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## Astronomy and the Sacred Landscape in Irish Myth

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**Abstract.** The abundant tales from Irish myth recorded in manuscripts dating from the seventh century onward make frequent references to the calendrical festivals that mark the changing of the seasons in the ancient agricultural cycle. They also feature a number of gods whose characteristics suggest they are associated with the sky, particularly the sun and moon. And there are references to days on which the sun is stopped in the sky or that last far beyond the usual limits. By themselves, these references only suggest a concern with astronomy. However, the tales also detail a sacred landscape, telling where the gods live and describing their adventures and journeys. When the sites mentioned are identified and their relationships examined in conjunction with their role in the stories, it becomes apparent that the sacred landscape reflects the astronomical concerns the stories imply. Interestingly, a number of the sites mentioned, some dating to the Neolithic, are far older than the stories, also suggesting a continuity of astronomical knowledge and belief over a period of at least three thousand years. This paper will present several examples illustrating these relationships of astronomy, myth, and the landscape and describing the roles these play in the belief system and early Irish culture.

### **Prehistoric Sites and the Ritual Calendar**

My interest in Irish myth and its possible astronomical connection arose from what began as an attempt in the early 1970s to identify sites in Ireland similar to the first earthen-bank phase of construction at Stonehenge – so called 'henge' earthworks. The sites found in Ireland tended to have entrances oriented toward the northeast. Given the orientation of Stonehenge, it was decided to see if these sites, too, were

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aligned on the summer solstice. Instead, they turned out more often to have their entrances oriented toward sunrise on one of the cross-quarter days that were celebrated as festivals in ancient Ireland.

These cross-quarter days, which once were considered the beginnings of the seasons, fall midway between the solstices and equinoxes, near the beginnings of our months of February, May, August, and November. And they are closely connected with the agricultural cycle. The first (February) festival, called Imbolc or Oimeig, is associated with the goddess Brigid (essentially identical with the saint of the same name). The names mean 'swelling' (as in 'the earth is pregnant') and 'ewe's milk' (indicating the beginning of the lambing season). Both names mark this as the beginning of the agricultural year, when the earth begins to bear new life. The second festival, in May, is Beltaine, meaning 'Bel's fire'; Bel may be another name for the god Belenus or Balor. At this time two fires were traditionally built, and the herds and flocks were driven between them (to confer protection from disease and injury) and off to the summer pastures. This practice continued in the Hebrides, off the west coast of Scotland, until the nineteenth century (when they still wove daisies into the tufts on the tails of the cows and drove them off 'singing hymns to the golden-haired virgin Mary', as one source tells us.<sup>1</sup> The third festival, Lughnasa ('games of Lugh') was celebrated in August with a week of horse races and other contests, very much like American county fairs, which probably can be seen as a continuation of the tradition. It marked the beginning of the harvest and was established, as the ancient texts tell us, to honor the death of the goddess Tailtiu, who had the forest cleared for agriculture. She also represents the grain that is harvested (thus her death). This is parallel to the Greek story of Ceres and Persephone, in which it is the goddess's daughter who goes into the underworld for a time each year; Ceres' name of course gives us the word 'cereal'. Even today in Ireland some consider it bad luck to eat the first of the new crop of potatoes until after Lughnasa. Finally, we have the festival that ended the Irish year, Samhain, over whose meaning there is some disagreement. It can be interpreted simply as 'end of summer', though that only works if you assume the year has just two seasons, summer and winter. It can also be interpreted as meaning 'reassembly', and it was certainly the time when the herds and flocks were brought back from the summer pastures. It marked the end of the harvest and a

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<sup>1</sup> Michael Morris, 'Megalithic exegesis', *Irish Archaeological Research Forum* 1, no. 2 (1974): pp. 10–28.

time of feasting, particularly the time of the Feast of Temair (now Tara), at the site considered the headquarters of the high king. It was also the time when the gates to the underworld opened and the spirits of the dead returned home for a visit. Until recently, it was the tradition in Ireland to leave the front door ajar and to set out food on the hearth for the visiting ancestors. This festival has come down to us as Halloween.

Astronomically, since the dates fall at the midpoints between the solstices and equinoxes, Beltaine and Lughnasa would share the same sunrise and sunset positions in the northeast and northwest while Imbolc and Samhain would share positions in the southeast and southwest. It is important to bear in mind, however, that the actual dates of the festivals were probably not determined strictly on the basis of solar dates. The Celts appear to have used a mixed solar/lunar calendar, with the result that the dates for the festivals would have moved around from year to year, based on a particular phase of the moon nearest to one of the solar dates, much as we calculate the date of Easter today (first Sunday following the first full moon following the vernal equinox). This would suggest that site orientations might vary within a range of possible solar orientations for the festival. Data collected by Máire MacNeill on historical celebrations of Lughnasa appear to support this, with the dates falling between 25 July and 12 August.<sup>2</sup>

The observation that these orientations could be found in the sites was unexpected, since the festivals are assumed to be traditions of the Celts, who do not seem to have arrived in Ireland until sometime in the last half of the first millennium BCE, while the henges are assumed to belong to the Neolithic or Bronze Age, some hundreds of years earlier. However, even though the age of henges in Great Britain for which dates are available puts their average time of construction at around 1800 BCE, some of the major Irish sites of this type seem to belong to the early Iron Age, at least a thousand years later. And in one of the early publications on the henges, R. J. C. Atkinson refers in a footnote to the 'remarkable Iron Age henge at Frilford'.<sup>3</sup> During a conversation in the 1980s he admitted that he had found abundant evidence that even Stonehenge continued to be a gathering place right up until the time the Anglo-

<sup>2</sup> Máire MacNeill, *The Festival of Lughnasa* (Oxford: Oxford University Press, 1962), p. 22.

<sup>3</sup> Richard J.C. Atkinson, 'The Henge Monuments of Great Britain', in R. J. C. Atkinson, C. M. Piggott, and N. K. Sandars, eds, *Excavations at Dorchester* (Oxford: Ashmolean Museum, 1951), pp. 81–107 (p. 91).

Saxons came to dominate the area around it. It does seem unlikely that a major religious monument would fall out of use soon after its completion. We have only to look at the age of some of the cathedrals of Europe to see that use could easily persist for hundreds of years.

### **The Sites and the Myths**

This brings up a second characteristic of the Irish sites. A colleague specializing in Celtic Studies, Garrett Olmsted, pointed out that some of the henge-like earthworks identified in Ireland were in fact mentioned in Irish myth. He suggested examining an early Irish compilation dealing with place names, the *dindshenchas*, which literally means 'histories of places'.<sup>4</sup> After Greece and Rome, Ireland has the largest body of early literature of any country in Europe, and much of that literature is made up of myths – tales of gods and heroes. This was apparently first committed to writing during the Early Christian period, between the seventh and twelfth centuries, which is remarkable enough in itself, since the manuscripts appear to have been compiled primarily in the monasteries. Why would Christian monks have carefully preserved stories about pagan deities? The answer to that seems to lie with evidence suggesting that Christianity was largely adopted and spread by members of the traditional learned classes, a group that included bards and druids, who felt a commitment to preserving traditional knowledge. St Columba, founder of the monastery on Iona, is even reported to have returned to northern Ireland near the end of the sixth century to defend the bards, who had been threatened with expulsion from Ireland for remaining pagan. Preservation of the stories in Christian times was probably helped along by the fact that the characters mentioned are only rarely identified as gods. For the Irish, the gods lived in a world that paralleled our own, with kings, warriors, craftsmen, and so on.

While the stories are thought of as being a product of Celtic society, there is really little in them to indicate that they were purely Celtic, owing nothing to the culture that had existed in Ireland prior to the arrival of the Celtic language. Rather only a few of the names in the stories have parallels in other Celtic areas, and there is little archaeological evidence

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<sup>4</sup> Whitley Stokes, 'The Prose Tales in the Rennes Dindsenchas', *Revue Celtique* 15 (1894-95): pp. 272–336, 418–484; Stokes, 'The Prose Tales in the Rennes Dindsenchas', *Revue Celtique* 16 (1894-95): pp. 31–83, 135–67, 269–312; Edward Gwynn, *The Metrical Dindshenchas*, Royal Irish Academy Todd Lecture Series 8-12 (Dublin: Hodges Figgis, 1903–35)

to suggest that a major influx of new people accompanied the spread of the new language. Major figures in the myths are certainly linked with monuments that are far older. Newgrange, which is famous for having its entrance oriented toward the winter solstice sunrise, was built around 3100 BCE but is identified as the home of Oengus, son of the Dagda, the 'all-father', who seems to be the primary deity.

Thus it seemed likely that the *dindshenchas* might not only point in the direction of henges that had been missed, if the places in the stories could be correlated with actual locations on the ground, but might also provide clues to the meaning and purpose of the henges.

### **The Lughnasa Triangle**

As work on the *dindshenchas* got under way, it became clear that certain motifs appeared frequently and that understanding the tales would require study of these. Initially, research focused on one of the most common motifs, the death of one or more of the characters. When tales mentioning deaths were correlated with mentions of the four festivals of the agricultural cycle, it was found that death was associated with only the last two of these festivals. This was not unexpected in the case of Lughnasa, the festival associated with the beginning of harvest, and in these it is typically a goddess who dies. But at Samhain, the deaths were all of warriors.<sup>5</sup> Why would this be true of the festival marking the end of the agricultural year? We will return to this question in a few minutes, but let's first look at another characteristic of the Lughnasa tales.

The evidence of the tales suggested that the importance of the *dindshenchas* to the pre-Christian Irish, which had led to the preservation of the tales, had to do with the general belief in the land as sacred and that the distribution of sites might provide clues to the role of the land in their religion. Consequently, it was decided to plot the distribution of the Lughnasa sites on a map (Fig. 1). This produced a very surprising result. Far from being randomly distributed, the sites mentioned occurred in clusters in the vicinity of the traditional royal sites of the provinces of Ulster, Leinster, and Connacht or along lines linking those sites. From the archaeological evidence, it is clear that these royal sites were ritual centers rather than the homes of earthly kings and queens. Further, the three royal sites – Emain Macha, Dún Ailinne, and Rath Cruachan – turned out to be nearly equidistant from one another, forming a triangle

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<sup>5</sup> Ronald Hicks and Laura Ward Elder, 'Festivals, Deaths, and the Sacred Landscape of Ancient Ireland', *Journal of Indo-European Studies* (in press).

whose eastern side – from Emain Macha to Dún Ailinne – formed a line directed almost exactly north-south. Very near the middle of that north-south line lies Tailtiu, identified as the site where the Lughnasa festival originated.

The side of the triangle extending from Dún Ailinne to Rath Cruachan, the Connacht royal site, is also interesting. Not only does it have another important site at its center – Uisneach hill, traditionally the center of Ireland, home of the Dagda, and burial place of Lugh – but also it is on the alignment for observing the summer solstice sunset from Dún Ailinne.

The third side of the triangle, from Rath Cruachan to Emain Macha, does not appear to have any known site of significance at its center, although just to the north of that center is a cluster of stone circles that seem to mark another sacred area. This cluster, in Mag Slecht, is interesting because a medieval tale of St Patrick claims that he destroyed a stone circle here, where the chief god, Crom Croich – probably another name for the Dagda – was regularly worshipped at Samhain. The direction of the line from Emain Macha to Rath Cruachan is very near the alignment necessary for observation of sunset at Samhain and Imbolc, or if one were to look along it in the opposite direction, sunrise at Beltaine or Lughnasa.

The overall pattern of distribution of these sites seems to suggest strongly that the major sacred sites of pre-Christian Ireland were deliberately situated in such a way as to form a ritual landscape reflecting the agricultural cycle and ritual year.

### **Samhain Tales**

The sites mentioned in the *dindshenchas* tales concerning Samhain do not form as clear a pattern as those dealing with Lughnasa, but they are listed in an order that is essentially sunwise (clockwise). Samhain also features in one of the most famous ancient Irish tales – sometimes spoken of as 'the' Irish epic – 'Táin Bó Cualgne', usually called simply 'The Táin' or 'The Cooley Cattle Raid'. In it, Queen Medb, the goddess of Connacht in the west who lives at Rath Cruachan, starts a war because she wants a bull belonging to someone in Ulster. The story speaks of the armies of Ulster and Connacht battling from 'Samhain until the Wednesday after Imbolc'. Medb is also central to a folktale in which she leads an army from the underworld at Samhain and attacks the banqueting hall at Tara, while the high king is hosting the feast. Samhain thus can be interpreted as marking the beginning of a period of struggle of the forces of light, led

by Cú Chulainn of Ulster against Medb and the forces of darkness and winter. With the Ulster royal site of Emain Macha being in the northeast, the direction of sunrise in summer relative to Medb's home at Rath Cruchan, and with Rath Cruchan lying in the direction of Samhain and Imbolc sunset from Emain Macha, it looks suspiciously as though the landscape reflects not only the ritual year but also the mythology.

The remainder of this paper will be devoted to considering in detail portions of another tale in which Samhain plays a prominent role.

### **Tochmarc Étaíne**

In its current form, *Tochmarc Étaíne* or 'The Wooing of Étaín'<sup>6</sup> seems to date from the end of the ninth century.<sup>7</sup> In it, Samhain is mentioned so frequently that it must be central to the meaning, probably to emphasize that the story applies to the period beginning at the time of that festival. And the tale certainly has astronomical elements. Let's consider those elements and the role the landscape plays in the story.

We do not immediately meet the subject of the tale, Étaín. Instead the story begins with the Dagda, 'the good god', desiring Elcmar's wife, Eithne. In order to pursue her, he sends Elcmar from his home at Brug na Boinne (the old name for Newgrange) on a long journey to see Bres, who lives in Mag Inis in what is now County Down. In order to have time for their tryst, the Dagda makes nine months appear to last a single day and causes Elcmar not to notice the passage of time. By the time of Elcmar's return, Eithne has borne the Dagda a son, Oengus, of whom it is said that he was conceived at dawn and born by sunset. This quite clearly relates Oengus to the daytime hours, implying that he is in some sense connected to the sun. It may also be that the intention is to emphasize the period of nine months, particularly if it is the nine months preceding Samhain, since that encompasses the time from planting through harvest.

That Elcmar's journey is to Mag Inis also appears significant. Although the time of his journey is not specified, Oengus must later make a similar trip after he acquires possession of Brug na Boinne. The time of Oengus's journey is specifically stated to be at Samhain. The occurrence of two journeys from Newgrange to Mag Inis suggests that the stories are concerned with repeating cycles.

To see if there is evidence to support this interpretation, it is necessary to consider whether there is anything on the plain called Mag Inis that

<sup>6</sup> Osborn Bergin and R.I. Best, 'Tochmarc Étaíne', *Ériu* 12 (1938): pp. 137–96.

<sup>7</sup> Myles Dillon, *Irish Sagas* (Cork: Mercier, 1968), p. 20.



compares to Newgrange, and whether the geographical relationship of the Brug and Mag Inis has any astronomical or seasonal significance. A glance at the map (Fig. 2) makes it clear that Mag Inis is to the northeast, separated from the Brug by the Mountains of Mourne. And in the midst of Mag Inis, we find the stone circle in Ballynoe Townland, whose design seems intended to call one's attention to the mountains to its southwest.

The two sites certainly are not intervisible, but the line from the Brug and Mag Inis falls very near that for what Alexander Thom called a maximum lunar standstill position – the extreme northern position for moonrise. For a period of a few months every 18 to 19 years, the moon's monthly swing along the horizon would cause it to rise near this position, and in the winter months this would be as a full moon. Thus the winter full moon during the period of the lunar maximum would rise over the Mountains of Mourne as viewed from the vicinity of Newgrange. Such a lunar connection would seem to fit well with other aspects of the tale, as we will see in a few moments.

Before Elcmar's return, Oengus was taken to Brí Léith, a hill some miles west of the Brug, to be raised by Midir. When he reaches the age of nine, Oengus demands to be told the identity of his parents. He is then taken to Uisneach to see the Dagda, whom he asks for a grant of land. The Dagda's response is to offer him the Brug, but Oengus must trick Elcmar out of it by going to it armed at Samhain, which is a day of peace. He is to offer to spare Elcmar in return for being allowed to be king in the Brug for a day and a night. Elcmar agrees, but when a day later he comes to reclaim it, Oengus is to say that he had asked for 'kingship of day and night'.

The next Samhain, Midir comes to the Brug to visit his fosterling. Oengus asks him to stay with him until the next Samhain, which Midir agrees to do only if rewarded with a chariot, a mantle, and the fairest maid in Ireland. This is the occasion of Oengus's journey to Mag Inis, where the maid, Étaín Echrade, lives.

Oengus stays in Mag Inis three nights, and in payment for his daughter, Étaín's father asks three things of Oengus. First is that he clear twelve plains of forest so that they may be used for grazing, habitation, and gatherings. Second is that he must cause twelve rivers to flow to the sea so they may drain the land and bring produce from the sea. And lastly, he must pay her weight in gold and silver. Gold and silver obviously suggest the colors of the sun and moon, just as the twelve plains and rivers suggest months in a year. Curiously, only nine plains and ten rivers are actually named in the story. The omission was probably

deliberate, as the solar and lunar calendars synchronize over a period of nineteen years, and there would have been a bit less than nineteen years (18.6) between the occasions when the full moon was at its northern maximum. This interpretation is bolstered by the fact that the two calendars can be brought into reasonable synchronization over a three-year period if two twelve-month lunar years are followed by one of thirteen months – thus two twelves followed by the gold and silver being together, matching the two twelves and gold and silver over three days in the tale. Just such a system was used in the ancient Greek calendar between the fifth and first centuries BCE.

While the identification of most of the rivers is still uncertain, the nine plains all lie in Ulster. They are named in sunwise order starting from the plain in which lies the northern royal site, Emain Macha, and ending just to its southeast.

The demands having been met, Oengus returns to the Brug with Étaín, and Midir remains with him there until the next Samhain. When Midir returns to Brí Léith with Étaín, the druidess Fuamnach, Midir's wife, resents her new competition and turns Étaín into a pool of water.

Étaín does not remain a pool of water but turns first into a worm and then into a purple fly as large as a man's head who accompanies Midir everywhere. There are abundant hints in the remainder of the story that Étaín is some heavenly body. As a fly she almost never lands, and in a later portion of the tale she becomes a swan, once again taking to the air. The meaning of the name Étaín is unclear, but we are told that she was once known as Bé Find, which means 'white lady'. O'Rahilly saw her as a sun goddess, the consort of the sun who travels with him during the day.<sup>8</sup> However, the bulk of the evidence seems to point to her representing the moon. To start with, she comes from Mag Inis, whose link with the winter full moon we have already considered. It is also probably relevant that her nickname, Echrade, means something like 'swift horse' or refers to a team of chariot horses. In Irish tradition, the moon was referred to as 'the white mare'.<sup>9</sup> She is perhaps only the moon of winter, when the long nights would have made the moonlight particularly important.

Fuamnach eventually succeeds in banishing Étaín, still in the form of a fly, preventing her from landing for seven years, after which Étaín goes

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<sup>8</sup> Thomas F. O'Rahilly, *Early Irish History and Mythology* (Dublin: Dublin Institute for Advanced Studies, 1946), p. 293.

<sup>9</sup> O'Rahilly, *Early Irish History and Mythology*, p. 293, note 2.

to Oengus in the Brug for protection. He places her in a crystal sun-bower which he carries with him wherever he goes during the day. At night he drapes a scarlet cloak about her and her color returns to her (!). This sounds rather as though here she – or at least her crystal bower – may be the moon when it appears in the sky during daylight hours. At the time of its northern (winter) maximum, the full moon would be visible in the sky over eighteen hours each day.

Fuamnach again strikes, sneaking into the Brug and blowing Étaín away once more so that she is not able to land for another seven years. This time she lands in a house in Inber Cichmaine (location uncertain), where she falls into a golden goblet, is swallowed by the lady of the house and is reborn once more as Étaín, 1012 years after her first begetting. While I have not yet been able to explain the 1012 years, it seems probable that the seven-year periods when Étaín cannot land refer to a portion of the 18.6-year cycle during which the full moon never rises as far north as the Mountains of Mourne. This is supported by the comment in the tale that during that period she could only settle on 'rocks of the sea and the ocean waves'.

There is one more interesting episode, in part two of the Wooing of Étaín. A year after Eochaid Airem becomes high king, he orders the Feast of Tara to be held. As mentioned earlier, this is traditionally at Samhain. The people refuse to come because he has no queen. He sends men to find the fairest maiden in Ireland, and of course they find the reborn Étaín, whom he marries so the feast may occur.

At the feast, Eochaid's brother falls in love with Étaín. He will speak of this to no one, and his health goes into an abrupt decline. Each time Étaín visits him at Fremain Tethba, however, he gazes at her and gets better. She finally asks what has made him ill and, upon being told, says he should have said so sooner so she could cure him. She then starts coming to see him each day, and in 'thrice nine days' he is cured. It is probably no coincidence that it takes 'thrice nine days' – 27 days – for the moon to return to the same position in the sky relative to the stars and that it is also for approximately 27 days that the moon is visible during each lunar month.

There is a good deal more to the tale, involving Midir's reappearance and abduction of Étaín and Eochaid's efforts to get her back, but this material adds little to the points already made concerning the lunar nature of Étaín.

### **Conclusion**

The segments of Irish myth described here have dealt with only two of the four seasonal festivals and with the apparent identity of Étaín as the moon. These were chosen to demonstrate that a case can be made that the tales are meant as allegories about the changing seasons and about the repeating cycles of the heavens. Moreover, the geographical elements in the stories appear to identify a carefully thought out sacred landscape that symbolically reflects the identities of the characters and their places in these cycles. There remains much more to explain in the myths, which thus offer a rich body of data to be explored by those interested in the role of astronomy as an inspiration to literature and religious thought.

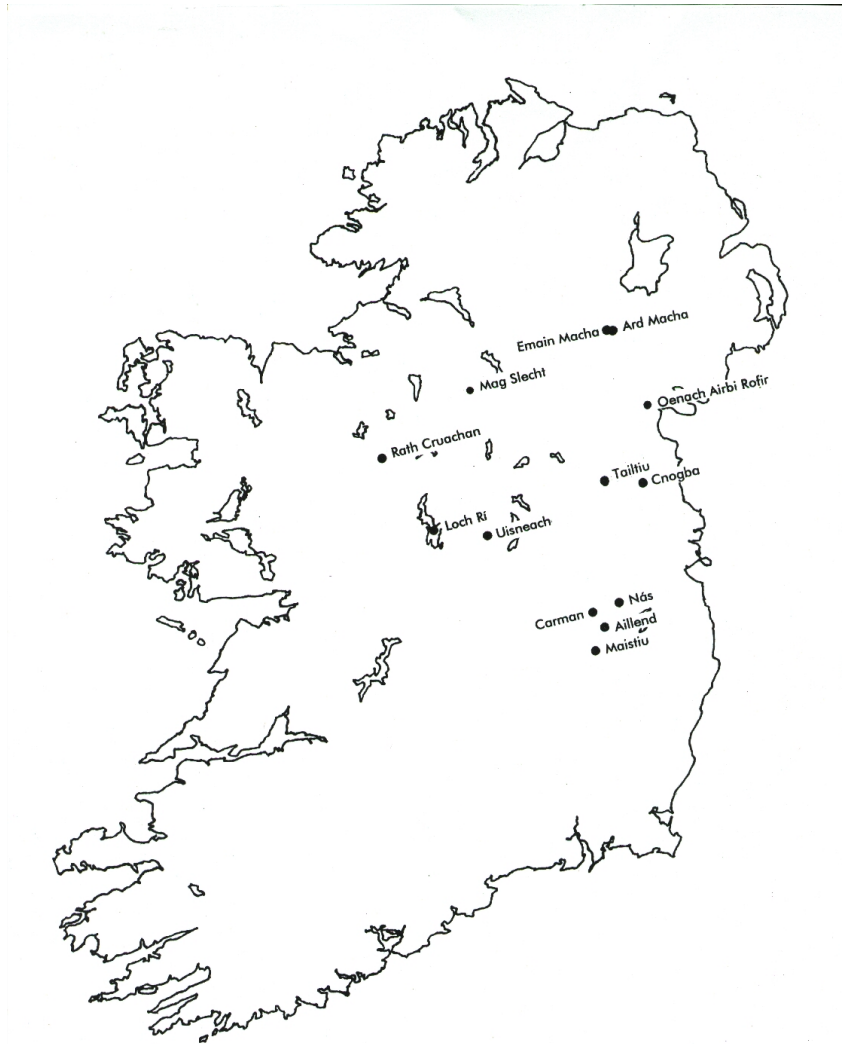


Figure 1. Map showing the locations of sites associated with Lughnasa. Although not Lughnasa sites, Uisneach and Mag Slecht are shown for reference.



Figure 2. Map showing the locations of sites from Tochmarc Étain.

