

# HEISGEIR GEOLOGY by Jean Archer 2021 (more to come)



Two Edinburgh geologists lodged with the Shillay Lighthouse keeper whilst they carried out their only geological exploration of Heisgeir. Their observations are tucked away in the contents of their North Uist and Benbecula centred paper published in the *Transactions of the Royal Society of Edinburgh* in 1929.

Jehu and Craig confirmed earlier map records of Heisgeir's rocks as gneiss (pronounced 'nice') and pigeon-holed them as Lewisian Gneiss – the oldest rock formation in the British Isles. They also recorded a couple of wall-like bodies of significantly younger rocks which result from seepage of magma into cracks in the Lewisian Gneiss – unbeknownst to them - during the opening of the North Atlantic Ocean some 60 million, or so, years ago. But, they missed the most conspicuous of these Tertiary geological dykes – the terracotta dyke which streaks along the foreshore below the monument to an unfortunate German submariner.

I had read their paper and looked out for the dykes when I first set foot on Heisgeir, from the Lady Anne, but had no thoughts of following in Jehu and Craig's footsteps. Retired geologist I may be but I am no hard rock geologist, meaning specialist in the structural complexities of repeatedly transformed rocks from the depths of geological time.

Then, some interesting geological features caught my eye. These features had similarities with and differences to the Lewisian rocks of North Uist, where I have lived for a dozen years, or so. I consulted Dr Douglas Fettes of the British Geological Survey (BGS). Then, with his encouragement, I began my own, episodic exploration of Ceann Ear's rocks – all but a century after the only previous geological exploration of Heisgeir and a world apart from Jehu and Craig when it comes to geological understanding of the complexities of the Lewisian Gneiss.

What I have come up with is something a little more than repetition of Uist Lewisian rocks, the chronology and structural complexities of which were worked out, through painstaking field study, half a century ago. In particular Ceann Ear's rocks include some coastal rocks which demonstrably have been mega-transformed only once by the heat and pressure of high-grade metamorphism whereas most Uist rocks have had a double such whammy more than a billion years ago. In this respect these southern Ceann Ear rocks have few Uist counterparts apart from rocks at Ardivacher (S Uist) and Udal (N Uist).

My own photographic record documents erosion along Cean Ear's only cliff face where three mega ton blocks of rock have broken off cracks in the rock face at An Uadh since 2012 and before 2017. For a geologist this site, or should I say sight, provides a real frisson of excitement as geology in action in an exceptionally dynamic coastal environment.

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