

George Victor Du Noyer (1817 – 1869)

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George Victor Du Noyer was born in Blackrock, county Dublin, in 1817, into a Huguenot family. Both his father and mother were involved in the teaching of French. Du Noyer was educated at Rev William Jones' 'Seminary for General Education' on Great Denmark Street (Coffey, 1993). During this time, he came in contact with George Petrie, who tutored him in the art of watercolour painting.

As a result of his artistic talent, Du Noyer was employed within the Ordnance Survey of Ireland in 1835. Although he began working on the orthographical team, within a few months he was transferred to Captain Joseph Ellison Portlock's (1794–1864) geological division, where he remained until his departure from the Ordnance Survey in 1842, mostly employed in sketching the geological sections and fossils that Portlock's team were surveying (Hegarty, 2017). After some time as a freelance artist and a tutor in St Columba's school, then located in Stackallen, county Meath, Du Noyer was appointed to the role, first of temporary geologist and then as assistant geologist in the Geological Survey's Irish branch in 1848. Du Noyer mapped the geology of parts of Kerry, Cork, Wexford, Meath and Antrim (as well as other areas) for the Geological Survey's one-inch map series. The initial mapping was carried out using the six-inch Ordnance Survey maps as field sheets, and the field geologist annotated these field sheets with their observations of the rock outcrops and the properties of the land. Du Noyer was appointed to the new position of district surveyor in 1867 – a position which gave him a role in both training and overseeing the work of more junior staff. He died of scarlet fever in Antrim in 1869 while on duty in that area.

Du Noyer's employment in the Irish branch of the Geological Survey coincided with the beginning of the effort to systematically map the geology of the island on the scale of one inch to one mile by the Geological Survey. Mapping in the field was carried out using the Ordnance Survey six-inch maps as a base map, on which the surveyors would mark and describe outcrops and other geological information. From the mid 1850s, the Geological Survey of Ireland took a holistic view of the geological landscape, and mapped 'drift' as well as the bedrock geology on its maps (Davies, 1983). Following the lead set by Joseph Beete Jukes (1811–69), the director of the Irish branch of the Geological Survey from 1850 to his death in 1869, Du Noyer mapped the drift, and also noted on his field sheets features that he

interpreted as having been formed due to glacial action. In the memoirs which were published to accompany each of the one inch maps, Du Noyer described in more detail some of this drift and the features that he ascribed to glacial action. While the origin of the 'drift' was disputed, with 'diluvialists' suggesting that the drift was evidence for the biblical flood and that features such as striae and erratics were formed by icebergs which were floating within the floodwaters and carried along by currents, Jukes was a 'glacialist', who believed that the drift was evidence of glaciers flowing from the highlands to the lowlands (Bailey, 1952). As an indication of this, Jukes, in 1863, wrote that 'It did not occur to us, while surveying [Kerry] to apply the action of ice to the formation of these rock basins, but when once suggested, every one must see the difficulty of giving any other explanation to them (...) glacial action becomes the only explanation open to us' (Jukes and Du Noyer, 1863).

In the same memoir, Du Noyer described striations and grooving on the rock surfaces in the glens to the east and west of Mount Brandon, which he concluded as being glacial in origin as the flow direction was consistent, despite differing geological structures in the area. Du Noyer described the moraines associated with some of these valley glaciers, 'lunet-shaped mounds of gravelly clay and large boulders ranged with the utmost regularity, and extending into the plain for the distance of nearly half a mile, from the absolute mouth of the gorge', transected by modern rivers. He went on to state that a feature of this area, and of the southwest coast of county Cork, was that 'glacial striae are observed at the present sea level', and that these striae indicate a different flow direction to those in the valley glaciers (Jukes and Du Noyer, 1863, p. 48). He suggested that this was due to icebergs which had calved off the glacier being driven onshore by winds and currents. Indeed, Du Noyer's accurate denotation of glacial striae in areas as diverse as Kerry and Cavan (where he noted glacial polishing and striae on a rock outcrop in the townland of Ballaghdorvagh, in the south of the county, where he noted glacial striae indicating a flow direction of '40° west of north, or east of south'), including their direction and cross-directional relationships, stands the test of time, and has been used by modern researchers as part of the database to reconstruct palaeo-ice flows of the British-Irish ice sheet (cf. Smith and Knight, 2011; GSI, 2017).

Du Noyer's skills as an artist were used to the maximum by the Geological Survey, as he was tasked with sketching the eskers of King's county (county Offaly) and county Roscommon that were being mapped and described by George Henry Kinahan (1829 – 1908; cf. Hegarty, this volume). The illustrations of these eskers (held in the library of the Royal Irish Academy), many of which were used as the basis for lithographs for the memoirs of the

Geological Survey of Ireland, are a pictorial record of the extent of these features, many of which have been quarried away over the intervening 150 years.

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