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Accretion of peri-Gondwanan elements in the UK Gondwanan sector of Iapetus

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The Appalachian-Caledonian Orogen preserves a complex record of piecemeal trans-oceanic terrane transfer and accretion during the Lower Palaeozoic collision between West Gondwana and Laurentia, whilst the intervening Iapetus oceanic tracts were very largely destroyed. The now preserved terranes include arc fragments of Laurentian and Gondwanan affinity (the Notre Dame and Exploits terranes respectively), oceanic fragments incorporated in to the Gondwanan continental margin (West Avalonia s.s.), and remnants of the Gondwanan continental slope apron and adjacent platform (both Ganderia and Megumia).

In the UK segment of the orogen, a new tectono-stratigraphical synthesis for the island of Anglesey (and adjacent NW Wales), reveals a comprehensive record of the Appalachian Wilson Cycle recorded on this part of the peri-Gondwanan margin. We identify elements of Late Neoproterozoic accretion forming the pre-Appalachian basement; Cambrian extension, deposition and continental margin growth; Early Ordovician accretion and renewed extension; and finally, terminal collision and continental foreland basin development.