Hair Hurling Balls: Review, Research and Scientific Investigations

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Balls of matted cow hair with a plaited horsehair covering – these were the hurling balls used centuries ago. There are fourteen hair hurling balls in Irish museum collections, all of which were found in peat bogs. The purpose of this article is to provide comparative analysis of these balls through provenance, size, weight and structure, and to present the results of scientific investigations carried out over the past five years. They have been examined through radiography, computerised tomography and fibre analysis, thus revealing the method of manufacture and the hair used. This evidence will in turn be augmented with comparative research from folk tradition. The results of the radio-carbon dates demonstrate their significant antiquity and the continuity of the tradition of making these hair hurling balls - the predecessors of the modern leather-covered sliotars.

Introduction

It is over sixty years since folklorist and former Director of the National Museum of Ireland, A. T. Lucas, penned an important article describing the four hair hurling balls in the museum collection.1 Further acquisitions of these balls made of matted cow hair with an intricate plaited outer cover led to additional papers focusing on their material composition and find circumstances.2 The date and use of these hurling balls was in turn reviewed by Ó Caithnia in his extensive survey of the Irish hurling tradition, Scéal na hIomána.3 Subsequently, further examples have been recovered from bog deposits, allowing for review and systematic research using modern scientific analysis. A catalogue of the balls is supplied as an appendix to this article (Appendix 1 - Online version).

Distribution and find circumstances

At present there are fourteen hair hurling balls in Irish museum collections. Twelve are in the Irish Folklife Collection of the NMI. One example from Ahaneboy, Co. Kerry is in Kerry County Museum and another from Aughrim, Co. Kerry, is housed in Cork Public Museum.4 There are additional hair hurling balls in private ownership, yet to be
acquired, and hopefully this article may assist in bringing further examples to light. Other varieties of cow-hair balls made in the last 100 years were also investigated for comparative purposes, most notably a ball from Finnor More, Co. Clare, and balls made for children from Carna, Co. Galway.

The first hair hurling ball in the NMI collection was acquired in 1910 from Toornageehy in Co. Kerry; the latest was accessioned in 2010 from Talach, near Belmullet, Co. Mayo, comprising only the second such find outside of Munster. The Cork Public Museum ball was discovered in 1977; the Kerry County Museum ball was donated in 1991.

This collection includes a strong north Kerry-west Limerick cluster, and there is a prevalence of finds near parish and county boundaries. Of the fourteen balls, six were found in Co. Kerry: one in Maulcallee near Sneem in the south; and the others in the north of the county, in the townlands of Aughrim, Rylane, Toornageehy, Tooreen and Ahaneboy. Three were found in a cluster of west Limerick townlands: Glenbaun, Athea and Tooraree Lower. There is one ball from Knockmore in the parish of Kilmihil, Co. Clare, and a further example, which is in private ownership, is from the neighbouring townland of Kiltumper. The only Tipperary example was found in Bawnreagh in the east of the county. There is one further ball with no details of provenance.

However, the predominant Munster distribution of these balls had to be re-evaluated when a hair hurling ball was discovered during turf-cutting in a bog in Lavally, Co. Sligo, in 1975. In 2010, the acquisition of the ball from Talach, Co. Mayo, confirmed that the Sligo find was not an exception and that the tradition extended from Munster to north Connacht.

All the balls have been found in areas of cut blanket-bog, which ensured their preservation and offers an explanation for the lack of finds from other parts of the country where bogs don’t exist. Unusually, the example from Bawnreagh, Co. Tipperary, was found in the spoils of a Bord na Mona railway drain but in all other cases where the find place is known, it has been as a result of hand-cutting turf; in fact, the slane hit and damaged the ball from Rylane, Co. Kerry, leaving a deep fissure within.

The depths at which they were found range from over two metres (‘under the seventh sod’), to roughly sixty centimetres (‘two sods deep’) in the bog. As discussed below, depth does not necessarily correlate to a relative date as assumed by previous scholars.

Construction of the balls

Ó Caithnia proposed a fivefold typology of hurling balls based on their material composition: those made of animal hair, thread-based balls, cork balls, wooden balls and balls covered with a particularly hard tar-like substance called gutta-percha. Ó Maolfabhail in his book, Camán - 2000 years of hurling in Ireland, provides a distribution map illustrating the use of these materials for hurling balls. This study is primarily concerned with the hurling balls of animal hair.

All of the balls are similarly made of matted cow hair, although partial mixed composition with other animal hair cannot be discounted. Lucas suggested the use of cow, horse and ox hair. In 1952, he had the hair of the three balls from Kerry and the unprovenanced example identified as that of the ‘body hairs of cattle or horses, for both kinds appear to be used.’ In 1971 a ball from Knockmore, Co. Clare was identified as ‘felted horse body hair.’ By 1977, Lucas declared that the ball from Aughrim, Co. Kerry along with the other examples, were made from short body hairs that were ‘probably from the coats
of cattle.\textsuperscript{22} It is likely that the majority were of cow hair as evidenced by the large body of references from folklore to the making of cow-hair balls as children’s playthings\textsuperscript{23} and for hurling.\textsuperscript{24} It is worthwhile citing this process in full:

The cow hair ball was made by hand and in an ingenious way by keeping it pressed on a cow’s body and revolving it gently in the palm of the hand, so that the cow’s hair would adhere to it when the hairs were deeply intertwined on the ball, the pressure exerted by the rotary motion of the ball in the palm of the hand, forced or pulled the hairs from the cow’s hide and every hair thus extracted became incorporated in the ball as it slowly and tediously increased in size. The start of such a ball was a small knot of hair or some other material made into a spherical core. A spit was then thrown on said core which was then placed in the palm of the hand and down on the cow’s back or side. The palm was then cupped or hollowed so that it rested lightly on the core and pressed it gently on the cow’s hide. The palm of the hand was then rotated and in doing so, it revolved the core on the cow’s hair, and every hair getting stuck on to the core was twisted on to the ball and when pulled from its hide, became intertwined and helped in building up the ball. This was a slow process and it took quite a long time to make a ball about two inches in diameter, not to mention a ball sufficiency large for football. In summer, when cattle were casting their hair, the ‘cow hair’ balls were made. The ball moved in a rotary manner with the hand, and constantly changed its position between the palm of the hand and the cow’s hide and so the hairs became entwined, and stuck in one another and formed a solid and regular spherical mass so that not a single lone hair was to be seen – the outside of such a ball was as smooth and compact as the inner surface of a wren’s nest for example.

Anthony Conway, aged 87, of Tulachán Bán, Cill Chomáin, Iorras, Co. Mayo, recounted this information to Micheál Mac Énri in 1965.\textsuperscript{25} The oldest ball, from Tooraree Lower near Glin, Co. Limerick, was the only example selected for fibre analysis at The Anglo-Saxon Laboratory, York.\textsuperscript{26} It was assumed that this would confirm that mature cow hair was used, conforming to all the folklore references. However this particular ball was made from the hairs of a yearling calf, not a beast with a fully-grown shedding coat.\textsuperscript{27} The fibre analysis suggested similarities between the hairs from the ball and those from the hide used for the Derrykeighan, Co. Antrim cape, which was made from ‘a black-and-white or dark brown-and-white animal.’\textsuperscript{28} This cape was found in a bog ‘at a depth of six feet below the surface’ and was recently radiocarbon dated to cal AD 100–120.\textsuperscript{29} The skins of young or foetal calves were particularly valued as a source of vellum for manuscripts but the use of calf hair for hurling balls was previously unattested.\textsuperscript{30}

A further motivation for fibre analysis was the significant alteration of the original colour of the balls.\textsuperscript{31} This is due to the chemical reactions with the tannins and acids in the bog which imparted a rich brown colour to both the core and the plaited cover. In some cases significant discoloration has been caused by fading from light damage since extraction from the peat.\textsuperscript{32} The balls could be described as varying shades of reddish-brown but on closer examination there are differences in colour: some elements veering towards yellow and others much darker towards black.\textsuperscript{33} Recent fibre analysis has not been undertaken on all the outer coverings and it must be acknowledged that the original colour may have ranged anywhere from white to brown or black with perhaps lighter shades chosen for enhanced visibility.
It was hoped that samples of the hair could be analysed as part of the ancient cattle DNA project at the Animal Genomics Laboratory, UCD, so as to establish the breed of animal. However the acidic nature of the peat bog destroys much of the DNA essential for archaeogenetic analysis in samples over a hundred years old, and establishing particular breed types from archaeological samples would prove impossible. Lucas examined the subject of cattle in ancient Ireland and noted that:

Whenever Irish documents give any indication of the kind of cattle involved in the references we find that in the vast majority of cases they are cows... If, then the archaeological evidence indicates the importance of cattle over tillage... the literary evidence creates an inescapable impression that the vast bulk of the cattle population consisted of cows. Indeed, it sometimes seems as if male animals were not reared at all except for breeding purposes and to provide a very limited number of beasts for ploughing and draught.

The assumption that only hair from mature cows was used to make the balls was contradicted by the single sample sent for fibre analysis.

In many of the folklore references, it is men and young boys who created the balls and this supports the tradition that herding was often undertaken by young boys, although in summer it was often the ‘...women and girls who herded and milked them and lived in booleying huts on the pasture grounds for the season from May ‘til autumn.’

**Outer covering**

The cow hair ball, when formed, is then wrapped in a plaited mesh or network covering. Lucas noted that the term ‘network’ used to describe the covering is one of convenience only and that, in reality, it consists of a cord wound spirally round the ball and repeatedly anchored in place by looping it around a number of vertical ribs. Due to the length
and lustre of the hair, this has most often been identified as the long strands of horse tail or mane, but future fibre analysis could confirm this and more. The covering cord is usually a three-strand plait and the thickness of this depends on the number of hairs in each strand. It is unusual that although many objects later discussed are of horsehair, plaiting is seldom used.

Plaiting is not a feature of the manufacture of the cord in two instances: Bawnreagh, Co. Tipperary and the unprovenanced example; the strands twist together to form a
two-ply cord and a single twisted ply, respectively. Whatever the ply of the cord used, it is wound around the ball in the same way, initially dividing the ball into two halves and then again dividing it into quarters and then subsequently to create seven, eight or nine vertical segments (see Figure 3).

It is probable that where the ribs meet at the top and bottom they are looped under each other, or otherwise tied, to prevent them slipping out of place. A knot is made usually at the top, and then the cord is passed through each of these vertical ribs and this continues from rib to rib creating a spiral stair effect as it goes around the ball, moving incrementally round and further downwards until it has reached the base of the ball so producing a complete cover.

The amount of spiral turns indicates the size of the ball and is also affected by the thickness of the cord. The tension created by wrapping the cord around the ribs at the end at which it commenced can create a curved shape on the vertical ribs as the cord is pulled tight. At the base, the ribs retain their verticality as there is less tension on the cord in this area. In many of the balls the horizontal cords are tighter and more grouped together at the top and base creating a continuously covered surface. The turns and twists are tighter at the poles than at the central surface of the ball where they are looser, allowing visibility of inner ball. Although the tail hairs of horses can be up to 1.5 metres in length, the amount of plaited cord needed for each ball was substantially more than this and required integration of additional hairs throughout the process. Employing string and following the line of the cord, it was established that c.5.5 metres of plaited cord was used on the Tooreen ball and c.3.5 metres on the Talach ball, indicating several hours of labour. It can be estimated that five metres of continuous simple plaiting would take two to three hours.

According to late tradition, the hair hurling ball was often covered with various materials to prolong its use. A piece of an old sail, tied with fishing line was used in Leitir Móir, Co. Galway, but the most widespread material used for covering all the types of ball was leather and the earliest reference to its use over cow-hair balls dates to 1791, from Galway.

There are but very scant references in late folk tradition to plaited covers for hurling balls. Two short accounts from Connemara, one of them predating the Great Famine, refer to the use of horse-mane and horse-tail hair to make hair balls. However it is most likely that the descriptions refer in fact to the plaited outer covers of the balls. As Kerry has provided so many of the ball finds, it is noteworthy that Ó Caithnia recorded memory of plaited hair balls called _traidhlseacha_, a variant of the word for plaits, in Corca Dhuibhne in west Kerry.

The use of horsehair cords has survived from the Late Bronze Age, as illustrated in the woollen textile from Cromaghs, Armoy, Co. Antrim with its decorative tasselled fringe of bound and wrapped horsehair. In both city and countryside, horseshair was locally available and artefacts from the nineteenth century record its use. The hair may have been acquired through grooming, but as horses moult and shed their hair, it may have been collected from fences, posts and bushes. Folklore records describe how ropes were commonly made of horse hair and were known in Irish as ‘_Rópa Fionnaidh_’ (Donegal) or ‘_Rópa Ruainne_’ (Mayo). Ropes, reins and cow spancels, also known as ‘_Buarach Ruainne_’ are all represented in the Folklife Collection. The collection also has watch-chains which were made with small annulets of horsehair strands looped together to
form a chain. There are numerous examples of horsehair fishing lines (see Figure 5) and also fishing snares, goose snares (used to strangle a feeding goose) and bird snares. The lines and snares were made using two or three strands twisted into a cord. Many of these Folklife objects have been made using a traditional technique, utilising the flight feather quills of geese as gripping tools for the ends of the strands. Oddly, none of these cords were plaited like the covering of the hurling balls, when a plait would have functioned as well as a two or three-ply cord. However, this method with quills allowed for
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easy manipulation of the fine animal hairs and it is probable that it was employed in the creation of the lengths of plait used on the balls (see Figure 4).

In the Art & Industrial Collection of the NMI, there are brooches and bracelets of horsehair associated with the mid-nineteenth century and pieces of jewellery made from plaited human hair. They illustrate the precision handiwork achieved by the manipulation of hair and the industry that supplied a market for this highly decorative and intricate material. At the present time, jewellery from horsehair is still handmade in Ireland without the use of tools.

**Physical characteristics**

The average size of the balls is 6 cm in width and height. The balls vary in size and many are incomplete, either with the cover missing (Glenbaun, Tooraree), detached (Athea), damaged (Tooreen); in two cases, significant sections of the full ball are missing (unprovenanced; Knockmore). Although just a core, the ball from Tooraree, Limerick, is delaminating. The Toornageehy ball is spherical; the other intact examples are distorted from the pressure of the bog over the centuries and are asymmetrical. Because the network covering has more bulk at the poles, they are generally higher than they are wide. In terms of dimensions, the largest balls are the unprovenanced example and the example from Tooreen, Co. Kerry. The smallest are from Glenbaun, Co. Limerick and Aughrim, Co. Kerry. There is a wide variance in the sizes of the six balls from Kerry, with
The smallest and largest being from this county. The three Limerick balls are all small, with Glenbaun the smallest and Athea the largest of this group. There is consistency in the size of these three, all from neighbouring townlands, even though there is a large variance in weight and age.

In terms of condition, it must be considered that their use as hurling balls caused wear and damage and the plaited outer covering afforded some protection and longevity. These may have been replaced when damaged, as long as the inner hair ball remained intact,
such as the unprovenanced and Lavally balls, where there is a significant difference in sections of this cord outer covering.

The width, including the seams, of a 1950’s hurling ball from Roscommon in the Folklife Collection, is 7.21 cm (see Figure 8). The width of the modern hurling ball, including the seams, is 7.02 cm. These compare with the Tooreen, Co. Kerry ball with dimensions of 7.99 cm in height and a width of 7.69 cm.

The second largest of the balls from Tooreen, Co. Kerry, is also the heaviest at 73.39 g and the lightest and the oldest is from Tooraree, Co. Limerick, at 12.96 g. The weights of the balls are affected by the presence of an inner core. A good example of this is the Talach, Co. Mayo ball, which weighs, 46.47 g while the Lavally, Co. Sligo ball which is similar in size and shape, but lacks a core, only weighs 27.68 g. Lucas noted that the Athea, ball felt ‘heavier than might have been expected in view both of its material and its size’ which is notable as this ball contains a substantial core which is only apparent through X-ray.61

There is a description of a heavy leather-covered ball used in a hurling match in Wexford, c.1817, which is said to have weighed ‘about three pounds weight’ which must be an error as this would convert to 1.36 kg!64 The weight of the ball in a Tipperary vs. Cork match in 1886 was twice as heavy as a modern one, where it was described as being cased in pigskin and weighing 6 or 7 oz (180–200 g).65 This same weight was recorded in the Official Guide for 1919–20, but by 1921 smaller versions were in use, weighing 76 g.66 In the Official Guide of 1943 the weight has increased to 100–130 g and this remains constant as it the recommended weight range in the 1988 guide.67 The modern, cork-cored hurling ball is 110.1 g in weight compared to a 1950s sliotar from Monaghan’s Saddlery in Roscommon town, which is closer to the hair hurling balls, weighing 75.05 g.

**Inner core**

Fortunately, accounts of traditional methods employed to fabricate hair balls were collected in the last century and often, although, not always, the ball was started with an inner core.68 In 1976, Lucas recorded the folklore collector, Mr. Micheál Mac Énrí of Tulachán Bán, Iorras, Co. Mayo, who learned how to make cow-hair balls in 1899 when he was nine.69 A pared piece of cork70 started the ball; then it was rubbed with spittle71
in rotary motion along the cows backs to gather the shedding summertime hair and a knitted sock provided a cover.72

The use of a lump of cow hair as an initial core may have arisen from the fragments of matted hair caught on the outer coat.73 In folklore tradition recorded in An Spidéal, Co. Galway, the initial lump of cow hair was opened out first and a rounded piece of turf or small potato inserted to create the core.74 In Valentia Island, the hair was carefully combed, soaked in water, and then worked by hand into a spherical form;75 sometimes soap was added as a sticking agent.76 A verse that was sung to accompany the collection of the layers of cow hair was collected in Co. Kerry: Cruacó, cruacó liathróid/Bog, bog sméaróid/Cacanna capaill agus nóiníní bána.77 Daisies (nóiníní) suggest summertime and especially the mention of horse dung (cacanna capaill) may be significant, as there are accounts of using dried cow dung as a core.78 Cores comprising of small stones, grains of gunshot, lumps of lead, the wings of birds, stubs of wood or pared wooden thread spools, handfuls of feathers, pared and singed seaweed root, furze root and sea washed rubber are also all listed in folklore references.79 The core essentially was to allow the cow hairs to adhere and start the ball but some cores significantly affected the weight and in turn, the bounce of the ball. Kevin Danaher remembered that, ‘In west County Limerick, a special ball was made for the Christmas hurling, in the core of which was a small tin box containing a pinch of loose shot. The impact of a hurley on this ball sounded much louder than with an ordinary ball.’80 Ó Maolfabhail (1973) mentions the inclusion in the ball of ‘quills or shells filled with fine lead shot.’81 This illustrates the consideration of a core chosen not just for its hurling but also its acoustic effect. The modern leather-covered sliotar82 has either a multi-compositional core of cork and thread or a single polymer sphere. In recent years the latter has gained popularity due to the lower cost and labour required for manufacture.83

Since the foundation of the Gaelic Athletic Association in 1884 there have been many attempts to standardize and improve the balls and their cores over the years, due to variation affecting performance.

Scientific examination of the inner cores

The balls were subjected to a number of scientific tests in order to establish the methods and materials used in their manufacture. Radiography was used to investigate their construction and to reveal if an inner core material was used as a basis for initiating the adhesion of the hairs. All the balls were x-rayed revealing cores of different sizes and densities.84 Of the fourteen, three, all from north Kerry, had small light-textured cores (Toornageehy, Tooreen and Rylane).85 Two examples had substantial solid cores: Athea, Co. Limerick and Talach, Co. Mayo.

Since the nature of these cores was not readily apparent, a closer examination was carried out under magnification. An attempt was made to insert an endoscope with a tube of 4 mm diameter into the Athea and Rylane balls. However, this could not be inserted fully without causing unacceptable damage, as the inner hairs were matted too tightly together. A more conventional method was also used that entailed probing the centre of the selected balls with a very fine insect pin. As expected, resistance was encountered at the core and made it apparent that the material used in the more dense cores was solid, although it was more difficult to assess the less dense cores.
Further x-rays were taken of the selected balls at different angles and these resultant images were scanned and digitally-enhanced. It was noted that the less-dense cores had a void surrounding them suggesting that these were organic materials which had dehydrated and shrunk over time and retained an impression of their original size within the centre of the ball. The more dense cores had no surrounding void, were uneven in shape, and both examples from Athea and Talach had what appeared to be cracks and fissures, present in the material. For comparative purposes an array of different materials and substances were x-rayed using the same parameters: metal, stone, bone, glass, ceramics of various types, seeds, wood, turf, cork, bark, wax, soap and varieties of dung (bovine, ovine and equine). These materials were also selected as they were referenced in the traditional sources as having functioned as possible cores (see Figure 10). From an examination of the NMI X-ray image archive it was possible to narrow down the range of possibilities of core materials. Metal would have appeared as a denser, brighter image and would have had a more regular shape. Well-fired and modern ceramics would have been of a similar density but again the shapes of the inner cores were more abraded and uneven. From the available evidence it appeared that the cores within the Athea and Talach balls were conceivably of natural stone or solid bone and the less dense organic cores potentially a number of materials such as dung, turf, wood or bone.

Professor van der Putten, Consultant Physicist, Galway University Hospital, carried out a number of computed tomography scans on the five balls with cores (Talach, Toornageehy, Rylane, Athea, and Tooreen) and on a range of comparative material which may have been utilised as inner cores. As well as providing enhanced three dimensional images, the scanning produced numerical values for the densities of the inner cores and the comparative material. The results obtained were unexpected as the images and calculations indicated that the cores are made from bone of different densities: spongy trabecular bone and denser cortical bone. This material is not referred to in the folklore sources and the scans have not clarified the reason for the void around the cores within the Toornageehy and Tooreen balls. However, bone may de-mineralise during deposition over time in a bog land environment. For example, the skeletal components of bog bodies undergo up to 15% shrinkage, so it is possible that spongy, less dense bone will shrink on drying. In addition, the CT scan of Rylane did not show the core which was evident on the x-rays. Further CT scanning may be employed to investigate this issue.
Dating

Faced with the problem that the plaited balls had been found without comparative dating material and the absence of scientific recording of the stratigraphic horizon, Lucas sought some indication of their age by calculating the depth of sod in which they were discovered. He attempted to establish the total height of the bog above the find spot. This, as he admitted, was a process fraught with difficulty, not least because the rate of development of Irish bogs differs widely depending on a range of local environmental factors. Also there always remained the possibility of slippage of the balls into an under-stratum of bog with which they were not chronologically-associated; contamination of the provenance proved practically impossible either to verify or discount. Based on the known depths of the balls he maintained that ‘Accumulations of peat of such
thickness suggest that most of the balls are at least 500 years old and that the deeper-lying specimens may date back a thousand years or, conceivably, a great deal more. He also assumed that ‘the hair hurling balls in use in the 17th had gone out of use by the 19th century and that the Kerry specimens are not later than the 18th century, an upper limit which appears to be supported by the stratigraphic evidence, such as it is. Unless later examples are found and dated, Lucas has been proven partially correct with his estimates and his theory of a cut-off point has also been established. Ó Caithnia sought to use contemporary (1976) research into the accumulation of bogs for dating purposes, being, he claimed, 100–150 years per foot/sod. This, he noted, would suggest an age of 700–1,000 years for three of the balls, 500–750 years for two others, and 300–450 years and 200–350 years of age in the other two cases. It is thus intriguing to note that some of Ó Caithnia’s projections also agree with the scientifically determined dates. The following list indicates the depth each ball was found:

1. Tooreen, Co. Kerry ‘two sods deep’
2. Toornageehy, Co. Kerry ‘under the seventh sod’
3. Athea District, Co. Limerick ‘at a depth of 7 sods’
4. Glenbaun, Co. Limerick ‘At a depth of 160 cm’
5. Bawnreagh, Co. Tipperary ‘Possibly 2 metres’
6. Lavally, Co. Sligo ‘at a depth of three feet in the peat’
7. Knockmore, Co. Clare ‘About 5 feet’

In 1975, Lucas wrote in a letter to the donors of the ball from Lavally, Co. Sligo:

I only wish we had some idea of the age of these very skilfully made balls…. Unfortunately, we can only guess that some of them, at least, are of considerable antiquity but we have yet to find some way of dating them more accurately. Someday this may be possible and this is one more reason why we are anxious to preserve every single example that comes to light. In 2008, samples of fibres from seven NMI balls were sent for radiocarbon dating at the ¹⁴CHRONO Centre in Queen’s University, Belfast. The balls sampled were the ones from Co. Clare and Co. Tipperary along with two from north Kerry and the three from Limerick. The earliest date was cal AD 1157–1227 (Tooraree) and the latest was cal AD 1663–1683 (Glenbaun). These were both found in Limerick, separated by just one townland. The Glenbaun ball was found in a bog ‘stratified in the peat at a depth of 160 cm below the original surface.’ This represents a very deep find and illustrates the unreliability of assumptions of age based on bog depth.

The radiocarbon dates returned were as follows:

| Code | Sample Locality | Date Range |
|------|-----------------|------------|
| F:1980.602 | Tooraree, Co. Limerick | cal AD 1157–1227 |
| F:1954.87 | Athea District, Co. Limerick | cal AD 1218–1267 |
| KCM 1991.14 | Ahaneboy, Co. Kerry | cal AD 1278–1309 |
| F:1910.207 | Toornageehy, Co. Kerry | cal AD 1303–1366 |
| F:1975.153 | Lavally, Co. Sligo | cal AD 1402–1435 |
| F:2008.133 | No Locality | cal AD 1441–1498 |
| F:2010.96 | Talach, Co. Mayo | cal AD 1447–1519 |
A second set of samples sent for dating confirmed the ball from Tooraree, Co. Limerick, as the oldest, AD 1157–1227 (1192). This ball conformed in size to the two other Limerick balls from Athea and Glenbaun. The extraordinary difference in age of the balls but their similarity in dimensions and construction (although Athea, AD 1218–1267 (1242) contained a substantial core) illustrated a continuity of tradition within nearby parishes spanning almost 500 years.

Furthermore, it was important to assess all of the Kerry balls as a group, as only two had previously been dated and although they differed in size and weight, all had plaited covers intact. The Aughrim, Co. Kerry, ball, which is part of the Cork Public Museum collection, remains the only known ball from Kerry yet to be dated. The oldest of the Kerry balls is from Ahaneboy and is in Kerry County Museum. It dates to AD 1278–1309 (1294) and is slightly older than the next Kerry ball from Toornageehy, AD 1303–1366 (1334). There is also a significant gap in dates from Toornageehy to Maulcallee, AD 1447–1524 (1485), Rylane, AD 1454–1528 (1491) and the largest of the balls, from Tooreen at AD 1514–1599 (1556). In summary, the range of finds from Kerry represents the strong prevalence of the tradition of making these balls over nearly 350 years.

The dates of eight of the balls fall into the date range AD 1402–1599 with just under two centuries between them. The majority of the balls fit into late sixteenth century, a time when the game of hurling was under duress. It is noteworthy that there is a gap from these to the most recent ball from Glenbaun, Co. Limerick, dating to AD 1663–1683 (1673).

When and where played

Hurling matches were popularly played on Sundays or Holy Days, usually after Mass or in the evenings. Folklore collected in the last century reveal that it was seldom played in a field as today but cross country, on beaches and in bogs. In Co. Mayo, ‘in the Tallaghan Bawn area the lands adjoining the sea shore were sandy and dry when in winter, and on those dry fields of the regions holdings of land, football and hurling was played.’ In 1929, Tomás Ó Criomhthain wrote of the hurling match (played with a woollen-thread ball) that took place every Christmas Day on the strand, Great Blasket, Co. Kerry. A folklore informant from Co. Leitrim recalled, ‘We often had to play on the red turf bank because we were hunted out of every other place. No one would want us playing in his field coming on to the spring, when the grass would begin to grow. They wouldn’t want their field trampled...’ There is a description of a match in Bohey bog, Co. Leitrim where one of the players nearly drowned when he fell into a bog hole.

There is a story in the Schools Collection of Irish Folklore from Castlemaine, Co. Kerry, which puts the finding of all the balls in bogs in a humorous context. It is called The Good Hurler and starts: ‘In years gone by, hurling was a very manly exercise in Kerry and in all Ireland...’ and recounts the amazing strength of Con Shea who hit a ball so high that it did not come out of the sky and five years later, five miles away, the exact ball
was found ten feet deep in a bog!\textsuperscript{111} Thomas Crofton Croker also comments on the size of the ‘goaling ball’ for hurling where he describes them ‘being in general four inches in diameter’ which is still two centimetres bigger than the largest of the hair hurling balls.\textsuperscript{112} He also describes larger games as being held ‘generally on a Sunday, or holiday, after prayers. On these occasions, instead of the hedges of a field, two conspicuous landmarks (a road and a wood, for instance) are assigned, and the game is contested in the space between them with a heat and vigour, which often lead to bloody conflict…the hurley, or hurlet, being an effective and desperate weapon…’\textsuperscript{113}

### Historical and May Day references

There have been many early references to hurling going back to the ancient Irish laws.\textsuperscript{114} There is also a mention of the ‘hurlets of bronze’\textsuperscript{115} of ‘Fearadhach, son of Duach, King of Ossary’, whose death is recorded in the Annals of the Four Masters at the year 582.\textsuperscript{116} In the Táin Bó Cúalnge there is the reference to the hurling ball of the mythological Cú Chulainn - for example in the version in the Book of Leinster c. AD 1160 - sometimes referred to as a silver ball.\textsuperscript{117} There are also other references to the hurling feats of this hero of the Ulster Cycle.\textsuperscript{118} Concurrent with the time of the early hair hurling balls there are many of the early manuscripts written which reference hurling along with the Statutes of Kilkenny in 1366\textsuperscript{120} and Galway in 1527.\textsuperscript{121}

The ‘Magnus and Fergus’ grave slab in Clonca, Co. Donegal,\textsuperscript{122} dating to the 16th century clearly depicts the hurley and ball associated with Magnus Mac Orristin.\textsuperscript{123} The ball is close in size to the width of the base of the hurley on the slab and similar comparisons can be made when the average hair hurling ball is compared with the width of a contemporary NMI hurling stick dating to c.1500.\textsuperscript{124}

Ó Maolfabhail had suggested that carvings in the figural panels of the Market Cross, Kells, Co. Meath, and the West Cross, Monsterboice, Co. Louth, may have connected with the story of Cú Chulainn and that his hurling stick and ball were depicted.\textsuperscript{125} Harbison (1992) maintains that these scenes represent the biblical story of David killing the lion with his sling-stone and gives no credence to this theory.\textsuperscript{126}

The earliest reference to balls of cow hair used as hurling balls is from John Dunton, who wrote seven letters about his travels in Ireland in 1698. Although Dunton was often negative about the Irish, his accounts nevertheless illustrate traditional aspects of Irish life. It is in the fourth letter that mostly refers to his travels in Kildare, in which he mentions:

And now I think I may say something to you of the sports used among the Irish on their holidays. One exercise they use much is their hurling, which has something in it not unlike the play called Mall. When their cows are casting their hair, they pull it off their backs and with their hands work it into large balls which will grow very hard. This ball they use at the hurlings which they strike with a stick called a camaan….\textsuperscript{127}

This clearly illustrates the use of the cow-hair balls for hurling and places them definitively in the seventeenth century and in Leinster. As they were well-known to the writer, it would seem that they were already well established, and now we have this verified by radiocarbon dating.
Although there are references to hurling in the eighteenth century, a period often noted for the game acquiring more structure and status due to the patronage of landlords, the type of hurling balls used are seldom mentioned. In Arthur Young’s, *A Tour in Ireland 1776–1779*, he noted in County Derry the custom of ‘a hurling-match for a wife’ and describes how ‘Sometimes one barony hurls against another, but a marriageable girl is always the prize…In these matches they perform such feats of activity, as ought to evidence the food they live on to be far from deficient in nourishment.’ An account from Sligo in 1807 also states how on a Sunday after Mass, ‘A barony and sometimes even a county will hurl against another’ and in the Ordnance Survey letters of 1837, it was remembered that ‘when the men were strong, there were men who could puck a ball completely over Rathcroghan, Co. Roscommon with a hurley.’ Travellers to Ireland, Samuel Carter Hall and his wife Anna Maria describe in depth the game of hurling as they saw it played in Kerry in 1840 but again although the ball looks quite large in the accompanying drawing, the material composition is unidentifiable.

The most notable description of balls, ones specifically used for May Day, is from Thomas Crofton Croker in 1825. In a description of the women walking in a May Day procession in Cork, he makes it clear that these were hurling balls: ‘two of them bear each a holly bush, in which are hung several new hurling balls, the May Day present of the girls to the youths of the village.’ Those who walked in the procession were a number of girls and young men of the village or neighbourhood, ‘usually selected for their good looks, or their proficiency - the females in the dance, the youths in hurling and other athletic exercises.’ These are in the commentary notes to accompany a tale called ‘The Crookened Back’ where Peggy Barrett describes how on May Eve, ‘all the boys and girls were laughing and joking in the house, making goaling balls’ and she mourns for the May time prior to her own wedding, how, with her husband, Robin (by then ten years deceased) by her side, she ‘sat cutting and sewing the ribbons for the goaling-ball I was to give the boys on the next day, proud to be preferred above all the other girls of the banks of the Blackwater, by the handsomest boy and the best hurler in the village.’

O’ Súilleabháin does not mention May Balls in *A Handbook of Irish Folklore* under the theme of May, although it is addressed in a 1965 Irish Folklore Commission questionnaire, but received poor responses. A schoolteacher from Callan, Co. Kilkenny, Amhlaoibh Ó Súilleabháin, wrote in his diary on May Eve, 30 April, 1828: ‘I hear that young lads had along with them today two golden May balls which they had got from two couples married last Shrovetide. They are wont to have a May bush on top of a short stick or long cudgel, the golden ball in the middle of it, and themselves and young women dancing around it.’ Danaher describes this well-known custom in the south and south east, of giving these decorated balls at May time and cites Vallancey thus: ‘In some parts, as the counties of Waterford and Kilkenny, the brides, married since the May-day are compelled to furnish the young people with a ball covered with gold lace and another covered with silver lace and adorned with silver tassels…’ and he describes them as ‘the symbols of the Sun and Moon’ for the house to house May Day procession.

Danaher considers that the May balls given by newly married couples to the young men of the neighbourhood became to be expected as a right and on occasion, demanded. It also seems that money and drink were often claimed instead of the hurling balls and there were frequent quarrels, bloodshed and even death as at Callan and John’s Well, Co. Kilkenny in 1782 as reported in Finn’s Leinster Journal.
For many years past the peace of this city has been disturbed every May-eve, by a vast multitude of audacious fellows, who assemble together to collect May-balls among the new-married folks. They sally out with Herculean clubs in their hands, and as those unmeaning May-balls are seldom or never given without a piece of drink-money to boot, such bloody battles ensue in different quarters of the town, such confusion and uproar, as would induce a passing stranger to believe that a furious band of wild Indians had broken in upon us; that Magistracy was asleep, or that it had lost all power and influence over the subject.  

In 1829, Amhlaoibh Ó Súilleabháin refers to the fact that there were no May balls in Callan since 1782 and notes a report in Finn’s Leinster Journal for that year when ‘a number of people in different parties, assembled at Callan in order to collect may-balls, they disagreeing, a quarrel ensued in which Nicholas Butler, of that town, cooper, unfortunately received a blow of a stone on the forehead and instantly expired.’

As a result of this and the quarrelling, the Dr T roy, the Bishop of Ossory, in a letter dated 12 December 1784, to the Rev. Pastors and other Roman Catholic Clergymen of the Diocese of Ossory, directs them:

In order to prevent the tumults and other fatal consequences of requiring and giving garlands, globes, and other decorations generally known by the appellation of May Balls, because given by young married people and carried about on the 1st of May, I hereby most strictly command each and every one of you not to administer sacraments to any person or persons of your respective parishes who shall hereafter at any time demand May balls or call for money, liquor, or anything else in place of them, til such transgressors declare their repentance and promise amendment before the congregation assembled above.

This seems to have put an end to the practice in the region, although in 1829, in Callan, it was revived again. On Sunday 3 May 1829, ‘Two May balls were taken up, (that is a May bush covered with silk, ribbons, flowers, &c., with the ball in the middle of it, hanging down and covered likewise with adornments)... The young men played for one of them (in a hurling match) afterwards. The golden apple that Paris raised aloft among the goddesses did not do as much mischief as some of these May balls do. Up to this day no May ball has been taken for the past fifty years since a man was killed at the crossroads at Callan taking a May ball from a newly married minister, Dr Lambart.’

These decorated May balls could have been cow-hair balls with a plaited horse hair covering and then covered with gold and silver lace or tissue but it has not been confirmed in the sources. These were definitely decorated balls for noteworthy hurling matches but often were the prize and not necessarily the ball of play.

Ó Caithnia assumed that the hair hurling balls were made for use in seasonal-marking games and they included the typically-ornate May balls. This good-luck tradition, where balls prepared by newly-weds or soon-to-be-wed couples were bestowed on men for May hurling contests, ensured that the giver was most probably destined for love, happiness and fertility. This custom has parallels in ball-game traditions in Scotland, and also there are references to silver hurling balls at May time in Kelston, Cornwall. The tradition is first referred to in Irish sources in the late-sixteenth century. However, considering the antiquity of some of the balls featured in this article and the absence of detailed contemporary descriptions, Ó Caithnia’s proposition remains conjectural.

There are references to balls of animal hair from other countries. The most comparable to the Irish hurling balls are the balls associated with shinty in Scotland. MacLennan...
maintains that in Scotland there was a tradition of using a variety of materials for shinty balls and like the hurling balls in Ireland, prior to the use of leather, there were balls made of wood, rubber, corks and woollen thread. Hair, namely horsehair, was also used yet none of these balls have survived in Scottish museum collections.

Both Lucas and Ó Caithnia have noted that the plaited ball must have constituted a valuable object, requiring a significant investment of time and effort in its production and that ‘their making called for more time and skill than would usually be expended on a mere children’s plaything.’ The manufacture of the ball itself was time-consuming as was the cord covering needed to ensure increased longevity. Lucas noted that ‘horsehair… was used in rural Ireland in the making of many articles where strength and durability were required.’ It seems that other covers, such as those of woollen thread, would also have been less water-resistant than the animal hair that was used.

Considerable time was certainly needed to make these balls, but as illustrated by the intricacies of so many everyday objects in the NMI Folklife Collection, people had more time to spend on handcrafting objects. Using goose quills for creating the plait would have ensured that even if the maker of the ball had large hands, an intricate and delicate plait could still be achieved; therefore men, women and children could potentially carry out this work. The design of traditional objects has always adapted and improved over time but this style of ball survived over the centuries. These hair hurling balls were evidently the most suitable for hurling until the development of the modern cork and leather hurling ball.

Summary

Recent investigations and analysis of the hair hurling balls have cast new light on the date, composition and structure of these objects. It has been established that the earliest examples date from the twelfth century and that the materials and structure did not change over five hundred years. Scientific examination has identified that in most cases the core ball was of matted cow-hair and the outer covering of plaited horse-hair. A high standard of workmanship produced these balls and some may have been in use over a long period of time due to indications of possible repairs. Radiography and CT scanning have revealed the presence of inner cores in five balls, but there is at present no explanation why these cores do not occur in the remainder, considering starting cores are so commonly referenced in the modern folklore sources. There is no discernible pattern to other physical characteristics such as weight and dimensions, as these vary throughout the period of manufacture. Two recent finds, from Ahaneboy, Co. Kerry, and Talach, Co. Mayo, are published here for the first time along with a detailed catalogue of the other balls. The geographical pattern of distribution has now been extended. Although there is no direct evidence that the balls under discussion were used for hurling, information gleaned from the sources show that this is their most likely use. Their discovery in bogland is presumably due to loss during play and although there may on occasion have been a ceremonial aspect to the making of them, their condition suggests that they were all used in sport.

It has now been firmly established that these hair hurling balls have been in existence for at least 800 years. It is hoped that the publication of this article will lead to the
acquisition of further hair hurling balls into museum collections, thus facilitating the care and protection of these powerful symbols of our national game.

**Supplementary material**

The supplementary material for this paper is available online at [http://dx.doi.org/10.1080/04308778.2016.1159789](http://dx.doi.org/10.1080/04308778.2016.1159789)

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**Notes**

1. A. T. Lucas, ‘Hair Hurling Balls’, *JCHAS*, 57 (1952), 99–104. Henceforth the National Museum of Ireland will be abbreviated to NMI.
2. A. T. Lucas, ‘Hair Ball from Aughrim, Co. Kerry’, *JCHAS*, 82 (1977), pp. 30–32; A. T. Lucas, ‘Hair Hurling Ball from Lavalley, Co. Sligo’, *JCHAS* 81 (1975), 13–15; A. T. Lucas, ‘Hair Hurling Balls from Co. Limerick and Co. Tipperary’, *JCHAS* 76 (1971), 79–80; A. T. Lucas, ‘Hair Hurling Ball from Knockmore, Co. Clare’, *JCHAS*, 77 (1972), p. 39; A. T. Lucas, ‘Two Recent Finds - Hair Hurling Ball from Co. Limerick’, *JCHAS*, 59 (1954), pp. 78–79.
3. T. P. Ó Caithnia, *Scéal na hIomána*, (Dublin: Dundalgan Press, 1980).
4. Cork Public Museum: CPM 1977.4. Kerry County Museum: KCM 1991.14. This latter ball and the ball from Talach, Co. Mayo are previously unpublished.
5. The cow-hair ball from Finnor More, Co. Clare (CM:2001.178), with a solid animal glue exterior was carbon-dated and the results demonstrated that it was less than 50 years of age. In an e-mail message to the author on 14.6.2011, Prof. Paula Reimer, Director, 14C CHRONO Centre stated: ‘The hair in the hurling ball is obviously fairly modern, dating to the early 1960’s or 1970’s.’
6. R. F. Hammond, ‘Distribution Map of Peat Areas’, in *Atlas of Ireland*, (Dublin: Royal Irish Academy, 1979) p. 27.
7. Robert MacAdam, in a discerning article, described the bogs of Ireland as having ‘preserved to us numerous relics of former times in a more perfect state than perhaps would have been possible by any artificial means. The soft yielding nature of the peat, and its uniform pressure, prevented any injury to fragile objects imbedded in it; while the antiseptic property possessed by bog-water (communicated by the tannin of the numerous roots and fibres which form the peat), exercised a strong conservative power on any objects formed of wood or animal substance exposed to its influence.’ R. MacAdam, ‘Ancient Leather Cloak’, *UJA*, 9 (1861–2), p. 294.
8. Known as ‘a ball of wisted (woollen thread)’, Drum, Co. Roscommon, National Folklore Collection
20 T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in
the language at different periods.
T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in
20 T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in
20 T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in
20 T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in
20 T oornageehy, Rylane, T ooreen and the Unprovenanced
NMI, cited in Lucas (1952, p. 99). Prior to this in

the NMI Object File for the acquisition of the ball from Rylane, Co. Kerry (F:1940,39), Dr. P. O’Connor, Natural History Museum identified the hair as the outside being of horse or cow hair, and the inside hair as possibly from a cow.

21 Identified by Dr. C. E. Riordan, Keeper, Natural History Division, NMI, and cited in Lucas (1972, 39).

22 Lucas 1977, p. 30.

23 There is a game described in An Rinn, Co. Waterford in 1936, of cow-hair balls being thrown by children into their caps (NFC 183: pp. 218–221). See Figure 2. for image of similar balls from Loch Conaoroth, Co. Galway.

24 Knock, Co. Galway (NFC 216: pp. 114–5); Ross, Co. Galway (NFC 1105: 139); Killorlin, Co. Kerry (NFC 1169: 188); Baile Bhuirne, Co. Cork (NFC 325: p. 5); Leitir Caladh, Co. Galway (NFC 470: pp. 80–81).

25 NFC 1747: 284–6. ‘But a small “cow-hair” ball was very much used by young boys in playing hurling…’ (NFC 1747: p. 284).

26 Financial constraints allowed for only one sample to be sent for fibre analysis and this ball was selected based on its age. See Fibre Analysis Report in Appendix 2 (Online version).

27 F. Kelly, Early Irish Farming, (Dublin: Dublin Institute for Advanced Studies, 1998), p. 34, describes how cattle left out of doors in winter grow a thick coat to improve heat insulation and that this normally falls off in spring.

28 AS Lab Report, 8 January, 2009: ‘Samples of animal pelt from Derrykeighan, Co. Antrim, on behalf of The National Museum of Ireland’.

29 See MacAdam, 299; NMI.1879.45.

30 K. Ryan, ‘Holes and flaws in medieval Irish manuscripts’, Perita, 6–7, (1987–1988), 245. Seán Ó Súilleabháin in A Handbook of Irish Folklore, (Dublin: Educational Company of Ireland for Folklore of Ireland Society, 1942), p. 33), mentions the tradition of sacrificing the first born calf on the farm of a newly-wed couple.

31 Kelly, pp. 31–32. References predominantly show the colour of cattle hide to be between black and reddish; speckled and white-coloured cows were also popular in Ireland. Horses were described as being white, black, grey and brown in colour but Kelly (ibid.) does not mention the use of the hair of either animal. Ó Súilleabháin, pp. 31–36. There are no references to the hair of either cows or horse used to make balls or other items.

32 This is especially significant in the Aughrim ball in the Cork Public Museum.

33 The colours were identified using a Munsell ball Color Chart and the results are specified in the individual catalogue entries.

34 ‘In addition, it is extremely difficult to assign population and/or breed to an archaeological cattle DNA sample. Mitochondrial DNA - the main target for ancient DNA studies - shows almost no breed partitioning in European cattle and it’s only when comparisons are made to Bos indicus, aurochs or African cattle does it become informative.’ (E-mail correspondence from David MacHugh, Associate Professor of Genomics, Animal Genomics Laboratory, University College Dublin, 20/6/2011).

35 A. T. Lucas, Cattle in Ancient and Medieval Irish Society, The O’Connell School Union Record 1937–1958, (Dublin, 1958), p. 78. In the 16th century ‘the proportion of cows to humans was much higher in those times to at present’ (ibid., 79).

36 Kelly, (p. 34) describes how cattle left out of doors in winter grow a thick coat to improve heat insulation and that this normally falls off in spring.

37 ‘Milking was mainly done by women …’ (Lucas 1958, p. 80).

38 Lucas 1952, 101.

39 Miss J. P. Scannell identified these as horse, but in his last article on the subject Lucas (1977, 30) suggested that the plaited outer cover might be from the long tail hairs of cows.

40 ‘The cord is not plaited as in the other balls but consists of two twisted strands, the twist being rather slack and each strand containing, as nearly as can be estimated, about 50 hairs. The total diameter of the cord approaches 3 mm.’ This refers to the unprovenanced ball (Lucas 1952, p. 102). ‘Two ply cord…varying from 4 mm in some places to 7 mm in others’, Bawnreagh, Co. Tipperary (Lucas 1971, 79).

41 There are only four divisions on the unprovenanced and Bawnreagh balls. Two of the other balls have seven vertical ribs, one has thirteen and the other
nineteen have eight. In some of the balls, there is also a separate wrapping of the cord at the equatorial area.  

In terms of ease of manipulation of the cord through the vertical ribs, I had questioned if the cow hair ball may have been treated in some way, such as dampened and compressed and then later expanded when dry so sought advice from a professional felt worker who noted, 'If water was added to the ball it would soften the ball, but it would not expand on drying. I would think that they could have successfully knotted the cord on the hard dry ball, it would therefore have kept its shape.' The cord may have been fed under the rib cords using a tool or looped and pushed under. (Pers. comm., from Suzie Sullivan, Fibre artist, Derryvaun Crafts, Co. Mayo, 13 February 2013).

Lucas (1952, p. 102) described the construction of the Tooreen ball thus: 'The ribs are eight in number and evenly spaced and the cord makes approximately 23 spiral turns around the ball. In the middle zone, the turns are from 1–2 mm apart, disclosing the core between; over the top and bottom zones they lie close enough to form a continuous surface themselves.'

It has been established that a 50 cm of a three strand plait would take 10–15 min to complete (pers. comm., Sally Shiels, Seirendipity Equine, Letterkenny, Donegal, 31 January 2013).

Some balls were not covered: ‘they played with it in that state (no cover) – it being well knit’, NMI Object File - Letter from Co. Kerry Field Club to A. T. Lucas, 17.7.1951, regarding the acquisition of the Tooreen ball.

NFC 1546: p. 248; Ó Caithnia (p. 216). Leather was cut and sewn were collected in the mid-twentieth century in Eanach Dhuín in Galway and in Roscommon (NFC 1747: p. 214, 430). ‘Leather balls’ is a typical term or description of the hurling ball used in accounts from Ferbane in Offaly, Annaghdown and Cill Chiaráin in Galway, Enniskean in west Cork, Killorglin in Co. Kerry and Sligo (Ó Caithnia, p. 216). In Kilkenny, Co. Roscommon (NFC 1747: p. 519) it was mentioned that ‘shoemakers used to make the balls for the hurlers. They were made with a few corks and woolen thread wound around them and a few grains of shot in the centre. There was a leather cover made for it then.’ Séan Ó Dubhda, An Baile Dubh, Co. Kerry recounted leather balls called ‘caideanna.’(NFC 469: p. 34). B. Stakelum, *Gaelic Games in Holycross Ballycahill*, 1884–1990, (Middleton, 1990) p. 17: Pigskin balls 2s 6d and horse skin balls 3s in use in Holycross, Co. Tipperary, in 1909.

Ní Chinnéide, S. (1952) ‘Coquebert de Montbrêt’s impressions of Galway city and county in the year 1791’, *JGAHS* (25), p. 11.

There are many references to woollen thread as a covering for example in Inis Gé, Co. Mayo (NFC 1512, 54–56) although there is no reference to the plaiting of this material.

From An Aird Mhór and An Cnoc, Co. Galway; see Ó Caithnia, pp. 215, 226.

Ó Caithnia, p. 231. Ó Caithnia refers to memories in the Dingle Peninsula (Corca Dhuibhne) of playing with balls called locally ‘traidhseach.’ In this spelling he is reflecting the dialect pronunciation and plural of a substantive noun based originally on an adjective, *trílseach*, standard Modern Irish *tríleach*. He then uses the term in his discussion of these balls (p. 241), for example in his subheading ‘Fadhbh na dTríleach’ (genitive plural) on p. 240 (Fiachra Mac Gabhann, pers. comm., 11 January 2013).

NMI 1906:13. P. F. Wallace and R.O Floinn, eds. *Treasures of the National Museum of Ireland, Irish Antiquities* (Dublin: Gill & Macmillan, 2002), p. 95.

Rópa Fionnaidh– Croveananta (Cruach Mhín an Fheannta, Bluestacks), Co. Donegal - Register Entry F:1950.293. Lucas described how on Wednesday, September 6th, 1950 the rope was ‘made while I waited by Pádraig Mac Giolla Uain…’ ‘Rópa Riunge’ in the text - collected from Pádraig Bairréad, An Clochar, Co. Mayo, in Irish Folklore Commission Questionnaire, March, 1958, *Use of Hay, Straw and Rushes*. There are also two horseshare reins form Inis Oírr, Aran Islands (F:1957.40, 41) and ropes of roots, bark, grasses, bog deal and flax can also be found in the National Folklife Collection. There were also ropes made from cow hair: ‘The modern and no doubt the ancient “buarach” was a two-ply cow-hair rope about two feet long…’ (Lucas 1958, p. 80).

Dromore, Mount Charles, Co. Donegal (F:1953.57). These horseshare reins were described by the donor as superior to a leather one, being warmer on the hands of the driver in cold wet weather.

An Gleann Mór, Iveragh, Co. Kerry (F:1952.151), 1952 Register entry: ‘It consists of a four strand cow- or horse-hair rope 75 cm long.’
M. Dunlevy, Jewellery, 17th to 20th Centuries, (Dublin: NMI, 2001), pp. 23, 52. Dunlevy states that horsehair was locally available and woven into jewellery by the poor for sale in souvenir and charity shops. It was also promoted at industrial exhibitions in the mid-nineteenth century. See shamrock bracelet & red fuchsia brooch (NMI L. 1106); Watch chains (NMI:1934.37) & (NMI:1905.241) and bracelet of human hair (NMI 1931.97).

J. Sproule, (ed.), Irish Industrial Exhibition of 1853, (Dublin: 1854), pp. 96, 418, which refers to horsehair jewellery exhibited by Eliza O’Connor which was the work of the peasant girls of the county of Sligo. H. Parkinson, The Illustrated Record and Descriptive Catalogue of the Dublin International Exhibition of 1853, (London, 1866) p. 267. Reference to the ornaments of horsehair by Miss Doherty of Castle Street, Sligo. H. Newman, An Illustrated Dictionary of Jewelry, (London: Thames & Hudson, 1994) p. 147; C. J. Bell, (1998) Collectors Encyclopedia of Hairwork Jewelry, (Collector Books, 1998) pp. 46–55, which discusses the drawing room occupation of working horsehair by ladies in America in the 1850s and illustrated details of working artefacts of horsehair using bobbins and weights.

Hamish & Ozzie, Killiney, Co. Dublin, www.hamishandozzie.com; Seirendipity Equine, Letterkenny, Donegal, https://www.facebook.com/SeirendipityEquine.

Comparisons can be drawn between the average size of the hair hurling balls when compared proportionally with the early hurling sticks in the Irish Folklore Collection and the ball depicted on the ‘Magnus and Fergus’ grave slab dating from the 16th century at Clonca, Co. Donegal. For image see Ó Maolfábhail, pl. IX.

Lucas 1954, 78. This ball weights 43.3 g in comparison to the neighbouring ball from Glenbaun which is slightly smaller but only weighs 24.12 g.

P. Kennedy, The Banks of Boro: A Chronicle of the County of Wexford (London and Dublin: McGlashan & Gill, 1867), p. 90.

Stakelum, p. 17.

G. A. A., Official Guide (Wexford, 1919–20), p. 129.

King, p. 34.

NMI Object File [F:1951.1], Letter from Co. Kerry Field Club to A. T. Lucas, dated 17.7.1951 re. Tooreen acquisition. ‘On discussing the type of Ball with some old men, I have obtained the following information:

No. 2 said- ‘The operation started by making a small ball of cow hair between the palms (no core) - then with the ball on one palm – it was placed against the animal’s side and the palm revolved in a circular motion. He said the ball could be made as large as desired this way & that they played with it in that state (no cover) – it being well knit.’
69 Lucas 1977, 32. There are many similar references to the acquisition of the hair for making the balls such as from; Maires (NFC 1747: p. 88) and Inis Mór, Árainn, Co. Galway (NFC 1747: p. 506), and from Enniskean, Co. Cork, ‘In the springtime when the cattle are throwing off their coats the balls were made – the hair is loose then and comes off nice and aisy.’ (NFC 437: p. 312).

70 ‘A bit of cork when well-rounded was used as a ‘heart’ for the ball’, Tulachtán Bán, Co. Mayo (NFC 1747: 290). Cork was also a popular core for the stocking-thread ball; sometimes a few corks formed the core, Rinn na hAirne, Claregalway, Co. Galway (NFC 1747: p. 214) and Drum, Co. Roscommon (NFC 1747: 510). Sometimes these were pre-soaked in buttermilk as in Furze, Longford, (NFC 1507: p. 364) or singed in the fire: Claregalway, Co. Galway, corca buideál a dhó rud beag sa tine (NFC 1747: p. 202).‘When young he placed a cork in the core – formed the hair into a ball (around same) and then sewed a sheepskin cover’, Tooreen File Letter from Co. Kerry Field Club to A. T. Lucas 17.7.1951.

71 Other references to the use of spittle include Baile Bhuirne, Co. Cork (NFC 325: 5). Tobacco spittle was considered the best for doing this in Maires, Co. Galway: Ni raibh smugairle ar bith ab fhéarr leis an fionnadh a ghreamú ná smugairle tobac. (NFC 1747: p. 88).

72 (NFC 1747: 285). For a similar description from Crossmaglen, Co. Armagh see NFC 1747: 633. For accounts from Omeath, Co. Louth and from Co. Down see NFC 1747: 597, 633 respectively. Balls of this type were used in north-eastern Ireland for handball, not hurling.

73 Tulachtán Bán, Co. Mayo (NFC 1747: p. 284–5). Hair balls are found on the coat but are often only seen in the stomach after slaughter.

74 (NFC 1747: p. 248–9).

75 Ó Cathnáin, p. 214, quoting ‘Sceilg’ (aka S. Ó Ceallaigh), Half a Century’s Reminiscences, (Limerick: Gaelic Athletic Publications, 1944).

76 Lucas (1952), 99. Information from Daniel Sweeney Ó Caithnia, p. 214, quoting ‘Sceilg’ (aka S. Ó Ceallaigh), Half a Century’s Reminiscences, (Limerick: Gaelic Athletic Publications, 1944). For a similar description from Tulachtán Bán, Co. Mayo (NFC 1747: p. 284–5). Hair balls are found on the coat but are often only seen in the stomach after slaughter.

77 NFC 1331: 551: Ricks, stacks of balls, Soft, soft berries, Cow pats and white daisies…

78 Drum, Co. Roscommon 'The cow dungs were old and dried and hard and had the appearance of cork, so that I could easily imagine youngsters using them for hurling balls….They had shrunk to about half the size they were when fresh.' (NFC 1747: p. 511).

79 Small Stones: Leitir Caladh, Maigh Cúilín, Co. Galway (NFC 470: p. 80–81); gunshot: In Taghmacoonnell, Co. Roscommon, it is mentioned that shoemakers used to make the balls for the hurlers. They were made with a few corks and woollen thread wound around them and a few grains of shot in the centre. There was a leather cover made for it then (NFC 1747: p. 519); lumps of lead: Ó Caithnia, p. 214; crows’ wings: Inis Gé, Co. Mayo (NFC 1512: p. 54); wood: Teileann, Co. Donegal (NFC 1747: p. 2), Drumard, Co Longford (NFC 1747: 463), Moynalty, Co. Meath (NFC 1161: p. 508); feathers: An Pháirc Gharbh, Co. Galway (NFC 1747: p. 185); seaweed: Baile na Creige, Inis Mór, Árainn, Co. Galway (NFC 1747: p. 203), Malin, Co. Donegal (NFC1338: 51–3); furze: Brosna, Co. Kerry (NFC 469: p. 341); rubber: Ó Gé, Co. Mayo (NFC 1512: p. 56).

80 K. Danaher, The Year in Ireland, (Cork: Mercier Press, 1972), p. 240.

81 Ó Maolfabhail, (p. 98), quoting P. D. Mehigan (aka ‘Carbery’), Hurling: Ireland’s national game, (Dublin: Gaelic Publicity Services, 1940), p. 31.

82 The many references to corks covered with thread and stitched on the outside may be an evolution of the plaited outer cover of the cow-hair balls and a foundation for the modern shotar.

83 F. Collins et al., ‘Visoelastic impact characterisation of solid sports balls used in the Irish sport of Hurling’, Sports Engineering 14.1 (Sept 2011), pp. 15–25 (http://link.springer.com/article/10.1007%2Fs12283-011-0067-2#page-1) Accessed online September 2015.

84 The optimum parameters were 60Kv, 5 mA with an exposure time of 45 s. There were no lead intensifying screens used and the film type was Kodak M100.

85 All were x-rayed except for the ball from Finnor More, Co. Clare (CM:2001.178) due to the density of the solid outer covering, X-ray No.2401.

86 For a full description of the equipment, methodology and results see Appendix 2 (Online version). The scanning was carried out on 19th November 2012.

87 There are references to bird wings and quills.

88 Anthony Read, Head of Conservation, NMI (pers. comm., 11 January 2013); Isabella Mulhall, Assistant Keeper, Irish Antiquities Division, NMI (pers. comm., 17 January 2013); W. Van der Sanden, Assistant Keeper, Irish Antiquities Division, NMI (pers. comm., 17 January 2013). The many references to corks covered with thread and stitched on the outside may be an evolution of the plaited outer cover of the cow-hair balls and a foundation for the modern shotar.

89 Many of the townlands from which the balls have been recovered have several archaeological sites (National Monuments Service Website: http://webgis.archaeology.ie/nationalmonuments/flexviewer/). A number of these have also recorded archaeological objects, many also coming from bogs within northwest Europe, (Amsterdam, 1996), pp. 16–18.

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91 For a full description of the equipment, methodology and results see Appendix 2 (Online version). The scanning was carried out on 19th November 2012.
Co. Limerick: bronze axe head (1966.30); Aughrim, Co. Kerry, bronze sword (1934.644). Information from Topographical files, Irish Antiquties Division, NMI.

90 Lucas's thoughts on the matter are elucidated in a letter (10.10.1961) regarding Glenbawn, Co. Limerick: ‘In particular I would like to know the name of the townland from which it came and the name of the bog, if it has one, I wonder if it possible to say whether the turf in which it was found at that depth had the appearance of being an unbroken layer or if there was any trace of an old hole at the spot, now filled up, into which the ball might have fallen. You will see that a depth of six feet of turf represents a very considerable lapse of time and I would like to check if there is any possibility that the ball could have found itself to that depth in more recent times by dropping into a hole and sinking to the bottom. It would also be useful to know if a depth of six feet represents the full height of the bog above the find spot or if some of the upper layers of the bog have been already cut away, leaving the original depth of turf above the object even greater…”

91 Lucas 1977, 32. For Tooreen, Co Kerry which was found at a depth of two sods, he wrote ‘I do not think we need suppose that the ball is more than a couple of hundred years old and may be considerably less.’ File letter to Co. Kerry Field Club from A.T. Lucas, 20.6.1951.

92 Lucas 1952, p. 104.

93 ‘...creideann na saíneolaithe is glinne tuiscint ar pháortaigh inniu (1976) gur féidir …’ Unfortunately, Ó Caithnia (p. 233) does not cite the relevant ‘experts’.

94 Letter from A. T. Lucas to Hugh Lyons (21.7.1975) in Object File F27.1975. However the technique of radiocarbon dating was developed in 1949 by Willard Libby of the University of Chicago.

95 Tooraree, Co. Limerick; Athea District, Co. Limerick; Bawnreagh, Co. Tipperary; Rylane, Co. Kerry; Tooreen, Co. Kerry; Knockmore, Co. Clare; Glenbawn, Co. Limerick. These 2008 samples and a further batch sent in 2010 were taken by Dr. Paul Mullarkey, Conservation Department, NMI.

96 The dates are recorded as BP (‘Before Present’ where ‘Present’ is defined as 1 January 1950) with the standard deviation given as a plus/minus value in brackets which reflects the precision of the measurement. These dates are further modified with the tree-ring calibration curve and results in two possible age ranges within the 95% confidence limits and are known as 1 sigma and 2 sigma. For convention the 2 sigma date range will be used as there is more confidence in the true date falling within this range. For more information see P. J. Reimer et. al., Radiocarbon, 51 (2009), 1111–1150.

97 Lucas 1971, pp. 76–79.

98 Toornageehy, Co. Kerry; Lavally, Co. Sligo; Unprovenanced; Talach, Co. Mayo; Maulcalle, Co. Kerry; Ahanebo; Co. Kerry; Finnor More; Co. Clare. Kerry and Clare county museums financed the dating of the balls from Ahanebo; Co. Kerry and Finnor More, Co. Clare, respectively. The ball from Finnor More, Co. Clare returned a ‘greater than modern’ date so is not listed but is described in the catalogue.

99 The catalogue entries for each ball include the complete radiocarbon dates.

100 In order to clarify the discussion the median value of the 2 sigma date range has been provided in parenthesis and all are cal AD and the year 1950 is taken as ‘present’ in these examples.

101 Lavally, Co. Sligo cal AD 1420–1455; Unprovenanced cal AD 1441–1498; Talach, Co. Mayo cal AD 1447–1459; Maulcalle, Co. Kerry cal AD 1447–1524; Bawnreagh, Co. Tipperary cal AD 1463–1524; Rylane, Co. Kerry cal AD 1454–1528; Knockmore, Co. Clare cal AD 1521–1578; Tooreen, Co. Kerry cal AD 1514–1599.

102 Hurling and handball were outlawed in favour of football by the Statutes of Galway 1537 (See King, p. 8).

103 Known as ‘Commons’ and recalled by this name in 1965; Drum, Co. Longford (NFC 1747: p. 463); Moynalty, Co. Meath (NFC 1161: p. 508); Muff, Co. Meath (NFC 1161: p. 432); Rossinver, Co. Leitrim (NFC 264: p. 313).

104 Moynalty, Co. Meath (NFC 1161: p. 508).

105 Muff, Co. Meath (NFC 1161: p. 433). Hurling on Christmas Day is recorded in the parish of Culaduff, Co. Donegal by the Rev. Edward Chichester; W. Shaw-Mason, A Statistical Account or Parochial Survey of Ireland, Vol. 2 (Dublin, 1816), p. 160; Glenbeigh, Co. Kerry (NFC 1162: 557); Inis Mór, Árainn, Co. Galway (NFC1134: p. 5); a reference to road hurling on Christmas Day is recorded in Templedouglas, Co. Donegal in An Claidheamh Soluis, 22.4.1902, p. 361.

106 O’Súilleabháin, p. 693; Under Hurling, the folklore collector is encouraged to ask questions of the informants about the ‘choice of venues for games in olden times (river-fields, strands, páirc an bháire, goal-field etc.)… In the case of cross country games where the ball was driven from field to field, enquire carefully for details of the arrangements made for governing the various aspects of the play.’

107 Tulachán Bán, Co. Mayo (NFC 1747: p. 281). There is also a reference to hurling played on the strand at Prior, Co. Kerry (NFC 997: p. 15–25).

108 T.O’Criomhthain, An t-Oileánach, (Dublin, 1929), p. 151.

109 Gortletteragh, Co. Leitrim (NFC 1747: p. 445).
And this fellow gave him a shoulder and put him into the bog hole and there was ten foot of water in it. We had the divil’s job getting’ him out. He was near drowned’, Gortletteragh, Co. Leitrim (NFC 1747: 445).

NFC Schools Scheme, Ms. 433, p. 62.

T. Crofton Croker, Fairy Legends and Traditions of the South of Ireland, 2nd ed., (London: John Murray, 1826), p. 273.

Crofton Croker, pp. 273–274.

There is a reference to children’s ‘hurlets’ in Commissioners for Publishing the Ancient Laws and Institutes of Ireland, Ancient Laws and Institutes of Ireland, Vol. 1, (Dublin, 1865), p. 139.

J. O’Donovan, ed. Annals of Ireland – Three fragments copied from ancient sources by Dubhaltach Mac Frisigh (Dublin, 1860), p. 9.

O’Donovan, ibid., p. 2; J. O’Donovan, ed. (Annála Rioghachta Éireann: Annals of the Kingdom of Ireland by the Four Masters from the earliest period to the year 1616, Vol. 1, (Dublin; 1848–51, reprint 1990), p. 210.

C. O’Rahilly, ed. Táin Bó Cúalnge from the Book of Leinster (Dublin: Dublin Institute for Advanced Studies, 1967), p. 21.759 and p. 138 translates a chamán créduma 7 a liathróit n-ardgide as ‘his hurley stick of bronze and his silver ball,’ although the second qualifier might be read as a development of argda ‘heroic, valiant’.

W. Stokes, ‘The Training of Cú Chulainn’, Review Celtique 29 (1908), pp. 116–7.

S. H. O’Grady, ed. and trans. The Colloquy with the Ancients, (Cambridge, 1999), pp. 108, 152.

For further references, see, for example, Dictionary of the Irish Language, (compact edition, Dublin 1983), s.vv. cammann, immán, liathróit and for further discussion of terminology see Ó Caithnia. J. S. Folds, G. Petrie and C. Otway, ‘Historical notice of the city of Dublins’, The Dublin Penny Journal, No.2, Vol. 1, (July 7, 1832), p. 11: ‘In the year 1209, a party of the citizens having challenged another party to a hurling match on Easter Monday, they fixed on an open space near Cullenswood…’

‘…do not, henceforth, use the plays which men call horlings, with great sticks and a ball upon the ground, from which great evils and maims have arisen…’, K. O’Brien, ed. A Statute of the Fortieth Year of King Edward III., enacted in a parliament held in Kilkenny, A. D. 1367, before Lionel Duke of Clarence, Lord Lieutenant of Ireland, Corpus of Electronic Texts – (Cork: UCC, 1998, 2011), p. 21.

King, p. 8: ‘At no time to use ne occupy ye hurling of ye litill balle with the hookie sticks or staves, nor use no hand balle to play without the walls, but only the great foot balle.’

Ó Maolfabhail, p. 66, pl. IX.

Caimin Ó Brien, Archaeological Survey of Ireland (pers. comm., 9.7. 2012).

NMI hurley [F1981.160. made of alder, found in Boora Bog, Derries, Co. Offaly was dated to AD 1467–1531 (c.1500)].

Ó Maolfabhail, p. 60, pl. VIII.

P. Harbison, The High Crosses of Ireland: An Iconographical and Photographic Survey, Vol. I (Bonn, 1990), pp. 147, 214–215.

E. MacLysaght, Irish Life in the Seventeenth Century, 2nd ed., (Cork: Cork University Press, 1950), Appendix B, Letter 4, p. 353.

A. W. Hutton, ed., Arthur Young’s A Tour in Ireland (1776–1779), Vol. I, (London & New York, 1892), pp. 446–7.

S. Owenson, (Lady Morgan), Patriotic Sketches of Ireland, written in Connaught, Vol.2, (London, 1807), p. 96.

M. Herity, ed., Ordnance Survey Letters, Roscommon (Dublin: RIA, 2010), p. 54.

C. S. Hall, Ireland: Its Scenery, Character &c., Vol.1, (London, 1841), p. 256.

K. Danaher, ‘Welcoming the summer - Folk Tradition’, in Atlas of Ireland, (Dublin: RIA, 1979), p. 90. The map illustrates the strong tradition of the May bush in the south east of Ireland and the May Bough in the south west.

Crofton Croker, p. 274.

ibid. p. 274.

This story recounts one of accomplished storyteller, Peggy Barrett’s tales, explaining her spinal curvature, this time as a result of her encounter with ‘the phoooka’.

ibid., pp. 266–7. Croker suggested that it is engaged or newly-wed women and men who made the balls.

Ó Súilleabháin, pp. 337–9. There was a questionnaire devised by the Irish Folklore Commission, Ceistneoir do Chumann Lathchleasa Gaeil, to elicit information about the games of hurling and football before the GAA was founded. This was sent out to folklore collectors and most of the responses were collected in 1965, many of them collated in Manuscript Volume 1747. The names for the balls, the materials used for the ball (e.g. cowhair), who made them, when, where and how, and if different types of balls were used for different games were all part of the first section of the questionnaire. The fifth section covers the Times and Places of Games, such as after Mass on Sundays, May Day, and question 3: ‘Any tradition connected with hurling and the Maypole or May bush? Did the girls make hurling balls or footballs for the youth to play the May Day match? Can you fill in this tradition?’ There were very few replies from informants to these questions. One informant from An Pháirc Gharbh, Co. Galway had heard nothing of May balls and said that women did not make the
balls; ‘Ni bhiodh cailini a’ deana liathróidí…’ (NFC 1747: p. 193).

138 Rev. M. McGrath, ed., Cinnlae Amhlaobh Úi Shuílleabáin, Part 1, (London: Irish Texts Society Vol.30, 1936 reprinted 1989), pp. 237, 259 in translation.

139 Danaher 1972, p. 104; C. Vallancey, An Enquiry into the First Inhabitants of Ireland, (Dublin, 1781), p. 65.

140 Danaher 1972, p. 104; Finn’s Leinster Journal, 4 May, 1782, Kilkenny.

141 J. G. A. Prim, Transactions of the Kilkenney Archaeological Society, Vol. 1, No. 2, (1833) p. 332.

142 Rev. M. McGrath, ed., (1929) Cinnlae Amhlaobh Úi Shuílleabáin, Part 2, (London: Irish Texts Society Vol.31, 1936), p. 149 in translation.

143 Cited in Danaher, 1972, p. 107.

144 McGrath, 1929, p. 149 in translation.

145 C. Vallancey, An Essay on the Antiquity of the Irish Language, (London, 1818) p. 46: ‘The third day of May is also at this day named treas la samb-ra, or the third day of the Sun’s quarter. On this day each bride married within the year makes up a large ball covered with gold and silver tissue (in resemblance of the Deity) and presents it to the young unmarried men of the neighbourhood, who having previously made a circular garland of hoops, &c. (to represent the zodiac) come to the bride’s house to fetch this representation of that planet. To such a pitch is this superstitious ceremony carried, I have known in the county of Waterford a ball to have cost a poor peasant two guineas.’

146 These balls, given as gifts by young women to young men were previously interpreted exclusively as love tokens –‘Curators Choice’ Exhibition, NMI, Collins Barracks, Dublin, 1998. This theory is no longer valid.

147 S. Wm., ‘Cornish Hurling’, Notes and Queries, A Medium of Inter-Communication for Literary Men, Artists, Antiquaries, Genealogists, etc., Vol. 5, January-June, (London, 1858), p. 56, ‘But where it is still practiced, it is little beyond an annual game. In the parish of Germoe...it is played on the first Monday in May, being the parish feast. In the borough town of Kelston it is played once a year on the day of renewing the bounds – the 12th of May...Some of the old hurling balls are of silver.’ W. Hone, W., ‘Cornish Hurling’, The Every-Day Book, Vol.1, (London, 1826), p. 31: ‘Hurling matches are peculiar to Cornwall...these exercises have their name from “hurling” a wooden ball, about three inches diameter, covered with a plate of silver which is sometimes gilt and has commonly a motto “Fair play is good play.”’

148 Ó Caithnia, pp. 234-5, quoting RIA 12 D 4, p. 65; Calendar of Ancient Records of Dublin (1571), pp. 289, 312, 317, 328.

149 S. Paine, Amulets - A world of secret powers, charms and magic, (London: Thames and Hudson, 2004), p. 123, describes the belief throughout Asia of the protective powers of horseshoe. There are references to animal hair balls covered with possum or kangaroo skin from Australian Aboriginal cultures and in Canada there are deer and caribou balls stuffed with animal hair. The Inuit and the Native Americans played Lacrosse with a ball of hide such as buckskin and stuffed with hair, grass, sand or a similar substance (http://www.gamesmuseum.uwaterloo.ca/VirtualExhibits/Inuit/english/ball.html and http://www.museevirtuel-virtualmuseum.ca/sgc.cms/expositions.exhibitions/traditions/english/lacrosse_01.html). A version of Lacrosse using a double ball was played in both countries and in the Canadian Museum of Civilization, there is a ball made of deerskin, hair and skin (http://www.civilization.ca/cmc/exhibitions/aborig/fp/fpz4010e.shtml). A double ball made from two bags of deerskin stuffed with buffalo hair and joined by a leather thong was used by the Manataka American Indians and they also played shinny with a similar single ball (http://www.manataka.org/page184.html). A similar double shinny ball from the Sahnihs Indians of North Dakota made of hide stuffed with sinew and animal hair exists in the National Museum of the American Indian (http://nmai.si.edu/searchcollections/item.aspx?catid=1&objtype=ball&objcattxt=hair&src=1-5&irn=135314 & http://nmai.si.edu/searchcollections/item.aspx?irn=20337&catid=1&objtype=ball&src=1-5). In terms of plaited covers, there are balls in Korea with a plaited straw covering network very similar to the Irish hair hurling balls in the Museum of the Korea Straw and Plants Handicraft (http://www.zipul.com/vr/vrzipul_no1.htm). There are balls with plaited pandanus leaves over coconut that were used for a game similar to ‘Rounders’ in Pleasant Island, Pacific Islands, Oceania (NMI object No. AE:1923.44). All retrieved in September 2015.

150 Dr Hugh Dan MacLennan, Historian and Commentator, Inverkip, Scotland (pers. comm., 5.7.2012); The Inverness Courier, 3rd January, 1850 reported on a game of shinty between Strathglass and Aird; ‘The balls for each game were specially made of India Rubber.’ MacLennan also provided a transcript of the National Camanachd Forum, 1974, with discussion from Alan MacPherson, Rudi Prochaska, Mike Garthland and Hughie Buchanan: ‘To go on to shinty balls. These originally were made of anything that could be wound round or wound into a spherical shape. The core originally consisted of two corks, probably whisky bottle corks, crossed like that and set into each other and wound round with a mixture of sheep’s wool and horse hair and
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then stitched with cotton or hemp or whatever thin strong cord was available.’

151 J. Logan, The Scottish Gaël: Or, Celtic Manners Vol. II (London, 1831), p. 319. ‘The balls in Argyleshire are often of wood; in Badenoch they are formed of hair, hard and firmly twisted.’ Elgin Courant and Courier (1889) January 18, Elgin, Scotland; ‘Made with a covering of leather, and not exactly spherical in shape, it was a missile which the Badenoch team were not accustomed to work with, and consequently were not able to strike with the uniform excellence of their opponents from Lochaber…When half time was called, the Badenoch men were allowed to put down their own ball, made of horse hair, and once in possession of their property the beauty of their play was at once evident to the spectators. (Email correspondence 12.11.2012 from Rachel Chisholm, Assistant Curator (Collections), Highland Folk Museum, Newtonmore, Scotland; Clare McIntyre, National Museum of Scotland, Chambers St, Edinburgh, Scotland).

152 Lucas 1952, p. 103; Ó Caithnia, p. 233.

153 Lucas, 1951, 111.

154 Teileann, Co. Donegal (NFC 1747: p. 2), ‘Siad na daoini iad féin a rinne na liathróidí, na daoine óga.’ (It was the people themselves who made the balls, the young people).

155 The map does not indicate the recent hard-covered hair ball from Finnor More, Co. Clare, or the ball with no provenance (F:2008.133).

156 X-ray No.2633: silver and fruit stones (Sapindus Saponaria) rosary beads (F:1947.136); bone crucifix (F:1928.40); brown glass bottle and cork stopper stained with toning solution (F:2001.737); cow dung and ash candleholder (F:1965.102); eucalyptus seed rosary beads (F:1944.830); water chestnut rosary beads (F:1947.4); samples of wood, bark, pine cone, acorn, stones, leaf; cock-fighting spur with leather, metal and cork (F:1948.229 a-b); equine, bovine and ovine dung, turf sod; rosehip necklace (F:1944.590). X-ray No.2642: Horsehair balls, Loch Conaortha, Carna, Co. Galway (F:1933:25–30); modern sliotar; hurling ball (1950s), Roscommon Town, Co. Roscommon (F:1969.544); homemade soap; candle wax; two horse chestnuts; selection of stones.

157 The median date has been taken for all the date ranges proposed by Lucas, Ó Caithnia and for the radio-carbon dates.

Notes on Contributor

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She has a degree in Irish Folklore and Archaeology and her MA thesis is on the subject of Traditional Hearth Furniture. As Assistant Keeper, she curates the Calendar Custom, Religion, Sport & Leisure, Childhood, Ceramics & Glass and Hearth Furniture Collections. She has worked on the inaugural exhibitions at Collins Barracks, Dublin and when the Irish Folklife Collection moved to Mayo in 2001, she curated much of the permanent galleries at this new facility. Since the opening she has curated more than twenty temporary exhibitions, including the popular travelling exhibition, Hair Hurling Balls - Earliest Artefacts of our National Game.

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