



## Long hard road from Nuna to Rodinia

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The popular concept of supercontinental cycles suggests the existence of at least two Precambrian supercontinents, referred to as Nuna (or Columbia) and Rodinia. The times of their assembly and breakup are debated, as are their constituents and configurations. The recent compilation of paleomagnetic data supported by the geological evidence suggests that Nuna have broken up at ca. 1450–1380 Ma by separation of the Australia-Mawson continent from western Laurentia. The recent robust paleomagnetic pole from 1210 Ma mafic dykes in Western Australia provides an additional evidence of wide separation of these continents by the time of the dykes' emplacement. On the other hand, there is the evidence that Laurentia and Baltica have been rigidly connected with present Scandinavia facing East Greenland until after 1270 Ma, when they broke up. Baltica then moved c.1000 km south and rotated clockwise 95° with respect to Laurentia by 1000 Ma and two continents recombined again with the Scandinavian margin of Baltica facing Scottish terranes of the Laurentian affinity, Rockall Bank and southeast Greenland. However, the published model of the simple fan-like opening of the Asgard Sea Between Laurentia and Baltica is somewhat hampered by the recent 1120 Ma paleomagnetic pole from Finland, which suggests a more complicated drift of Baltica with respect to Laurentia. There are also reasons to suggest that a large part of Nuna, which included Laurentia and Siberia has been incorporated into Rodinia after 1000 Ma. The c. 1300-1000 Ma Apparent Polar Wander Paths for Laurentia, Baltica, Australia, Amazonia and India are significantly different in their lengths and shapes suggesting relative movements of these continents with respect to each other. There is still not enough reliable published late Mesoproterozoic – early Neoproterozoic paleomagnetic data to make the unequivocal paleogeographic reconstructions for this time interval. However, it is unlikely that a large supercontinent did exist in the late Mesoproterozoic. This may have been a transitional time between the final breakup of Nuna and the assembly of Rodinia.