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## Chapter 5 Metamorphic rocks Aonach Beag Recumbent Syncline

### C. Aonach Beag and Stob Bàn

#### Introduction

Aonach Beag [NN 197 714] stands a couple of miles east of the summit of Ben Nevis, and reaching to 4060 ft is the highest schist mountain in Britain. The Aonach Beag belt now to be described is easily recognised on one-inch Sheet 53 (Geol.) owing to its associated outcrops of Ballachulish Limestone and Leven Schists. It extends south-westwards from the edge of the map through Aonach Beag and Meall Cumhann [NN 178 697] to the northern extremity of the Stob Bàn ridge overlooking Polldubh [NN 141 686] in Glen Nevis.

The Ballachulish Limestone serves as the core of a recumbent fold with Leven Schists providing the envelope both below and above. Since Ballachulish Limestone is younger than Leven Schists the Aonach Beag Recumbent Fold is a syncline. It has been bent into a very obvious secondary synform as can be seen in Aonach Beag [NN 197 714] and Meall Cumhann [NN 178 697] (Figure 6) and again in the Stob Bàn ridge. As the limestone core has been cut through transversely by Allt Coire Giùbhsachan between Aonach Beag and Meall Cumhann [NN 178 697], and removed altogether by the Water of Nevis for two miles south-west of the latter, the order of structural superposition has been rendered diagrammatic.

#### Detail

Before discussing stratigraphical correlations, we may point out that the Ballachulish Limestone (6) in this district is generally in the condition of a flaggy greenish-white calc-silicate-hornfels (([S13836](#)) [NN 1946 7176]; ([S13923](#)) [NN 223 740]). As such it is exactly like that part of the Ballachulish Limestone of the Appin Fold, which crosses the bottom of Glen Nevis between two and three miles south-east of Fort William. North-eastwards, however, at the map margin in some sections east of Allt Coire an Eòin [NN 223 740] it escapes from the aureole of the Ben Nevis Pluton and is pale grey or cream-coloured, and very sandy and impure, thus reproducing the characters normally found in unbaked Ballachulish Limestone associated with Leven Schists.

The underlying Leven Schists (7) are part of the type outcrop of Leven Schists, and, baked or unbaked, are of normal character. What are taken to be Leven Schists above the limestone in the secondary synform are immensely thick and indistinguishable in character from the Leven Schists below the same.

#### Discussion

Let us now discuss the correlation of the Aonach Beag calcsilicate-hornfels with the impure portion of the Ballachulish Limestone:

1. It is of the right character and is linked by transition beds with the Leven Schists.
2. It is very thick and is therefore not likely to be a strictly local intercalation in the Leven Schists.
3. Its position in the secondary synform is such that it does not structurally intervene between the Ballachulish Limestone and the Glen Coe Quartzite; in other words, a traverse along the bottom of Glen Nevis from the Ballachulish Limestone (calc-silicate) of the Appin Fold east of Glen Nevis House to the Glen Coe Quartzite at Steal' lies wholly on Leven Schists the traverse passes under, not across, the Aonach Beag talc-silicate, synformally folded in Meall Cumhann [NN 178 697] (Figure 6).
4. No locality elsewhere furnishes a suggestion of a limestone structurally intervening between the Ballachulish Limestone and the Glen Coe Quartzite.
5. The type of folding required by the correlation of the Aonach Beag talc-silicate with the Ballachulish Limestone is independently exemplified close at hand in Stob Bàn where Ballachulish Limestone together with Ballachulish Slates occupies the core of the Ballachulish Recumbent Fold, refolded (p. 47).

## Secondary Synform

Accepting, as seems necessary, the interpretation that the Aonach Beag tale-silicate is a recumbent fold-core, one is struck by the extent of the secondary steep-sided synform into which it has been bent. This synform is no less than 2000 ft deep. It is obvious that once a fold-core has been buckled in such fashion, its development as a fold-core must have come to an end.

The secondary folding at Aonach Beag has been accompanied by the production of a very pronounced vertical strain-slip cleavage, which affects a belt of country about a mile wide, including the Glen Nevis gorge. The strain-slip cleavage cuts and displaces quartz-veins, which presumably developed in connection with the recumbent episode (p. 24). E. B. B.

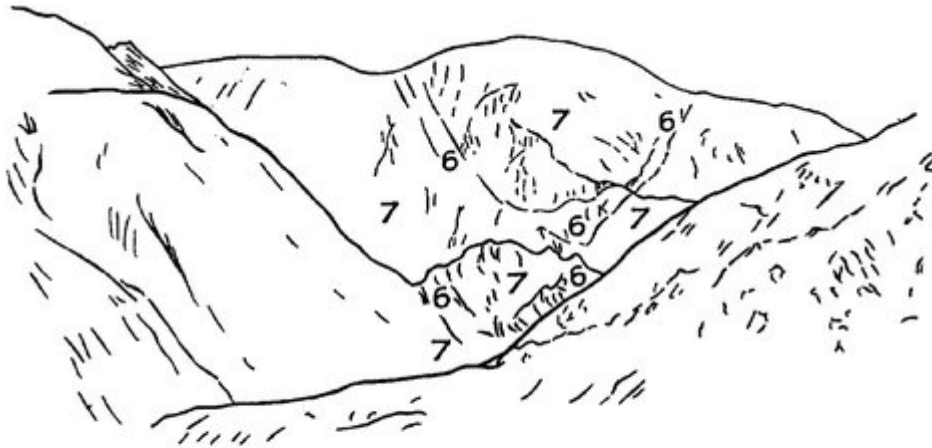


FIG. 6. View up Glen Nevis from Stob Bàn of Aonach Beag Synform

The Aonach Beag Core of Ballachulish Limestone (6), with Leven Schists (7) above and below, is refolded into a synform well seen in Aonach Beag (4060 ft) and also in Meall Cumhann in the middle distance

*(Figure 6) View up Glen Nevis from Stob Bàn of Aonach Beag Synform. The Aonach Beag Core of Ballachulish Limestone (6), with Leven Schists (7) above and below, is refolded into a synform well seen in Aonach Beag (4060 ft) and also in Meall Cumhann [NN 178 697] in the middle distance.*