

through a high barrier of hard rock ; and, in actual fact, it is an abnormal opening, and not the original mouth of the firth.

To understand the present and the former conditions of this sea-loch, one should ascend the heights behind the town of Cromarty. Looking from the crest of the Black Isle over a scene which the pen and hammer of Hugh Miller have made classic ground to the geologist, he sees below him the firth filling the ample basin of Cromarty, creeping over sandy flats in the Bay of Nigg, and turning thence abruptly to the south-east to force its way between the Sutors. The north-west side of the estuary is formed by a gently-sloping declivity stretching towards Tain. The north-eastern side rises into the ridge of the Black Isle, and runs north-eastward through the two Sutors into the long promontory of Tarbert Ness. Though the firth turns abruptly round to pass out between the Sutors, the prolongation of the valley in which it lies is continued from the Bay of Nigg to the Dornoch Firth by the low valley or plain of Easter Ross. Even from a distance it is not difficult to see that this low valley was probably the original outflow of the firth, when the level of the land was lower, and before the opening of the present outlet. From the heights above Cromarty, the eye looks along the northward drift-covered slope of the Black Isle, and if it were not known that the sea flows between the Sutors, it might readily be supposed that the ridge extends in one long continuous and unbroken line from the head of the firth away to Tarbert Ness. It could not be suspected that this ridge is actually cut through by the present narrow precipitous opening. If, then, the Cromarty Firth once entered the Firth of Dornoch between Tarbert Ness and Tain, how has it come to join the Moray Firth by so abrupt and narrow an outlet as that which is bounded by the Sutors?