XVII.—*Note on the Occurrence of Carboniferous Fossils and Chalk Flints in the Superficial Deposits of Tiree.* By DAVID PROVAN.

(Read 17th January 1912.)

TIREE is the farthest south and west of a group of islands, extending almost to Skye in the north, and consisting of Canna, Rum, Eigg, Muck, Coll, and Tiree. It is distant 64 miles from Oban, and about 20 miles from the nearest part of Mull. The greatest length of the island is 13 miles from south-west to north-east, and the greatest breadth from north to south is 10 miles. The island is very flat—the average height, I believe, is only 40 feet above the sea—and as the steamer approaches Scarinish, the landing-place, the houses appear to be resting on the water, the land itself being, even at a short distance off, below the horizon or, as sailors say, “hull down.”

Sir Archibald Geikie in his charming book on the “Scenery of Scotland” (3rd edition, 1901, p. 118) says: “Coll and Tiree and the islands which continue seawards the south-western portion of Argyllshire are merely disconnected parts of the adjacent mainland, having the same rocks and the same kind of scenery.”

With this resemblance I was not impressed; to my eye the scenery of Tiree bore little resemblance to any part of the mainland of Argyll that I have ever seen, and certainly none to the adjacent parts. By far the greater part of the island consists of low sand-hills, many covered over with turf, and many more composed of loose sand containing an abundance of shells and gravel. There is, however, some resemblance in appearance between Tiree and some parts of the Ayrshire coast at Stevenston or Barassie, and of this the natives of Tiree are well aware, and proudly claim that their island—which has recently become famous for golf—closely resembles the well-known golfing centres of Prestwick and Troon.

Ballyphetrish Hill, on the north of the island, is a knoll of dark coloured gneiss, and is about three-quarters of a mile from the sea. To the north of this hill (*i.e.* towards the Atlantic) there is a flat piece of ground composed of clay and shingle. In searching among the shingle at the base of the knoll I found a fragment of a *Gyracanthus* spine. The specimen was embedded in the clay and was associated with water-worn stones of gneiss, granite, quartzite, and basalt. The fossil shows little signs of the action of water and no ice marking. It is in tolerable preservation. It is here shown.

The greenkeeper on the golf course at Vaul—two miles from Ballyphetrish—making some excavations on the sand on the golf course, turned up a piece of *Stigmaria*. He gave me the specimen, which is here produced.

In the township of Caoles on the north-eastern extremity of the island about a quarter of a mile inland, amongst loose sand and shingle, I picked up a carried fragment of Carboniferous limestone, which is here shown. Other pieces of the same limestone I saw frequently on the shore on different parts of the island—in particular at Salum Bay and Vaul Bay.

All over the east end of the island, wherever there is blown sand or loose stones, there is sure to occur a number of chalk flints. I saw them in almost every bunker on the golf course, and some of them are as large as 6 inches across. I remarked to the minister of the parish that I was surprised to see so many flints lying about, and he told me that when he first came to Tiree he dug up large quantities of flints in the manse garden. Unfortunately I did not bring away a specimen of the flint with me, and I can only show a mere fragment which my son brought with other curious stones from Tiree. I also show a fragment of chalk which is in tolerable abundance on the shore and elsewhere amongst the sand of the island.

A remarkable instance of the comparatively rapid denudation of sand by the action of the wind is seen in the township of Vaul. In former times the beautiful turf of Ruaig and Kirkapol used to extend across Vaul at about 30 feet above sea-level. On a stormy night, some seventy years since, the wind excavated a hole of no great size in the turf-covered sand above Gott Bay. This excavation has gradually increased until now it extends from sea to sea—a distance of 2 miles or thereby—and about a mile broad, 20 feet of the sand having been removed. It requires to be said that it is only the south-east wind which effected this excavation as the shape of the island protected the sand at this point from the south and west winds.

Another instance of the same kind of thing accounts for the eighteenth green on the golf course. Formerly it used to be a potato field, level with the surrounding turf. On a single night (so the story goes) the wind abolished the entire field, leaving in its place a large crater-like cavity, known to golfers as the "Punch Bowl," and certainly one of the features of the splendid golf course.

One of the sights of Tiree, to which most visitors are conducted, is the "Anvil" or "Ringing Stone." It is a boulder of about 8' by 6' by 4", and is perched upon other smaller stones. It lies some 150 or 200 yards from the shore a little to the east of Ballyphetrish Hill. The boulder looks like granite, and is so

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described by the natives. It emits a deep sonorous sound when struck with another stone. This boulder is unfortunate in having escaped the notice of the Boulder Committee of the Royal Society of Edinburgh. The Report of this Committee mentions several boulders on the west end of the island but has nothing to say of the remarkable "Anvil Stone of Ballyphetrish" which, reposing modestly on the seashore, rings like a church bell when struck, and about which legend tells that if the "Ringing Stone" were removed, the island of Tiree would sink beneath the waves of the broad Atlantic.