

RECONSTRUCTING RODINIA: THE SWEAT' HYPOTHESIS REVISITED

Dalziel, Ian W.D. Institute for Geophysics, University of Texas at Austin, 4412 Spicewood Springs Road, Austin, Texas 78759, USA

Present debate concerning the late Mesoproterozoic assembly of the hypothetical supercontinent that has come to be referred to as Rodinia, began with the suggestion that Laurentia must have broken out of a late Precambrian supercontinent. The most notable line of evidence in support of the South-West United States - East Antarctic (SWEAT) fit was that the 1.8-1.6 Ma Yavapai and Mazatzal orogens of Arizona and New Mexico, and 1.2-1.0 Llano orogen of Texas might have counterparts in East Antarctica. Eight years and much debate later, it seems likely that the Llano orogen does indeed have an Antarctic equivalent. The geological story is more complex than initially conceived, but more revealing. The Llano orogen may have a continuation along the margin of the Weddell Sea in the Maudheim belt. This now appears, however, to have been a continuation of a Namaqua-Llano orogen resulting from collision between the Kalahari craton of southern Africa and the present southern margin of Laurentia between 1150 and 1120 Ma. Both Kalahari and the Coats Land block were caught up in the collisional zone that united East and West Gondwanaland at the close of the Neoproterozoic, possibly into a Pannotia supercontinent including Laurentia. Thus geologic connections between the southwestern United States and East Antarctica still constitute one of the strongest lines of evidence linking Laurentia and the present southern continents in a supercontinent assembled at the close of the Mesoproterozoic.