HOLIDAY GEOLOGY

Easdale and the Scottish slate Islands

The island of Easdale is reached by a three-minute ferry journey from the island of Seil, itself connected to the mainland of Argyll by the famous 'Bridge over the Atlantic'. The predominant rock type in the area consists of Dalradian metamorphosed sediments, which are of roofing-slate quality in very small areas on Easdale, Seil and two other very small islands. All sources were marketed as Easdale Slate. The quarries were close to exhaustion when in 1879 and 1881 great storms flooded the workings. Although some were pumped out, production was subsequently small. Slates were mainly shipped to roof buildings in Glasgow and elsewhere. The slate has two very characteristic features. The main cleavage is affected by a secondary millimetre-scale foliation known as crenulation cleavage, which gives an attractive surface finish. The second feature is a large number of iron pyrite crystals; these however degrade and can make the slate porous. The modern village of Ellenabeich is named after the small island which was mostly quarried away and its remnants joined to Seil by dumped slate waste. Ellenabeich with its neat rows of quarrymen's cottages was built on this reclaimed ground. Quarrying finished in 1911 and the area became depopulated. Today however most

Slate in situ on raised beach

Easdale slate showing crenulations and pyrite crystal

Bridge over the Atlantic

Quarrymen's cottages in Ellenabeich. Lorn Lavas in cliff behind

cottages are residences, second homes or holiday lets and it is a tourist centre. There is a pub, a museum and a gift shop for booking wildlife-watching boat trips from the harbour.

The late Precambrian Dalradian sediments were deposited in the marginal seas of the former Iapetus Ocean and included the soft muds that were the precursor of the Easdale Slate, becoming compressed into mudstone about 600 million years ago. The closure of Iapetus around 450 million years ago, during the Caledonian Orogeny, resulted in the folding, burial and low grade metamorphism of the mudstones, converting them to cleaved slate. Crustal thickening and the uplift of the Scottish Highlands resulted in the emplacement of a vast magma chamber beneath the area and further uplift. In some places lavas erupted to form the Lorn volcanics, which unconformably overlie the Dalradian in places. Uplift since the last ice age has resulted in raised beaches that form a coastal platform, providing easy walking between the sea and the 100 metre-high cliffs, enabling the ready examination of these rocks, which are traversed by numerous Tertiary dolerite dykes.

There is an excellent booklet, *Geology of Seil & Easdale* by John Sedgwick available from the Museum. It is also freely available online.

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