Mapping Monuments

The landscapes of the Lough Foyle Baseline, view looking west from Binevenagh across Lough Foyle (photo: Aerial Vision NI)

Exploring the Landscape Legacies of the Ordnance Survey in and around Lough Foyle and Binevenagh

Two hundred years ago the land between Magilligan and Ballykelly close to the shores of Lough Foyle took on global importance. It was the site chosen to begin leading scientific work of the day, venturing for the first time to survey and map a whole country systematically at the large scale of six-inches to one mile. This activity left a trace in the local landscape, around the coastal lowlands of the Lough and beneath the lofty cliffs of Binevenagh. The *Mapping Monuments* community heritage project has explored these landscape legacies, the sites and stories of those surveyors and map-makers who were living and working here two centuries ago. This exhibition shares the findings of the project and raises awareness and appreciation of the significance of this local heritage.

Mapping Monuments began inof this period of Ireland's past2021. Over the next two years, atand how the land was surveyedtimes under the restrictions of theand mapped in detail around two

Covid-19 pandemic, the project team spent their time indoors researching records such as the detailed 1830s Ordnance Survey Memoirs for the local parishes of the area. Outdoors, in the field, the group's research team also followed the footsteps of those surveyors who mapped Ireland. Where the Ordnance Survey had once traversed the landscape, measuring it and mapping it, our group took a closer look at the sites used by the surveyors, recording what was there as well as what has since disappeared, and delving into their lives and those of local inhabitants of the time.

centuries ago. The *Mapping Monuments* project, and this exhibition displaying our findings, is all funded by the National Lottery Heritage Fund through the Binevenagh and Coastal Lowlands Landscape Partnership Scheme.

The project was coordinated and led by Professor Keith Lilley and Dr Rebecca Milligan of Queen's University Belfast, School of Natural and Built Environment. It was delivered by a core group of 17 volunteers and assisted by staff from Causeway Coast & Glens Heritage Trust.

The history and heritage of the Ordnance Survey (OS) in Ireland is complex and often contested,



perpetuated and popularised by Brian Friel's play, *Translations* (1980). Through our local study of the OS and its landscape legacies, *Mapping Monuments* enriches too our understanding

For further information go to go.qub.ac.uk/MappingMonuments







HERITAGE TRUST





An image often used to depict OS surveyors working in Ireland, however surveyors were not actually armed. 'Sappers and Miners, 1837', from Ordnance Survey Jubilee Book (1887).

The Ordnance Survey in Ireland

The French Revolution had led to war in Europe, inspired the 1798 Rebellion, and resulted in the Acts of Union of 1800, in which the parliaments of Great Britain and Ireland merged under the Crown. Irish Members of Parliament now sat at/ Westminster in the United Kingdom of Great Britain and Ireland. The system of local taxation in Ireland was a long-standing scandal. Known as the county cess, it was based on uncertain acreages and unreliable relative values of townlands. An accurate map was needed.

In 1824 Thomas Spring Rice, MP for Limerick City, chaired the

Baseline. By the end of 1826 there were 203 men employed on the Survey across the island: 28 officers, 106 sappers and miners, four cadets and 65 labourers hired locally to "drag the chain" and paid from nine pence to two shillings a day, a reasonable wage at the time.

With the surveyors' tents for their camps and the theodolite on a hilltop with observers sighting the instrument onto a distant trigonometrical station or beacon, the frequently reproduced image shown here, of the 'sappers and miners' of 1837, offers a view on the activities of surveying 'in the field' at the time of the OS in Ireland. While Colby's surveyors were military-trained they were instructed not to bear arms however, so this popular and rather provocative image of the OS in the field does need to be treated with some caution.

committee which examined the issue. It concluded that a general survey and valuation of Ireland was required. It was recommended that any new survey must follow the "ancient and recognised divisions of lands", known as townlands, and it was decided that the best scale for the intended survey, would be six inches to the English Mile. That year the Superintendent of the Trigonometric Survey of the Board of Ordnance, Lt. Col. Thomas Colby, was ordered to Ireland to carry out the survey. Townland boundaries were to be identified and marked by Boundary Surveyors, appointed by Richard Griffith (later responsible for the Valuation of 1847-64 which bears his name), and mapped by the men of the Royal Engineers, supplemented by civilian assistants.



Mountjoy House, Phoenix Park, Dublin, on Ordnance Survey 1st edition six-inch map, County Dublin sheet 18 (surveyed 1837, printed 1844) (source: National Library of Scotland, CC-BY (NLS)

The Headquarters for the Survey was established at Mountjoy House in Phoenix Park, Dublin. Completed in 1846, survey work began in the north of Ireland in 1824 with the selection of suitable hilltops for the 'principal' trigonometrical survey and the measurement of the Lough Foyle <complex-block>

Mapping men, mapping women

"Accompanied by Lieutenant Drummond, Colonel Colby traversed Ireland from north to south in 1824, selecting the most suitable mountains for principal stations, and collecting data for determining probable limits of altitude to be represented in the map." J. E. Portlock, Memoir of the Life of Major-General Colby (1869).

The field operations of the Ordnance Survey in Ireland were overseen by Thomas Colby and began in and around Lough Foyle. Here, Colby met Elizabeth Hester Boyd, daughter of the Treasurer of County Londonderry, Archibald Boyd. The couple were married at St. Columb's Cathedral Church, in Derry/Londonderry, the week after Colby had finished working on the Lough Foyle Baseline. Subsequently they moved closer to the OS Headquarters, at Mountjoy House in Dublin, living in Knockmaroon Lodge near the gates into the Phoenix Park, where they stayed until 1838 raising their young family.

short life, including letters he sent from camp on Slieve Snaght on the Inishowen Peninsular (Co. Donegal), where Drummond and his team spent an arduous winter of 1825 at the summit.

Drummond died in 1840, aged just 42, his last words inscribed in his grave were: "Bury me in Ireland the land of my adoption. I have loved her well and served her faithfully". A statue erected

Whilst Colby was the man in charge he was accompanied by others, including Thomas Drummond, the surveyor, inventor, reformer and administrator. Born in Edinburgh in 1797, Drummond introduced the limelight and the heliostat as target lights in the measurement of the triangulation of Ireland in 1824, and his experiments helped ensure that Colby's baseline apparatus was perfected. Drummond was later appointed Under-Secretary for Ireland and following his marriage to Maria Kinnaird, the wealthy heiress, they moved into the Under-Secretaries Lodge in Phoenix Park (now Áras an Ucahtaráin). Drummond was greatly supported by a second woman in his life, his mother Elizabeth Somers. Much of this support can be traced in the letters from Drummond to and from his mother throughout his

to his memory by public subscription still stands in Dublin City Hall today.



Plan showing the Lough Foyle Baseline, from Ordnance Survey. An account of the measurement of the Lough Foyle base in Ireland ... By Captain W. Yolland (1847)

BELUM.Y.W.07.48.1 Cabin built with turf, Magilligan Robert John Welch, (1859-1936) © National Museums NI Ulster Museum Collection

CABIN BUILT WITH TURF, MAGILLIGAN, CO.DERRY. R.W. 1451.

Life along the line

"As good a collection of native herbs, as any one place in the three kingdoms", Letter by Reverend Robert Innes of Aghanloo published in *Anthologia Hibernica* (1725).

The area on the shores of Lough Foyle that became such a hive of activity for the Ordnance Survey in the 1820s and 1830s was farmed and populated. Crop production was varied and dependant on the seasons and location. The local mills of the time, give some indication of the crops grown locally with flax mills listed at Ballykelly, Ballyhenry and Duncrun, and corn mills at Magilligan, Bellarena and Ballycarton, to name a few. Potato, oats, barley and wheat

considered the best in Ireland. The local economy was supported through the sale of the skins at the nearby market towns of Newtown Limavady and Coleraine. Rabbit hides were also sold on a larger scale with substantial quantities sent to England. In 1786 the trade of Magilligan rabbit pelts was worth £1,500 annually (over £320,000 today). However, by the time of the first Ordnance Survey, cheaper materials and the improvement of lowland soil for

were also grown, with seaweed and shells gathered to enrich the ground. At the time there was relatively little livestock, mainly goats and sheep.

Cottages were by today's standards basic and shared with livestock, made from clay sods, turf and thatch. Analysis of thatch material in surviving thatch houses show that a variety of thatching materials were used, such as bracken, rye, marram grass and flax reflecting the crops that were grown that particular year.

At Magilligan Point there were extensive rabbit warrens producing rabbit skins that were arable crops saw the rabbit trade in decline.

In addition to agriculture, Binevenagh Mountain was known for its herbs and botanicals, long used by people to tend to illnesses as well as maintain health. These included Mountain Avens, a traditional treatment for complaints relating to the mouth and throat as well as various stomach complaints, and Moss Campion, which was prepared as a remedy for digestive problems in children such as colic.

Moss Campion growing on the slopes



of Binevenagh (photo: Causeway Coast and Glens Heritage Trust)

Mountjoy House and the OSi museum at **Phoenix Park, the Mapping Monuments** project group and Colby's Bars (Photo: Grace McAlister)

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Surveyors Wanted

The successful candidate will be expected to endure travel, ill-lodging and diet as also heat and colds Being also men of activity, that could

leap ditch and hedge and could also rustle with the several rude persons with whom they might expect o be crossed and opposed

The Lough Foyle Baseline

"I made a cursory examination of the general idea of the country and to seek a proper place for the measurement of a new Baseline. The shores of Lough Foyle presented most advantageous for this purpose", Thomas Colby, Report to Sir Henry Hardinge KCB on the Present State and Progress of the Irish Survey (2nd February 1826)

On the coastal lowlands between Binevenagh and Lough Foyle, Thomas Colby identified an ideal location for setting out a 'baseline' as part of the Ordnance Survey's mapping of Ireland. A baseline is a crucial part of a trigonometrical survey, a method of measuring the earth's surface very accurately using scientific instruments such as theodolites. Colby saw the survey work in Ireland as contributing to the then new and exciting science of 'geodesy', earth measurement. The trigonometrical survey of Ireland that the OS undertook in the 1820s and 1830s was at the cutting edge of surveying technology at the time.

November 1828, with breaks owing to the growing season in fields or winter weather and ground conditions. In 1847, a large and lavish volume was published by the Ordnance Survey to document this achievement. It notes the challenges overcome in the field including crossing the River Roe and the careful setting-up of the equipment with protective tents over the new measuring bars used in the process. Called 'Colby's Bars' after the innovation he introduced at the Lough Foyle Baseline, these were made of two metals, brass and iron, to minimise effects of temperature fluctuations on their length. Amazingly some of the bars still survive, including an example at The Tower Museum in Derry, and another at Mountjoy House in Phoenix Park, Dublin, The Mapping Monuments group undertook visits to see both.

Colby instructed the surveyors to measure very precisely a distance between two fixed points, a 'baseline' for the survey of Ireland and this measuring took place in two phases over two years, from 6th September 1827 to 20th



Searching for the baseline 'encampment' near Bellarena using aerial imagery and metal detector survey (image by Dr Alastair Ruffell and Dr Thorsten Kahlert, QUB)

Surveying the surveyors

"Unusual precautions were taken in preparing the Stations at the South End of the Base, Minearney, the North End of the Base, and Mount Sandy, in such a manner that there might be no risk whatever of the points being lost or disturbed, and that they might be available for reference at a future time...", Ordnance Survey. An account of the measurement of the Lough Foyle base in Ireland ... By Captain W. Yolland (1847)

A map in the book by Captain Yolland on the baseline produced by the Ordnance Survey shows the alignment running across the landscape, from Magilligan in the north to Ballykelly in the south. To mark key points along the baseline, including its terminal points, the OS established 'base stations', metal markers set in stone between which the surveyors measured. Each station was encased in a stone chamber and covered by a low mound —described at the time as 'a tumulus of earth'-and surrounded by a substantial stone October 2022, non-invasive Wall with a railing on top. These monuments still survive in the local landscape, and on the First Edition OS six-inch map each 'base tower' was named and marked.

Wall, near the Roe". We get a glimpse of a tent in the drawing of the baseline measurement, but the camp mentioned by Drummond was a tantalising clue that the Mapping Monuments project was keen to pursue.

Where was the 'encampment'? The park wall is on the Bellarena Estate, and using historic/ Ordnance Survey maps,

The overall length of the baseline was calculated to be 7.89 miles and the surveyors had to work around the seasons of agricultural be sure will require archaeological activity on the land, particularly at harvest time. In the field, measuring the baseline was a painstaking process. In October 1827, 27 artillerymen, 25 sappers, and 3 civilian labourers were present measuring the baseline. The OS set up a camp to accommodate the men, recorded in a letter to Colby from Thomas Drummond, who on 24th June 1827 wrote, "The encampment is by the side of Mr Gage's park

field-work by the project group, with the kind permission of local landowners, narrowed down the likely location. In July and archaeological techniques including Ground Penetrating Radar and magnetometry survey allowed us to search for possible traces of activity left behind by the surveyors' camp. Intriguingly, some anomalies in the ground hinted at a possible position of the camp, close to the park wall as Drummond's letter stated. To excavation of the site, perhaps sometime in the future.



Plan and cross-section of base-station, illustration from **Ordnance Survey.** An account of the measurement of the Lough Foyle base in Ireland By Captain W. **Yolland (1847)**



Trigonometrical surveys

'The job of the surveyor was to measure the distance along a baseline between the two initial points as accurately as possible and then to keep measuring angles using a theodolite so that all the distances could be calculated across a network of triangles on which maps could be based and accurate land surveys carried out.' Michael Cory, Mapping Monuments: The Lough Foyle Baseline (2023).

The purpose of the baseline was to enable the Ordnance Survey to accurately measure distances using trigonometrical survey. This is a system of using triangles—and trigonometry called triangulation. The Ramsden 1950s and 1960s the Ordnance theodolite used to measure the angles of the triangulation by the OS surveyors in Ireland was huge, weighing 200lbs (136kg) and three feet (91cm) in diameter when assembled. Called the 'great instrument', and now housed at the Science Museum in London, this theodolite had to be transported carefully, as it was delicate and heavy. As this took place at a time before railways were widespread in Ireland, it was a major physical undertaking for the men.

triangles and calculations the distances across land and sea were calculated. The method of 'triangulation' continued in use throughout the nineteenth and twentieth centuries and in the Survey in Ireland and Northern Ireland carried out 'retriangulation', again using theodolites and in many cases revisiting stations used by Colby and his men a century or more before. This retriangulation is what gave us the characteristic concrete 'trig pillar' that many mountain walkers will use to navigate in upland areas, and which are still marked on modern OS maps as a triangle with a dot in the middle. There are also those enthusiasts who visit these later trig pillars and 'bag' them, for fun, but also to record their condition, for all of these historic trigonometrical stations are exposed to the wind and rain and are at risk of being lost to us forever.

The Lough Foyle Baseline was a very accurate measurement of the side of the first triangle from which the distances would be calculated using the field observations made with the theodolite. The accuracy of the whole triangulation of Ireland under Colby relied upon these baseline measurements. This was a standard practice in scientific survey in the 1800s, and a system that had been used in France and by the OS in Britain beforehand. In fact, in 1822-23, OS surveyors were already measuring to various hills in the north of Ireland as part of their trigonometrical surveys in south-west Scotland, under Colby.



The trigonometrical survey in Ireland was linked across the Irish Sea into the network in Britain, and through this system of

'The Great Instrument', the 3-foot Ramsden theodolite used for the Ordnance Survey trigonometrical surveys of Great Britain and Ireland in the early 1800s, now held in The Science Museum (London)

Ground view of one of the encircling walls constructed on Slieve Snaght to protect the surveyors' tents mentioned in the letter by Drummond in 1825 (photo: Grace McAlister)

Summit stations

Slieve Snaght, 1827. "This mountain is in the parish of Carndonagh, in the county of Donegal. The station, which is on the highest part of the mountain at the east end, is marked by a stone about 2 feet square, having a hole 2 inches deep drilled in its centre, with a pile of stone, 14 feet high and 50 feet in circumference at base, erected over it." A. R. Clarke, Ordnance Trigonometrical survey of Great Britain and Ireland (1858).

The map of the Lough Foyle baseline published by the Ordnance Survey in 1847 shows the locations of trigonometrical 'stations' around Binevenagh and on the Inishowen Peninsula. These In June 2023, a group of Mapping stations are where the theodolite was set up, and observations made, using the instrument's telescope to look across the landscape to distant stations. This method of survey was accurate but time-consuming by modern standards. It was the basis of drawing the OS six-inch scale maps of Ireland of the 1830s, and for decades afterwards too. One of the stations that was set up early by the OS was on the summit of Slieve Snaght, on the Phishowen Peninsula. This was one 'the 'great instrument', and the of a number of summit stations the OS 'occupied' in the early years of the Survey. Others in the north included Knocklayd, Sawel, Divis, Slieve Donard, and Cuilcagh.

the cooking house. I believe that we should have been compelled to abandon the hill but for the efforts of the men...".

Monuments volunteers climbed Slieve Shaght to see what remained of the trigonometrical station and its camp. Stone structures are visible on aerial photographs, similar to those

Some insight into the arduous life of the surveyors is recorded by those involved at the time, such as Thomas Drummond who, on Slieve Snaght in October 1825, wrote to Colby saying "The tent is now up and in a few minutes the wall round it will be completed, so that we may consider ourselves safe against any storm..." A storm indeed came, and Drummond later wrote again to Colby on 12th November, "At the last we had nothing remaining and deserve to be better known but the lamp tent and the walls of and recorded.

recognised in Scotland and known today as 'Colby Camps'. On Slieve Snaght, the field visit located six structures on the south-eastern/side of the summit. These are a circular enclosure which is likely to be the wall constructed by the QS to protect remains of three rectangular-shaped buildings and two circular enclosures, all of dry-stone construction and remarkably intact. One of the rectangular structures has a door lintel, and another what looks like a fireplace and basic flue. They might easily be mistaken for shepherds' huts or sheepfolds but are more probably a remnant of the first Ordnance Survey in Ireland. Similar features have also been identified on other summits in Ireland that were used by the OS for the trigonometrical survey in the 1820s and 1830s, including on Slieve Donard. These (summit stations' are important and significant archaeological sites

Characteristic 'crow's foot' cut-mark type of OS benchmark on former Ballykelly Post Office, part of the Coleraine—Derry/Londonderry primary levelling line of 1846. Found by the Mapping Monuments project, this is an unusual example of a benchmark as it is accompanied by a smaller, feinter mark (photo: Grace McAlister)



Leveling the land

"The instruments used on the Irish survey are all to be marked with distinctive numbers and letters; and regular registers are to be kept of them both in the districts to which they belong, and at Mountjoy", Thomas Colby's 'Instructions for the Interior Survey of Ireland (1825)

Trigonometrical survey was only one of the field operations being carried out by the Ordnance Survey in the nineteenth century. The surveyors were also interested in calculating heights in the landscape as well as distances between features, for making their maps. To determine heights, the OS surveyors used a method called 'levelling'. This involved lots of work on the ground, surveying in the landscape, across fields and bogs, along roads and watercourses, and in uplands and lowlands as well as in towns and villages. It was a huge task. But the result was more accurate maps that showed heights, for different locations, which meant the maps were of wider use for managing land, for engineering and the coming of the railways.

recorded by the letters 'BM' and a symbol, known as a crow's foot, due to its shape. The map also records the height of each mark, calculated from the levelling process.

Many of these early OS benchmarks are still visible in the landscape and one of the aims of the Mapping Monuments project was to identify and record these features in the field. For example, in Ballykelly itself, using the

The levelling process in the field involved using a staff, like a large graduated wooden ruler set up vertically and placed at key points. The surveyors levelling worked in teams, making detailed records of their observations as they went. The Ordnance Survey published the results of the first levelling work in Ireland, which took place between 1839 and 1843, after the earlier trigonometrical surveys of Colby. One of the early 'levelling lines' ran through Ballykelly, and from the pages of the 'abstract' of levelling in Ireland published by the OS in 1855, we get to see the points in the landscape where the surveyors set up their instruments. In the field they marked these points with a 'benchmark'. On the six-inch OS map, from the second edition onwards, these marks were

Ordnance Survey/2nd edition six-inch scale map, County Londonderry sheet 9 (revised 1852), the group found benchmarks from this earliest levelling work of the OS, as well as later examples, as the OS 'relevelled' at later dates to update the six-inch maps. The later benchmarks were sometimes marked with a metal plate, known as a flush-bracket, but the earlier type, called 'cut marks', were also used, where the crow's foot symbol was carved by the OS into a wall, or on a stone, to show where they had set up the measuring staff.



Ballykelly on Ordnance Survey 2nd edition six-inch scale map, County Londonderry sheet 9 (revised 1852). Reproduced from Land and Property Services data with the permission of the Controller of Her Majesty's Stationery Office, Crown copyright and database rights MOU203.

Following in the footsteps of the surveyors on Binevenagh, the *Mapping Monuments* project team following chaining lines in the field (June 2022).

Dragging the chain

"Looking then at the early sheets of the Irish map, the engineer will be struck by the vast amount of data expressed upon them in regard to altitudes, and may also trace, in many cases, the gradual rise of a hill, by following the course of a chain line, and noticing the successive levels marked along it." J. E. Portlock, Memoir of the Life of Major-General Colby (1869).

The levelling work of the Ordnance Survey in the 1840s covered the whole of Ireland, with a network of levelling lines. Prior to this, the surveyors had recorded heights on the six-inch maps through a process called 'chaining'. This again involved very arduous work in the field. A later Director General of the OS, Charles Close, noted how "From trig point to trig point the chain was dragged..." This chain was made of metal of a fixed length. The surveyors used it to measure distances in the landscape on the ground. What Close is referring to here is the measurements being made by the surveyors between the network of stations that were used for the trigonometrical survey. A close look at the first edition of the six-inch scale OS maps of Ireland of the 1830s shows these chaining lines criss-crossing the landscape. By joining the dots' marking the locations where they made their observations to record 'spot heights', lines can be drawn on the map to plot the course taken by the surveyors. These lines on the map are traces of the surveyors in the field, as they Sdragged' the chain.

locate the chaining lines. Using modern technologies including satellite navigation equipment and coordinates taken from the digital mapping, the group identified on the ground the positions of the spot heights' recorded on the first edition six-inch/QS map, County Londonderry sheet 6 (surveyed 1831, printed 1837). We followed the chaining lines on the slopes of Binevenagh, rough and steep ground, to get a real sense of the challenges faced by the surveyors. The weather, the terrain, the equipment, would all have made this difficult work. We plotted out the chaining line across the mountainside with our colourful ranging poles, each pole planted where the map shows a spot height. Seeing the line of poles showed us the course the surveyors took nearly two-hundred/years ago. They did this for countless chaining lines across the whole of Ireland, and the exercise of following in their footsteps prompted us to reflect on the physical demands of the task.



Binevenagh on Ordnance Survey 1st edition six-inch map, **County Londonderry** sheet 6 (surveyed 1831, printed 1837). **Reproduced from** Land and Property Services data with the permission of the **Controller of Her** Majesty's Stationery Office, Crown copyright and database rights MOU203.

Looking at the six-inch maps and these chaining lines inspired the *Mapping Monuments* team to revisit places where the surveyors had been, and so follow in their footsteps. Since the OS maps are accurate and exist in a digital format, it was possible to compare them to modern mapping, and together use this past and present mapping to



Minearney Base Tower, July 2022 (photo: Grace McAlister)

Marking maps

"The captain is the man who actually makes the new map. George's task is to see that the place-names on this map are... correct", Brian Friel, Translations (1980).

The impacts and legacies of the Ordnance Survey in Ireland are complex and contested. For some the six-inch maps, the benchmarks, trig stations, and the 'base towers', that the OS have left behind in Ireland, are fascinating reminders of a bygone machinery" of Colby's "beautiful age and a remarkable feat of science and cartography. In addition, for the northern counties, the Memoirs produced by the OS alongside the six-inch maps recorded in meticulous detail information about the local land, population and culture, which is now of significant historical value. For many others, however, the Survey and mapping of the country two hundred years ago is a symbol of external interference and control, with some blaming the OS in Ireland for the gradual loss of the Irish language through the standardisation of place-names.

international interest and acclaim. So much so that the superintendent of the Great Trigonometrical Survey of India, George Everest, visited Colby from early July to October 1829 to see the "working of the system", until the "damp and rainy weather" and the "foul air of the bogs" caused Everest to retreat back to England. Even so, Everest must have been much inspired by what he saw, for he borrowed Colby's bars for his Great Trigonometrical Survey of India, and for setting up a baseline of his own in Calcutta (Kolkata), which was laid and measured at 6.43 miles between 23rd November 1831 and 19th January 1832. Contemporary images of the Lough Foyle and Calcutta base-lines show clearly the shared surveying equipment and methods that connected Colby's Ordnance Survey in Ireland with Everest's Great Trigonometrical Survey of India.

The bicentenary of the beginnings of the OS's presence in Ireland is now upon us, and understanding the complexity of what happened two centuries ago and what it means to us today is important. It is important because the OS changed Ireland, one way or another, and in the landscapes in and around Lough Foyle changed the landscape materially, through the creation of monuments that are still with us today, such as the Lough Foyle Base Towers.



This rich heritage is archaeologically and historically significant not only locally but also globally. In fact, the activities of Colby and the OS measuring the base-line at the time drew

from a sketch by James Prinsep, Jany. 1832 **Calcutta Baseline of the Great** Trigonometrical Survey (GTS) of India,

sketch by James Prinsep (1832), from R.H. Phillimore, Historical Records of the Survey of India. Volume 4 (1954)

The Mapping Monuments project group pictured at Bellarena (March 2022)

Surveying heritage

The three Lough Foyle base towers that survive - South End, Minearney and North End - are protected monuments and rightly so. However, the fourth station, at Magilligan and called Mount Sandy, has been lost to coastal erosion. This then is 'heritage at risk'. Recording and documenting the 'survey heritage' of the OS around Lough Foyle is an important task, and something to which the Mapping Monuments has contributed, raising awareness and appreciation of the legacies of the early OS in the north of Ireland. From the small artefacts of the benchmarks dotted around the landscape to the larger monuments of the base stations-the 'towers'-and Colby's Camps, all are important as a group of sites and monuments in the landscape, they make sense together as an 'ensemble' and have collective value as cultural heritage. This 'landscape of survey' is of international importance.

intangibly through past activities of surveying and map-making, and is one that deserves recognition and protection for future generations. These sites in the landscape are part of the surveying heritage of the Ordnance Survey in Ireland. In their own way, they memorialise the OS and the lives of those who mapped Ireland, as do the many written sources the OS created as part of its work.

Like the landscape legacies of the OS, the six-inch maps, the letters and correspondence, the name-books and memoirs, together form part of this 'surveying heritage'. The

bicentenary in 2024 of the OS in

The area of Binevenagh and the coastal lowlands of Lough Foyle is particularly significant as a heritage landscape which has been shaped tangibly and

Ireland offers an opportunity to reevaluate how the Ordnance Survey has shaped culture, communities and localities right across the island. This exhibition, and our *Mapping Monuments* project, is a reminder of these impacts and legacies of Colby, his men and their families, and those whose lives and lands were changed when Ireland became the first country in the world to be surveyed and mapped at the scale of six inches to one mile.

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