2016

Grange Stone Circle (B): New Thoughts on an Old Monument

Frank Prendergast

Technological University Dublin, frank.prendergast@tudublin.ie

Follow this and additional works at: https://arrow.tudublin.ie/arastbk

Part of the Cosmology, Relativity, and Gravity Commons, Other Astrophysics and Astronomy Commons, and the Other History of Art, Architecture, and Archaeology Commons

Recommended Citation


This work is licensed under a Creative Commons Attribution-Noncommercial-Share Alike 3.0 License
<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chair</td>
<td>Fr Seán Fennelly</td>
</tr>
<tr>
<td>Vice Chair</td>
<td>Michael Quinlan</td>
</tr>
<tr>
<td>Secretary</td>
<td>Bridie Daly</td>
</tr>
<tr>
<td>Joint Treasurer</td>
<td>Joan Dempsey</td>
</tr>
<tr>
<td>Joint Treasurer</td>
<td>Austin Cregan</td>
</tr>
<tr>
<td>PRO</td>
<td>Harry Greensmyth</td>
</tr>
<tr>
<td>Committee Members</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mary O’Sullivan</td>
</tr>
<tr>
<td></td>
<td>Noel Dempsey</td>
</tr>
<tr>
<td></td>
<td>Alice Fraher</td>
</tr>
<tr>
<td></td>
<td>Christina Greensmyth</td>
</tr>
<tr>
<td></td>
<td>Kathleen Punch</td>
</tr>
</tbody>
</table>

**Members of Lough Gur and District Historical Society Committee**

2015/2016

Front cover designed by Rev. Fr. Seán Fennelly

Dear Reader,

Thank you for your support in purchasing our Historical Society’s Journal. Within its covers you will find a gold-mine of information, history, folklore, people, places and points of fascination and interest. This 2016 edition contains many articles referring to the Easter Rising marking this very special centenary. There are also a fine selection of other submissions not related to the events in Dublin one hundred years ago. These also provide you with a wealth of information both local and from further afield. I want to sincerely express my gratitude to all who have contributed in any way. It is very fitting that I thank Michael O’Sullivan (Hospital) for his years faithfully and successfully wearing the hat of Editor. Michael stepped down from this position but remains a very valued and essential member of the editorial team. I want to congratulate Sean Gallagher, the new editor, on this excellent publication. This book is an exceptionally noble and very fine maiden-voyage for him as ‘commander and chief’. To all in the Society who played invaluable roles in making this journal a reality, it would be remiss of me not to mention Michael Quinlan for all his hard work and his integral role with Lough Gur Historical Society.

A sincere “thank you” to Bridie Daly and the team in the Lough Gur Information office for keeping everyone informed and up to date regarding events and on-goings in our organisation. We are also very grateful to Joan Dempsey, our Minister of Finance, for her impeccable management of fiscal matters. To all members of our Society thank you for your interest and participation over the two years since our last publication. I am especially grateful to all who supported our lectures, talks, our field-trips and fun and informative excursions. New members are always welcome - just contact Joan (087 – 7755376) or make contact through any member of the Society.

I would like to take this opportunity to congratulate the people of Hospital for the wonderful way they both marked and celebrated their Eight Hundredth anniversary in 2015. It was a wonderful success worthy of the mile-stone which it marked.

The two years between each Journal publication are often marked with moments of sadness and grief for our Society and community. This edition is no exception. I would like to offer my prayers and sympathies and the condolences of our entire society to the Ryan and Callanan families on the deaths of Thomas and Michael. Ar dheis De go raibh a n-anamnacha.

I hope you enjoy reading this Journal as much as I have and maybe you might even consider submitting an article for consideration in a future edition.

With my gratitude to you all,

Rev. Fr. Seán Fennelly
Chairperson of Lough Gur Historical Society.
A century has passed since one of the most heroic and defining episodes in Irish history occurred in Dublin and a few other locations in the country at Easter 1916. The Rising has generated a certain amount of debate about whether it should have taken place. But the fact is it did take place and five years later the independent Irish state emerged from that momentous week. It is also fair to say that those who led and participated in the Rising were motivated by the purest of ideals and wanted to see their country – our country – take its place among the nations of the earth on the basis of equality, social justice and self-determination. While the area around Lough Gur was not directly affected by those events at that time, it is appropriate that this journal should remember the Rising and those who participated in it. In this regard a number of articles in this edition relate specifically to this seminal event. These include the reprinting of items that were first published in the 1990 edition of the journal, an article written in 1951 by Dr Richard Hayes of Bruree who participated in the Rising in Ashbourne, Co. Meath, and original contributions from others on certain aspects of the Rising. You will also note that the front and back cover of this edition were inspired by the rebellion and they too are an attempt to pay tribute to the event that created the Irish Republic. I want to particularly acknowledge the feature on the front cover which was designed by our chairperson, Fr. Séan Fennelly.

But this journal also consists of other contributions on the history and heritage of the Lough Gur area and beyond, as well as other features of our past. Historian John A Murphy once wrote that the history of the county “is a vast and patchy fabric, destined never to be completed”, (“Anatomy and Essence” by John A Murphy in Cork History and Society, Dublin, 1993). One could say the same about the Lough Gur and District Historical Society catchment area. And that makes the articles that are included in this journal, and previous editions, all the more valuable. I also hope that you, the reader, will find them to be enjoyable and informative. I wish to thank those who wrote and contributed them and to acknowledge their contribution to creating the fabric that is the history and heritage of the Lough Gur area. I would also like to encourage others who might wish to contribute articles to future editions of the journal. They are always welcome. They are, in fact, the life blood of the journal.

I want to thank the Society for asking me to take on the role of editor of this journal. I hope that my efforts have not disappointed anyone. If they have not, a large amount of the credit must go to Fr Séan Fennelly, Michael Quinlan, Joan Dempsey and Michael O’ Sullivan, who have wisely guided and advised me over the past six months or so in my endeavours. Thanks very much indeed to each of you. I also want to thank Catherine Power, Caoimhe Power Gallagher and Aine Barry for their indispensable technical skills which were required in laying out the journal. Thanks also to Eamonn Sheahan for printing. And, of course, thanks to you the reader for your continued support for the Lough Gur and District Historical Society Journal.

Seán Gallagher
Editor, 2016
Ireland is richly endowed with a built heritage that dates from the Early Neolithic. This provides us with an incredible window of visibility on our prehistoric past. We know that from about 3,800 BC, humans on the island had largely abandoned the nomadic hunter-gather lifestyle characteristic of the preceding Mesolithic (which spanned about 4,000 years). The Mesolithic is thought to have begun around 8,000 BC, although any future discovery of relevant dateable evidence is likely to push that bounding date backwards. What mostly differentiates these two periods of prehistory is the near absence of any surviving built structures from the Mesolithic. Massive stone monuments were not erected in the landscape at that time. Discoveries of microliths (flint tools) and shell middens are common though, and indicative of greater mobility by its people. Survival depended on hunting, fishing and fruit gathering in heavily forested landscapes, and along rivers, lakes and coastlines. The Neolithic, however, sees a gradual shift to vegetation clearances, settlement, cereal cultivation, animal domestication, and monument building. The material culture of this period is additionally notable for its artefacts such as polished stone axes and decorated pottery. These objects were not only practical but likely had additional prestige value because of their decorative and other qualities.

The pottery style shown in Figure 1 is generally known as a Limerick regional style - the Class 1 style referred to by the archaeologist Seán P. Ó Riordáin who excavated sites in the Lough Gur area in the 1940s. Note the simple incised decoration which was often applied to the out-turned rim and shoulder of this type of vessel. Such fragments have survived in the ground for over five millennia because of their durability and can be indicative of a farming economy at that time.

Archaeologists use the term ‘material culture’ to collectively describe all fabricated objects, including those already described. But there is another term in use – ‘non-material culture’. This refers to aspects of a society’s behaviour and their traditions –
qualities which cannot be grasped or measured in a tangible or physical sense. Examples include the nature of rituals, ceremonies, myths, belief systems, and how people engaged with each other and their environment *i.e.* the land, sea and sky. These will be touched upon later in this article.

Artefacts and monuments which constitute the material culture of the Neolithic (and the later Bronze Age and Iron Age) are well known and described. These include timber houses, domestic ware, tools, weaponry, monuments made of stone and timber, and the vast body of inscribed art (megalithic art and rock art). A modern reconstruction of a Neolithic timber house can be found at the Irish National Heritage Park, Co. Wexford (Figure 2). So far, traces of just 90 examples of these have been found at 50 excavations sites. Such dwellings were typically arranged in clusters, were mostly located close to water and had a rectangular shape. On average, the living space measured 6–10 m long by 4–7 m wide with a central hearth and a smoke-hole in the roof.

![Neolithic house at the Irish National Heritage Park, Co. Wexford](Photo: F Prendergast)

**Fig. 2** Neolithic house at the Irish National Heritage Park, Co. Wexford

The reconstruction shown is based on discoveries at Knockadoon/Lough Gur, Co. Limerick during site excavations undertaken by Ó Riordáin in the late 1940s. The builders of Grange Circle (B) likely lived in a similar type of structure. A fire is now kept permanently lit in a hearth located within the house. This is to mimic living conditions in the Neolithic and to monitor the long-term effect of smoke on the roof. The expected lifespan of the building is estimated to be about 30 years.

---

Architectural variations in the style of prehistoric stone-built monuments are well catalogued, and a clear typology for their classification has been developed, especially since the latter half of the last century. Broadly, the majority fall into one of three categories - megalithic tomb, stone row or stone circle. ‘Megalithic tomb’ is a general term used to describe any structure built from small to massive blocks of stone, partly for the purpose of containing the remains of the dead. The design features include an entrance passage leading to a burial chamber with the whole usually covered with a round or long cairn constructed from smaller stones, earth and turves. Many have been denuded of their covering cairns. Inside, cremated (and sometimes un-cremated) remains of the dead, and grave goods (items of personal adornment belonging to those interred), were deposited.

Cultural differences between the different societal groups who lived during the prehistoric past are reflected in four clearly different tomb building traditions. Court, portal and passage tomb types date to the Neolithic and 1014 of these have survived the ravages of time. Extant Bronze Age wedge tombs are the most numerous by type (566), while the remains of 377 megalithic structures cannot be classified because of their poor condition or lack of excavation. The Irish landscape is also dotted with innumerable cairns that are frequently located on hilltops and mountain peaks. The majority of these have neither been excavated nor dated. Another type of monument - stone circles - do not have any primary funerary function (in Ireland) and are the focus of the next part of this paper.

The Lough Gur landscape and its monuments

The Great Stone Circle (B) in the townland of Grange, Co. Limerick is set amongst 49 listed prehistoric monuments nearby. All are within a two kilometre radius of the centre of Lough Gur Lake. Figure 3 illustrates their location as well as showing the dramatic topography of the surrounding hills that rise abruptly above the lake, especially to the north.

The lake is now comparatively shallow (< 3 m) but in prehistory, the surface level is thought to have been about 1.5 m higher, giving it a greater area than at present. The known diversity of aquatic and terrestrial habitats would also have made the area most suitable for settlement and farming in the Neolithic. The availability of a variety of suitable stone in the locality additionally provided the raw material for the monument building – of which Circle (B) is the premier surviving example.
The Bronze Age wedge tomb (LI032-029----) shown in Figure 3 lies close to the south shore of the lake. A burial cairn (LI032-014009--) crowns the summit of Knockfennell Hill (Elev. 158.6 m AMSL). Numerous standing stones were also erected locally but these can be difficult to date or explain. Broadly, these can have a height of up to 6 m and the longer flank can show a preference for orientation in a northeast-southwest direction. They may have functioned as prehistoric burial markers, commemorative monuments, way-marks along routes or to define territorial boundaries. They mostly date from the Bronze and Iron Ages. Some are also thought to have had an early medieval ecclesiastical or burial context for the period immediately after the Iron Age i.e. the 5th–12th centuries AD.

**Stone circles**

A stone circle is a setting of upright stones of varying size forming a ring whose shape can vary from exactly circular to elliptical. Where excavated, some indicate they are evolved from an earlier timber circle. Their distribution is noticeably concentrated in the western part of Britain, and most of Ireland. Stone circles are largely absent from central mainland Europe. In Ireland, a few were erected in the Late Neolithic (3,300–2,400 BC) but the majority belong to the Bronze Age (2,400–700 BC) and were probably built as ritual monuments. Grange Circle (B) is classified as an embanked type and
uniquely identified by a national inventory number (LI032-004001). An embanked stone circle has its stones set around the inner edge of a circular bank composed of earth and small stones. Seven examples of this type are known here in comparison to more than 350 of the five-stone type and multiple-stone type.

Grange Circle (B) is shown in plan in Figure 4. Recent radiocarbon dating by the archaeologist Dr Rose Cleary indicates that it was built sometime in the century between 2,950–2,850 BC (an early date for a stone circle in Ireland). There are 113 upright stones in the ring, mostly set end-to-end (contiguous) and against the inner face of a 1 m high circular flat-topped bank (up to 10 m wide). The structural stones have an average height of 1.6 m. Their geology is varied, being limestone (86 stones), volcanic breccia (24 stones), sandstone (2 stones) or basalt (1 stone).

The internal floor of the circle is level and was artificially raised by its builders using clay. This imported fill material has an average depth of about 0.4 m above the original ground level and would have required considerable effort to haul. The bank, and the ring of stones, is breached in its northeast sector by an entrance avenue formed by two parallel lines of stones, 10 m long and 1 m wide. This is slightly skewed in direction to the south and relative to a line joining the entrance with the centre of the circle. The average diameter of the internal space measures 45.5 m making it the largest extant true stone circle in Ireland. Comparisons are often drawn with the stone circle in the townland of Tops, Co. Donegal, also known as the Beltany Stone Circle (DG070-026001). That has an average internal diameter of 43 m and is thus smaller in plan. The size and shape of the ‘Great Stone Circle’ at Newgrange should also be given consideration when making such comparisons. It has an average diameter of 103.0 m but deviations from a best-fit circle have a range of up to 4.9 m. When this fact is combined with the knowledge that it was erected during the Bronze Age, and thus long after the passage tomb was built, its purpose was more likely intended to ritually enclose the gigantic cairn and passage tomb.

Interestingly, there is no evidence of any rock art (such as cup marks) at the site. Stone (1) in the northeast sector is also known by the legendary name of Rannach Cruim Duibh, and is by far the most impressive and distinctive, having a mass of about 40 tonnes. Visitors are, in a sense, magnetically drawn to it because of its sheer size and worked appearance. They often meditate in a trance-like state while in physical contact with its southerly-facing smooth flank, appearing to connect with, and draw on, its alleged mystical and magical qualities.
In the plan, the grid interval is 20 m and the indicated north point is National Grid North (after Ó Riordáin, 1951 with additions). Each stone is numbered according to a convention first published by the archaeologist Bertram Windle in 1913. The ‘X’ in the centre of the plan shows the mathematical centre of the circle derived by the author. The ‘•’ at the centre of the plan shows the location of a post hole discovered during site excavations in the 1940s by Ó Riordáin. Taken together, these data support the argument that the circle was simply set out and constructed using a rope anchored at the centre point of the monument.

Setting out the shape of the circle in a surveying sense would have been a simple task requiring no more than a length of rope and a point of origin. From this location, the perimeter arc of the circle would have been easily scribed into the ground using a pointed stick. The physical effort of shaping and moving the stones into their final position was undoubtedly considerable. Deviations between the stones and the path of the best-fit circle are shown in Figure 4 by the red dotted line but these are generally small in size. Where large, this could reflect either a difficulty in excavating the foundation sockets for the stones in some cases or, simply, casualness on the part of
some of the builders. Regardless, an elegant space which was open to the sky was created. It could accommodate a very large number of people assembled within the ring or when standing on the surrounding flat-topped bank (which could have functioned as a viewing platform).

Past archaeological excavations of the floor area within the bank by Ó Riordáin show that for 73% of it, there is no evidence of human burial or habitation present. Combined with more recent excavations undertaken by Cleary, it is now known that the whole complex was built in a single act of construction and was likely used primarily as a space for gathering and ceremonies.

**Astronomical questions**

Grange Circle (B) has been, and will continue to be, the subject of considerable speculation and conjecture as to the exact nature of any ceremonies and rituals that may have taken place there in the prehistoric past. In that regard, it is no different to any other ancient monument. Fundamentally, its history of use is lost to us. Clues regarding the manner in which it may have used can be obtained in a number of ways: from the study of the material culture obtained through excavation; from myths and legends contained in ancient historical sources or oral history; or through the techniques of cultural astronomy. Cultural astronomy is now a well-established field of scientific study incorporating archaeoastronomy, ethnoastronomy and ancient cosmology. Ethnoastronomy is the study of awareness and interest in the sky by contemporary non-literate societies. As such, it is not relevant to this discussion. Archaeoastronomy is the study of the belief systems and ritual practices of prehistoric societies and especially how these related to the sky. Ancient cosmology considers how humans first sought to develop a conceptual framework of their place in the universe, and of their ‘world view’. Taken together, these fields of study add depth and understanding to our knowledge of the distant past. Similar questions were no doubt forefront in the mind of Bertram Windle when he investigated the monument in the early 1900s.

During fieldwork conducted in the Lough Gur area (see reference at end of paper), Windle produced the first detailed description of the Grange (B) stone circle. His survey included a measurement of the true orientation (azimuth) of what he interpreted to be the axis of the monument - the line joining the entrance in the northeast (flanked by stones 12 and 13 shown in Figure 4) with two prominent stones diametrically opposite (stones 67 and 68). His suspicion was that this direction was astronomically significant in terms of how the circle may have been used. To undertake this work, he used the expertise of the Cork-born hydrographic surveyor Henry Boyle Townshend Somerville. Somerville was skilled in such measuring techniques and provided Windle with the necessary data and answers. This enabled Windle to conclude that if an observer stood at the entrance and directed their gaze across the circle towards stones 67 and 68, they would observe the sun set on the horizon on 8th November and again on the 4th February. He interpreted this as evidence of deliberate astronomical alignment of the monument’s axis coinciding with the date of Samhain – one of the divisions of the ancient Celtic year.
Figure 5 illustrates one visualisation of the sky from the centre of the circle looking eastwards. Site-based digital photography and astronomical simulation are blended together to give realistic depictions of what phenomena may have captured the interest of prehistoric people in the Neolithic at that place in 3,000 BC.

Photography and computer simulation: F Prendergast

Fig. 5 Visualisation from the centre of Grange Circle (B) at winter solstice sunrise in 3,000 BC

The stones are identified and shown numbered according to the convention used by Windle (see Figure 4). The extent and height of the vegetation on the horizon when the circle was in use during the Neolithic is unknown. This limitation imposes a degree of uncertainty regarding the altitude of the horizon visible from the circle at that time. The scene in Figure 5 was created using astro-orientated panoramic photography and modelling of the ancient sky with planetarium software (Stellarium). In such a model, the clock can be adjusted to give realistic views of the sky at Lough Gur from within the stone circle – at any time of day or year, now, in the prehistoric past, or in the future. Importantly, these approaches and techniques link archaeological and astronomical detail and are a valuable tool for visualisation and educational purposes.

Windle and Somerville’s measurement of azimuth was correct, as were the other elements of their calculations, except for one – the angular altitude of the local horizon. Because of the blocking effect of nearby trees, this could not be measured at that time. Instead, they had to estimate it. Recent investigations by the author have re-evaluated this, and determined that the axial alignment does not coincide with sunset on the
dates previously proposed by Windle\(^2\). Such a finding raises important questions relating the astronomical properties of Grange Circle (B) and all other megalithic monuments.

In Figure 5, the sun would have risen behind stone (31) at the winter solstice if viewed from the centre of the space. At this time of the year, the sun appears to the naked eye to rise in approximately the same position on the skyline for almost one week each year. ‘Solstice’ means ‘standing sun’ and the arrival of this phenomenon marks the end of one solar year and the beginning of the next. Expressed differently, the event marks the point of reversal or turning of the apparent direction of sunrise (and sunset in the west) on the horizon.

At the winter solstice (now falling on December 21/22 in the Gregorian calendar), shortening days are turned into lengthening days. The opposite is the case at the summer solstice in June. We also know from broader statistical studies of monuments throughout Europe that these periods in particular were doubtless ritually and culturally important in the prehistoric past. Hence, there is significant evidence in the alignment of some monuments being orientated towards the extreme positions of the sun (and the moon), at sunrise and sunset.

Archaeoastronomers cannot reliably draw meaningful conclusions from an astronomical alignment occurring at a single monument. Instead, it is considered best practice to analyse regional groupings of similar types of monuments for indicative evidence of patterns or trends in orientation and targets. Moreover, there are numerous other explanations, including a random one, which should be considered (see reference at end of paper). There must also be clear evidence of an architectural axis such as a passage leading towards a burial chamber. That helps to reduce the uncertainty in deciding which directed view may have been important in the mind of the builder. Recumbent stone circles (RSCs), stone rows, and the majority of megalithic tombs readily lend themselves to such investigations and analysis. For example, the Cork-Kerry group of RSCs show moderately convincing evidence of an interest in the infrequent southern extreme limits of the setting moon. Their nearest equivalent (by type) is in Aberdeenshire, Scotland. Those show convincing evidence of axial alignment towards the same aspect of the moon’s position. For Grange Circle (B) however, the evidence of any similarly obvious architectural axis is weak. Moreover, the temptation to selectively choose a line of sight from pairings of stones so as to fit a particular alignment theory in the mind of the modern investigator, while tempting, can never be a valid approach, either archaeologically or astronomically.

Overall, there is little doubt that the area enclosed by the circular bank at Grange was used as a gathering place by the local community and, probably, by those from further afield. It likely functioned as a centre of exchange (knowledge, stories, myths etc.) or

---

as a trading hub for goods. Its sheer scale also reflects a probable communal desire to create an impressive sacred or ritual space used for festivities, ceremonies and enclosure. Whether astronomical alignments were ever part of such practices, we shall never know and can only speculate. This uncertainty is compounded by the fact that if the position of an observer is moved by even a few metres within the circle, the relationship between any individual stone and the position of a rising or setting celestial body on the horizon is radically changed. This effect is known as parallax.

There is no recumbent stone or axial stone opposite the impressive entrance feature into Grange Circle (B). That is not to negate the idea that the axial alignment first proposed by Windle (or any other direction) was significant, or that the sky, and skyscape, were an important part of the meaning of the monument to its users. If anything, the lack of a definitive axis line, in the opinion of the author, allows for the argument that the monument was important at all times of the year and not just at the solstices. Such a prospect elevates rather than detracts from the astronomical potential and significance of the space.

**Cosmology and Grange Stone Circle (B)**

In prehistory, the dome of the night-time sky (the Celestial Sphere) would have seemed to gazers as a solid dark surface studded with distant and mysterious bright lights which appeared to rise in the east and set in the west. As the year progressed, their visibility would also have seemed to diminish as the timing of their rising, setting and passage changed with the seasons. Stars which are prominent in the winter sky gradually become invisible as the year advances until their predictable return the following autumn. During the hours of daylight, the brightest of them, our sun, would have appeared to follow a similar track as for the stars and the moon.

Beyond the limits reached by the rising/setting sun and moon on the horizon, a particular group of stars in the northern sector of the sky will never rise or set. These always remain above the skyline and are known as circumpolar stars. This is linked to latitude on the earth. In many northern (and southern) cultures, these would have been noticed as being different and mysterious and have had a special mythology and cosmology.

Figure 6 illustrates the world as it may have been perceived by the people of Lough Gur in ancient times. It is shown divided into three parts - the underworld, the lived-in landscape and the dome of the sky. This is known as a tripartite model of the universe and a basic concept of cosmology. In this model, celestial bodies (sun, planets and stars) appear to rise in the east and from a hidden realm below the skyline (horizon). This is the so-called underworld, a place where the sun and other heavenly bodies were believed to have journeyed after setting (dying) in the west until their predictable rebirth and rise each morning in the east.
Archaeological awareness and interest in these ideas are now very much part of the modern research agenda. Through such approaches, we can deepen our understanding of what was earlier termed the ‘non-material culture of our distant ancestors.

A new era dawns for Lough Gur

The landscape surrounding Lough Gur Lake is an area of outstanding archaeological importance. It is recognised as one of the most important prehistoric settlement sites not only in Ireland but also in northwest Europe. As a result, it has the potential to become a UNESCO World Heritage Site.

Contingent with such heritage importance and status on a national and international scale, the newly-formed Lough Gur Science Group is now engaged in the process of making an application to the International Dark Sky Association (IDA, http://darksky.org) to conserve and protect the character of the night sky at this location. This is consistent with the broader aims of the IDA and its Dark Sky Places Program which seeks to ‘encourage communities around the world to preserve and protect dark sites through responsible lighting policies and public education.’
The sky at places of prehistoric archaeological importance is a cultural resource to be preserved through conservation and planning measures. There is also the recognition that the relationship between mankind and the sky is embedded in cultural and natural landscapes and such entities require safeguarding. Thus, the sky and, by inference, skylines have become an integral part of UNESCO’s Thematic Initiative ‘Astronomy and World Heritage’. It exists to raise awareness of, and protect, designated cultural properties and entities worldwide for present and future generations.

If unchecked, light pollution (a component of sky glow) in the Lough Gur area will increase over time and thereby diminish the dark sky character of the region. The value of monitoring this, and the worthiness of the planned actions by the Lough Gur Science Group are timely and important. If successful, we can look forward to a very dark future for Limerick’s own very special ‘landscape of monuments’.

Further reading

Windle, B. C. A. (1912/1913) 'On certain megalithic remains immediately surrounding Lough Gur, County Limerick', *Proceedings of the Royal Irish Academy*, XXX (Section C), 283–306.
POBLACHT NÁ H ÉIREANN.

THE PROVISIONAL GOVERNMENT
OF THE
IRISH REPUBLIC
TO THE PEOPLE OF IRELAND.

IRISHMEN AND IRISHE WOMEN: In the name of God and of the dead generations from which she receives her old tradition of nationhood, Ireland, through us, summons her children to her flag and strikes for her freedom.

Having organised and trained her manhood through her secret revolutionary organisation, the Irish Republican Brotherhood, and through her open military organisations, the Irish Volunteers and the Irish Citizen Army, having patiently perfected her discipline, having resolutely waited for the right moment to reveal itself, she now seizes that moment, and, supported by her exiled children in America and by gallant allies in Europe, but relying in the first on her own strength, she strikes in full confidence of victory.

We declare the right of the people of Ireland to the ownership of Ireland, and to the unfettered control of Irish destinies, to be sovereign and indefeasible. The long usurpation of that right by a foreign people and government has not extinguished the right, nor can it ever be extinguished except by the destruction of the Irish people. In every generation the Irish people have asserted their right to national freedom and sovereignty; six times during the past three hundred years they have asserted it in arms. Standing on that fundamental right and again asserting it in arms in the face of the world, we hereby proclaim the Irish Republic as a Sovereign Independent State, and we pledge our lives and the lives of our comrades-in-arms to the cause of its freedom, of its welfare, and of its exaltation among the nations.

The Irish Republic is entitled to, and hereby claims, the allegiance of every Irishman and Irishwoman. The Republic guarantees religious and civil liberty, equal rights and equal opportunities to all its citizens, and declares its resolve to pursue the happiness and prosperity of the whole nation and of all its parts, cherishing all the children of the nation equally, and oblivious of the differences carefully fostered by an alien government, which have divided a minority from the majority in the past.

Until our arms have brought the opportune moment for the establishment of a permanent National Government, representative of the whole people of Ireland and elected by the suffrages of all her men and women, the Provisional Government, hereby constituted, will administer the civil and military affairs of the Republic in trust for the people.

We place the cause of the Irish Republic under the protection of the Most High God, Whose blessing we invoke upon our arms, and we pray that no one who serves that cause will dishonour it by cowardice, inhumanity, or rapine. In this supreme hour the Irish nation must, by its valour and discipline and by the readiness of its children to sacrifice themselves for the common good, prove itself worthy of the august destiny to which it is called.

Signed on Behalf of the Provisional Government,
THOMAS J. CLARKE.
SEAN Mac DIARMADA. THOMAS MacDONAGH.
P. H. PEARSE. EAMONN CÉANN.
JAMES CONNOLLY. JOSEPH PLUNKETT.