

and Avalonia. Laurentia-Avalonia convergence was accommodated by a shallowly-dipping (flat slab), which produced retro-arc, west-vergent structures.

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### The tectonic architecture of the vestiges of Iapetus Ocean in the Newfoundland Appalachians

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Laurentia's Humber margin expanded eastwards (present coordinates) during the Early to Middle Palaeozoic (ca. 500–390 Ma) due to a protracted history of accretion of suprasubduction zone oceanic terranes and ribbon microcontinents. Normal oceanic lithosphere was rarely, if ever accreted and generally lost during subduction of the main tract of the Iapetus Ocean. The accretion of the Dashwoods, Ganderia and Avalonia microcontinents induced the Taconic (ca. 500–450 Ma), Salinic (ca. 445–425 Ma) and Acadian (ca. 421–400 Ma) orogenies respectively, with the locus of collision progressively shifting eastwards. Both the peri-Laurentian Dashwoods and peri-Gondwanan Ganderia microcontinents independently interacted with supra-subduction zone oceanic crust during the Late Cambrian to Early Ordovician on opposite sides of the Iapetus Ocean, prior to their accretion to Laurentia. The accretion of the Dashwoods microcontinent with its arc suprastructure and associated oceanic arc terranes during the Early to Middle Ordovician caused the Taconic orogeny, leading to significant tectonic thickening of the colliding arc terranes. The Taconic orogeny terminated with accretion of all outboard peri-Laurentian suprasubduction zone rocks during the late Ordovician, mainly due to arrival of the leading edge of Ganderia (Popelogan-Victoria arc). Closure of the wide oceanic Tetagouche-Exploits back-arc basin that separated this ensialic arc from Ganderia's trailing edge, culminated in accretion of the latter with Laurentia during the mid Silurian (ca. 433–425 Ma), causing the main phase of the Salinic orogeny. Coincident with Ganderia's accretion to Laurentia, Avalonia started to converge with Ganderia by closing the narrow oceanic seaway that separated them. This convergence produced the Silurian coastal volcanic arc, which is only preserved in the Hermitage flexure of southern Newfoundland, but much better in maritime Canada. Inversion of its accompanying backarc or intraarc basins (Mascarene-La Poile) at ca. 421 Ma signals the start of the Acadian collision between composite Laurentia