

The End of the Avalon Zone in Southern New Brunswick

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Major ductile dextral-slip on northeast-trending marginal zones accompanied emplacement of the Late Precambrian Kingston dyke complex. Geological and chemical data suggest this motion was a continuation of oblique plate motions after closure. Emplacement of the dyke complex shows motions were at least temporarily transtensional, while presence of contemporary, northwest-trending, sinistral faults suggests a transpressional component. Old zones of weakness were repeatedly sites for

minor normal and transverse brittle offset during lower Paleozoic time, resulting in a complex set of sedimentary outliers. These zones were also used during emplacement of the Devonian Saint George batholith, and in part by Carboniferous thrust movements along the Bay of Fundy. Confusion about the age of faulting has resulted in complete misinterpretation of the tectonics of the Avalon zone, which acted essentially as an internal crystalline massif during the Paleozoic.