



Marks of the Ordnance Survey

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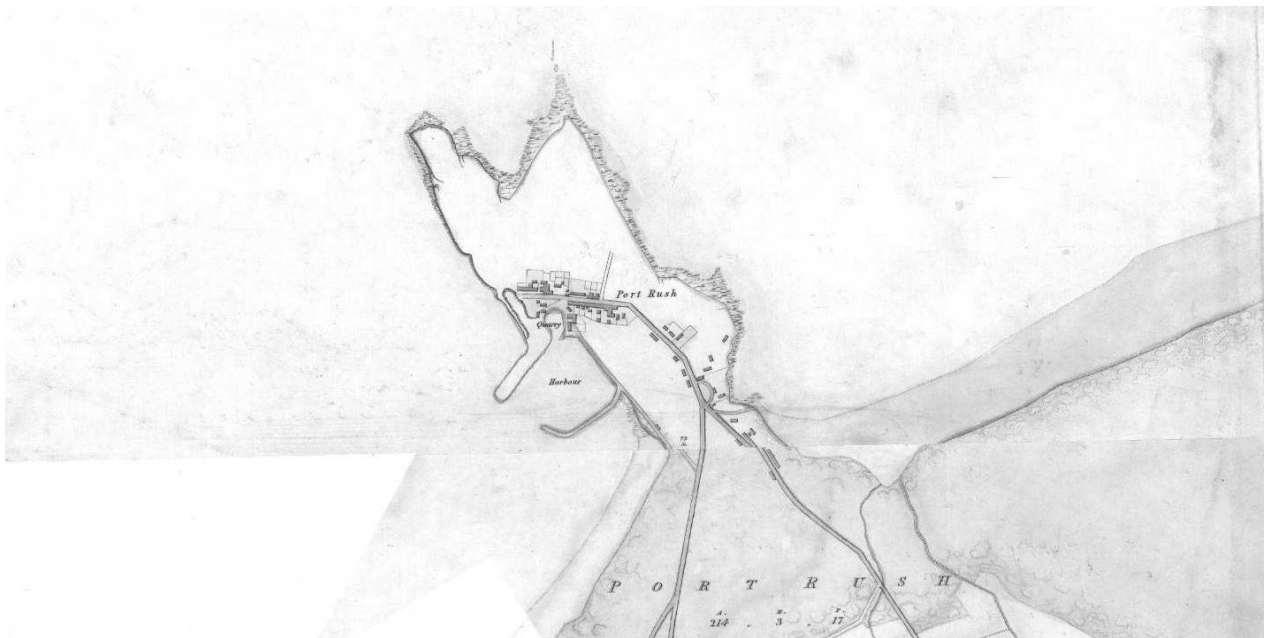
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Marks of the Ordnance Survey by Dr Peter Wilson

At some time or other many people will have had cause to use a map produced by the Ordnance Survey (OS). Whether travelling by car, on foot in the countryside or just whiling away time in an armchair at home, a map can provide both direction and inspiration. My introduction to OS maps was a long time ago and came via 'O' Level Geography – map reading and interpretation were compulsory elements of the syllabus. Ever since those days I've regarded maps as valuable sources of information, but it was only recently that I began to read about the history behind the OS, and the people who did the groundwork and ultimately transferred the complexity of the topography to sheets of paper.

Briefly, the OS was established in London in 1791 with the remit to produce maps for military use. It was deemed imperative that the British army had accurate maps of southern England in case Napoleon and his forces should attempt to invade. Maps existed before this time, of course, but were not based on exact surveying. In Ireland, detailed maps also became a necessity because it was realised that local (townland) taxes were inequitable, and acreages and rateable valuations needed substantial revision. A survey of Ireland was approved by the British Parliament in 1824 and Lt.-Col. Thomas Colby was tasked with getting the job done.



First edition Ordnance Survey Map of Portlough c1830-1847 ref PRONI OS/6, courtesy of Deputy-Keeper of Public Records NI.

The work of Colby and his team has been told many times. Their measurement of a base line across the plain of Magilligan, adjacent to Lough Foyle, became the foundation for the triangulation of the entire country. Although the survey and large-scale maps of Ireland were completed by 1846 it did not signal the end of the OS. No sooner had the mapping been completed than the process of



revision to take account of changes in both urban and rural areas began. And that process continues today.

Following the division of Ireland in 1921 separate OS organisations emerged. The original body was now confined to Great Britain with HQ in Southampton. The OS of Northern Ireland (OSNI) was established on 1st January 1922 with HQ in Belfast, and in the Irish Free State the OS came into being on 1st April 1922 with HQ in Dublin. Irrespective of the breakup, each body continued to “provide and maintain a network of mapping of the highest possible quality on a national basis”.



Colonel Thomas Colby, 1784 - 1852.

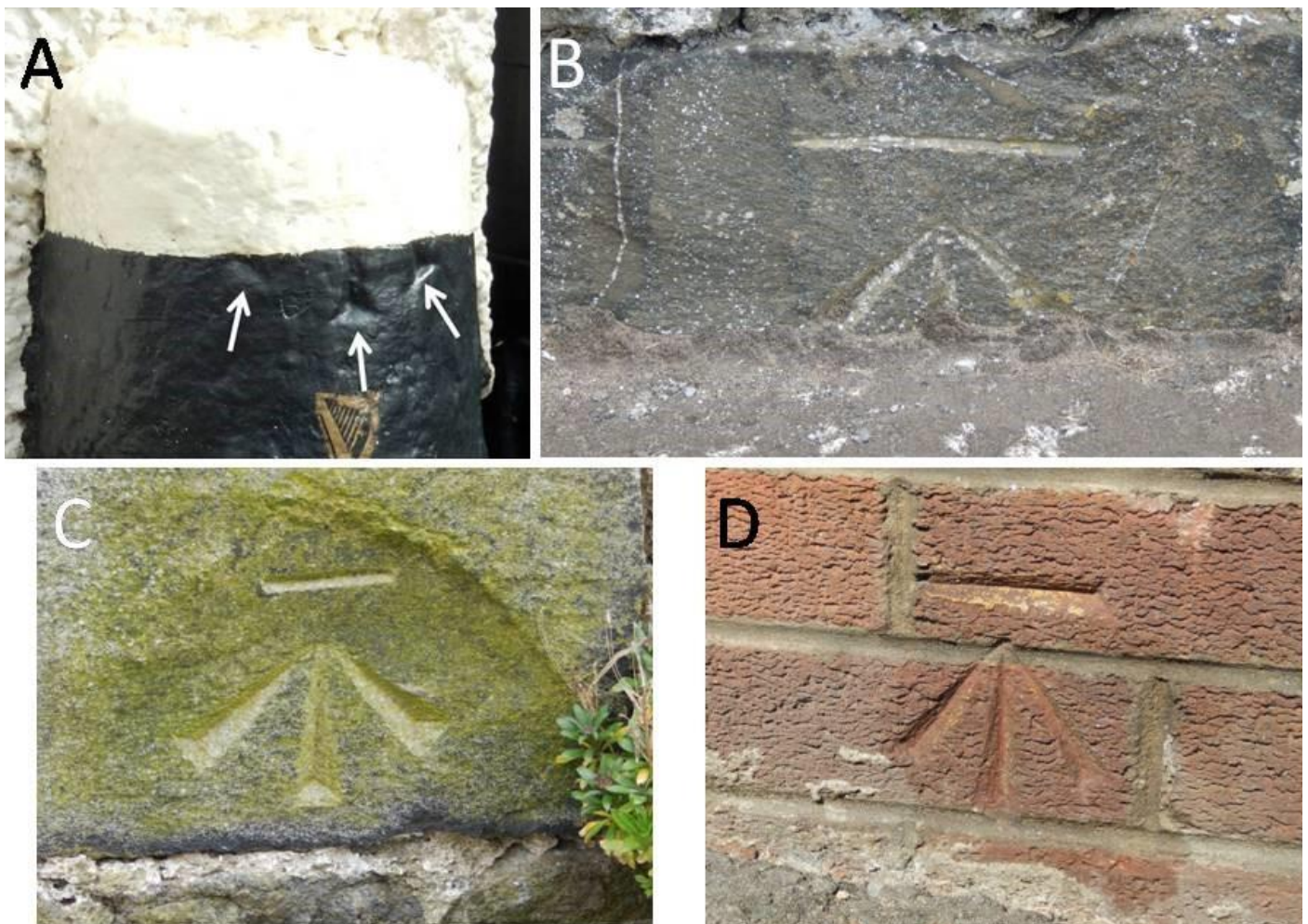
When Colby began to organise the first survey of Ireland he issued guidance to his teams of surveyors in the form of an instruction manual. At various places in the list of 74 instructions he refers to “levelling marks” or fixed points to which surveyors could return if any re-measurement was necessary. Rather strangely, perhaps, he stated that levelling marks on buildings required no particular markings because they could be re-located by measurement. Later, very distinctive permanent levelling marks were created on buildings, and in order to keep pace with urban renewal and

expansion new levelling marks were made as earlier ones disappeared. These levelling marks go by the names of ‘cut marks’, ‘bench marks’ (or even ‘cut bench marks’) and ‘crow’s feet’ and OSNI continued to have them inscribed until at least 1991.

Bench marks were usually cut on vertical stone surfaces such as walls, bridges, churches and other public and non-public buildings. They were chiselled into the stone approximately 50 cm above the ground surface and consist of a horizontal incised line below which a broad incised arrow points upwards. The horizontal line defines the height of the location. The term ‘bench mark’ derives from a device called an angle-iron that can be fitted into the horizontal cut giving a ‘bench’ or support for a levelling staff. By this means a levelling staff can be accurately repositioned in subsequent survey work. Over the years bench marks became important heightened points for engineers and planners.

The location and height of each bench mark is indicated on large-scale maps (1:10,560 and 1:10,000), and by examining such maps published at intervals since the mid-19th century it is possible to identify locations where bench marks exist. Also, a web site (www.bench-marks.org.uk) allows you to search for bench mark locations, but this has rather few listed for Portrush and most if not all of these no longer exist. By using the large-scale OS maps I have found six bench marks but at another 15 locations it seems that they have disappeared.

Perhaps the most unusual bench mark is that at the Harbour Bar. John McNally alerted me to this one but I failed to find it at my first attempt. Beside the entrance to the Bar is a small, squat stone pillar painted black and white to represent a pint of Guinness. Quite a few coats of paint have been applied over the years and the bench mark is difficult to make out. However, the lines of the inscribed arrow are just visible. There does not seem to be an inscribed horizontal cut; maybe the top surface of the pillar replaced the need for that. Other bench marks can be seen on the wall that runs alongside Causeway View (the boundary wall of Antrim Gardens), on the wall just inside the driveway to the former Strandmore House (off Causeway Street), and on the brick pillar at the angle of the fenced boundary of Portrush Primary School, Crocknamack Road.



A. Upper part of the Guinness Stone outside the Harbour Bar. The white arrows point to the inscribed arrow of the bench mark. B. Bench mark on Antrim Gardens boundary wall, Causeway View. C. Bench mark at driveway entrance to the former Strandmore House, off Causeway Street. D. Portrush Primary School bench mark, Crocknamack Road.

The other two bench marks I have found are both on Long Gilbert Bridge, Dunluce Road. The bridge is not immediately obvious when driving along that road but is towards the eastern end of Long Gilbert Quarry and is indicated by a slight rise in the height of the roadside walls and the inclusion of some sandstone blocks between the basalt blocks. The bridge carries the road across a gully. The most prominent of the two bench marks is that on the south-facing side of the north



parapet at the base of a sandstone block. The other is across the road on the north-facing side of the south parapet and is also on a sandstone block. However, this arrow has been cut close to the top of the block so that the upper surface of the block replaced the need for a horizontal cut mark. It is unusual to have two bench marks so close together and virtually opposite one another. No doubt there was a reason behind this.

Of the bench marks that have disappeared is one listed as being “on rock near corner of Captain Scott’s House, 2.3’ above centre of road” and another as at “M. Rice’s Yard, on quoin stone of yard wall, 2.5’ above centre of cross roads”. According to earlier large-scale maps bench marks should be present on the walls of Holy Trinity Church and St. Patrick’s Church, but I have been unable to find these.



A. Long Gilbert Bridge: bench mark at base of sandstone block on south-facing parapet. B. Long Gilbert Bridge: bench mark arrow at top of sandstone block on north-facing parapet.

In 1950 the OSNI commenced work on a re-triangulation of the province in order to provide a basis for a new series of large-scale maps. A consequence of this was the construction of triangulation stations – generally known as trig pillars or trig points – on many hill-tops. These take the form of a truncated concrete pyramid about 1.2 m high and 0.6 m square at the base. Fixed to the top of each pillar is a brass ‘spider’ with three legs 120° apart upon which a theodolite can be mounted for surveying purposes. On one side of the pillar a rectangular metal plate called a flush bracket (‘flush’ with the face of the pillar) is normally present. The flush bracket carries a bench mark. Flush brackets were sometimes placed on walls and buildings but I do not know of any such in Portrush. Perhaps the nearest example is Coleraine Town Hall, although some years ago an electricity box was placed against the wall, effectively obscuring the bracket!

The only trig pillar I know of in Portrush is at Scudion Craig - a very short distance east of the highest point of Ballyhome Road at 132 m above sea level - but not visible from the road. It is marked on the 1:50,000 and 1:25,000 scale maps by a small triangle with a dot in the middle. The flush



bracket is slightly recessed rather than being 'flush', has a horizontal slot with an arrow directly beneath, and bears the letters OSNI BM and the number 3051.

Also on the top of this trig pillar is a small round-headed brass rivet. This was added in the 1990s as OSNI switched from using trig pillars and bench marks to Active and Passive GPS stations. Scudion Craig functions as a Passive Station, meaning that it continues to be part of the network of ground marks with precisely measured co-ordinates. The bench mark on the flush bracket is now defunct.



A. Scudion Craig trig pillar. B. Flush bracket on Scudion Craig trig pillar.

Bench marks and most trig pillars are no longer maintained by OSNI. Surveying and map making have gone digital and computers can do in seconds what previously took several man-days. As a consequence bench marks are no longer being inscribed and the existing crop is slowly and inexorably being lost as re-development occurs. Perhaps some form of legal protection should be applied so that in the years ahead we will still be able to find and see the 'Marks of the Ordnance Survey'.

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Photographs: Dr Peter Wilson

Map of Portrush: PRONI: Colby Image courtesy of Portrush Heritage Group

Our thanks to Peter for this most interesting article on Ordnance Survey Marks around Portrush.
9th October 2021