

The Grampian Orogeny, Midland Valley Terrane, Northern Ireland

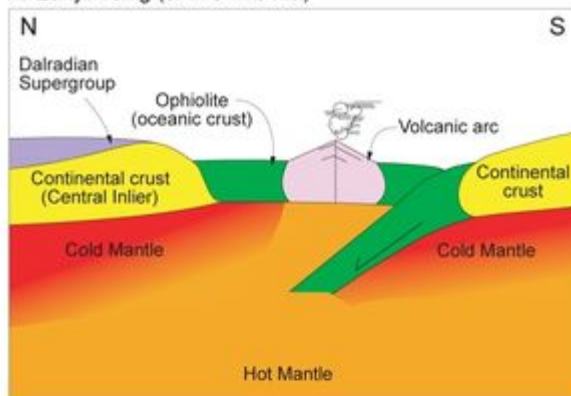
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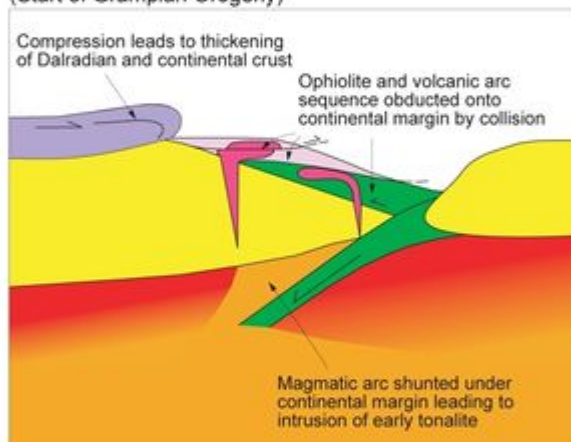
Mitchell, W I (ed.). 2004. [The geology of Northern Ireland-our natural foundation.](#) Geological Survey of Northern Ireland, Belfast.

M R Cooper and W I Mitchell

A: Early Arenig (c. 475-470 Ma)



B: Middle to late Arenig (c. 470-465 Ma). (Start of Grampian Orogeny)



C: Late Arenig to early Llanvirn (c. 465 Ma). (End of Grampian Orogeny)

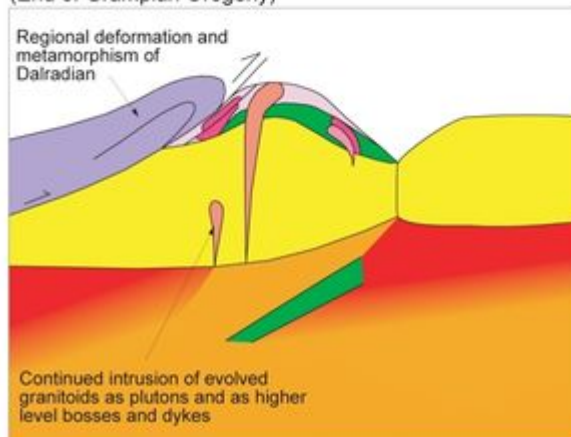


Plate tectonic amalgamation of the Tyrone

Igneous Complex on the Laurentian continental margin during the Grampian Orogeny. (P947796)

The presence of Arenig-Llanvirn graptolites in the Tyrone Volcanic Group ^[1] and the age range of the granitoid suite indicate that the volcanic arc sequence formed in the early Arenig, and was possibly contemporaneous with the ophiolite. These facts, when allied to the field relationships of the three components of the Tyrone Igneous Complex, are convincing evidence for Grampian orogenic collision in mid- to late Arenig times. The ensuing amalgamation of the Tyrone Igneous Complex and Central Inlier on the Laurentian continental margin as shown in (P947796) was relatively rapid. The subsequent subduction of the still active volcanic arc beneath the Laurentian continental margin is thought to have driven the intrusion of the arc-related granitoid intrusives (P947796).

Reference

1. [↑] Hutton, D H W, and Holland, C H. 1992. An Arenig-Llanvirn age for the black shales of Slieve Gallion, County Tyrone. *Irish Journal of Earth Sciences*, 11, 187-89.

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