastern Ghats of India, and possibly further west along some of the Mesoproterozoic belts of Africa. The continuation of both belts in Rodinia is uncertain, and depends on where the Amazonia, Congo-Sao Francisco, Kalahari, Rio Plata and West African cratons were in the late Mesoproterozoic. Paleomagnetic data show that the Australia-Laurentia connection in Rodinia was established by 1100 Ma, and a connection of northern and western Australia with Laurentia could have been established much earlier. The position of India in the late Mesoproterozoic is less certain, and there are very few paleomagnetic constraints on the Congo, Rio Plata and Amazonia cratons in the late Mesoproterozoic. Paleomagnetic information suggests that the Kalahari craton was separate from the Australia- Laurentia core of Rodinia ca. 1105 Ma, but could have amalgamated with it by ca.1030-1000 Ma. Widespread continental extension between ca. 850 and 775 Ma preceded the breakup of the Australia-Laurentia part of Rodinia between ca. 775 and 755 Ma.