



The effects of Devonian extensional tectonics on the architecture of the allochthons of the Scandinavian Caledonides, South and South-Central Norway

Johannes Jakob (1) and Torgeir B. Andersen (2)

(1) The Centre For Earth Evolution and Dynamics, Department of Geosciences, University of Oslo, Oslo, Norway (johannes.jakob@geo.uio.no), (2) The Centre For Earth Evolution and Dynamics, Department of Geosciences, University of Oslo, Oslo, Norway (t.b.andersen@geo.uio.no)

The Scandinavian Caledonides were chiefly formed during the Silurian-Devonian continental collision of Baltica with Laurentia. During the collision the Baltican margin was subducted below the cratonic margin of Laurentia and a complex orogenic wedge was thrust over the Baltican margin. The thrusting was followed by extensional tectonics in the Devonian, which included the exhumation of UHP rocks of the WGR and other basement windows, back sliding of nappe stack to the NW, and brittle normal faulting in the nappes and basement.

A metaperidotite-bearing metasedimentary complex can be traced below the large crystalline nappes of Southern Norway, i.e. the Lindås, Dalsfjord and Jotun nappes along strike the orogen and across the Gudbrandsdalen Antiform into South-Central Norway, where it structurally underlies the Trondheim Nappe Complex. Whereas the metaperidotite-bearing unit occurs on the eastern as well as on the western flank of the Trondheim Nappe Complex, it has only been mapped along the western flank of the Jotun Nappe Complex, where it is in contact with rocks of the WGR. The unit cannot be traced towards the east across the Lærdal-Gjende Fault, which is a large late Scandian normal fault. Moreover, on the eastern flank of the Trondheim Nappe Complex, the metaperidotite-bearing unit is structurally underlain by at least three major thrust units, whereas in the west it is in contact with rocks of the WGR.

Here we discuss, how the architecture of the South and South-Central Caledonian allochthons likely was developed before the onset of extensional tectonics and how the orogenic collapse and in particular the exhumation of the WGR region might have altered the architecture of the nappe stack.