A Bronze Age hilltop cemetery complex: Ballon Hill, Co. Carlow

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Situated towards the middle of the relatively flat expanse between the Blackstairs and Wicklow mountains to the east and the Castlecomer plateau to the west, Ballon Hill is a conical-shaped hill aligned northwest–southeast in otherwise unremarkable topography. Rising to only 130m above sea-level, the surrounding countryside elevates the hill into a topographical focal point. This low yet prominent hill appears to have attracted considerable attention in the Early Bronze Age from possibly as early as 2200 BC when it was chosen as a burial place. In the 1850s and 1860s, 'diggings' were carried out on the hill by the then landowners to try to recover so-called 'pans' or 'crocks' that were reportedly being found following tree-planting and quarrying works. Three publications on these 'diggings' appeared in the 1850s and 1860s describing the uncovering of numerous artefacts. The Ballon Hill Archaeology Project was established to bring together all this disparate information and to try to understand the place of Ballon Hill in the burial record of the Irish Bronze Age. It appears at least three burial monuments, including a burial mound and two barrow monuments, were constructed during the Early Bronze Age with numerous other burials placed over much of the hill. There is an absolute minimum of 23 pottery vessels and arguably a minimum of 38 vessels from Ballon Hill with all extant vessels dating to the Early Bronze Age.

Introduction

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In 1853, Jonathan Richardson Smith, the brother-in-law of the then owner of Ballykealy House, Co. Carlow, John James Lecky, began 'diggings' on Ballon Hill to try to recover some so-called 'crocks', 'pans' or urns that he had heard were being discovered on the hill.[1] Accounts of workmen finding and breaking up to 11 of these in one day motivated Richardson Smith to spend the greater part of the summer of 1853 organising investigations on the hill. He uncovered several pottery vessels during the summer and returned in December 1853 to resume the works, which continued until late January 1854. He carried out further investigations over a two-week period in July 1855. Still more

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Fig. 1: *Aerial photo of Ballon Hill taken in 1990, from south.*

(image courtesy of Dr Gillian Barrett)

work, apparently organised by John James Lecky, took place at a later date and in 1867 a short account of these was published.[2]

These nineteenth-century antiquarian investigations uncovered one of the largest assemblages of Bronze Age pottery vessels found in Ireland. While writing about the Bronze Age pottery vessels recovered

Supposed Amulets, found in a cist under the larger of two Urns together with a small quantity of white ash The Spear was immediately under the flag stone cover, ing the Cist.

Fig. 2: *Razor-knife (CMM07 85B) and pebbles (CMM07 85C and D) in bespoke display.*
Image courtesy of Carlow County Museum

from the Mound of the Hostages at Tara, Co. Meath, Mount remarked '[t]he pottery alone is one of the largest collections ever found in Ireland, possibly surpassed only by the poorly recorded nineteenth-century excavation of the cemetery at Ballon Hill, Co. Carlow'.[3] In addition to the pottery assemblage, one cist produced a razor-knife and three specially chosen small smooth pebbles (Fig. 2).

Nineteenth–century accounts of investigations

As noted above, the investigations were published by James Graves in 1853 and 1855 and in a short note by the landowner John James Lecky in 1867.[4] The first two were based on field journals supplied by Richardson Smith and at least one visit to the hill; regrettably, the whereabouts of these journals is not known. While Graves' accounts, and particularly his correlation of illustrations of some of the ceramic finds with individual graves, are very important, it is also clear that Smith's work 'followed an eccentric sequence in his investigations frequently switching from one portion of Ballon Hill to another. A considerable amount of confusion results from his imprecision in describing the location of, and spatial relationship between, the areas he excavated'.[5]

Smith carried out work at four principal locations on Ballon Hill. These were at the large boulder immediately north of the hill, the so-called *Cloghan-na-Marbhan* – stone of the dead; the top of the hill; in the 'neighbouring quarry' and at the 'site of the old rath'. A small number of other vessels are found by 'the men' working 'by themselves' in the 'rath'. While three skeletons were recovered from beneath *Cloghan-na-Marbhan*, all of the other, apparently numerous, burials were cremations. These came from small cists, simple pits and, apparently, scatters of bone. Pottery, including the 21 intact or substantially intact vessels currently ascribed to Ballon Hill, came from a significant number of these burials. Even without detailed records, the variety of burial forms—including cists with or without pottery and/or direct evidence for burials, as well as apparently unaccompanied pottery and cremation deposits—is consistent with established Early Bronze Age funerary traditions.[6]

While Richardson Smith and subsequently Lecky were particularly interested in discrete graves and burials, and more particularly the artefacts associated with them, it is clear that other evidence was uncovered. This may have included pyres, large ritual fires and even domestic activity. Another discovery, almost certainly later than the Bronze Age, consisted of a skeleton lying west–east, with its feet at the eastern end. No skull was present and Smith remarks that the body must have been interred without the head as 'the shoulder joints coming close to an upright quarry stone; the collar bones were in their places, and unbroken; the body was stretched out'. He tells us that there was an 'up-cut' on the inside left femur (or thigh bone). In 1867 Lecky states that

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he has had two of the cists reconstructed near Ballykealy House and 'fixed in the same position in which they were on the hill'. A third cist 'in which was found two urns' was restored 'exactly as it was, and in the same spot' on the hill.

Ballon Hill Archaeology Project (BHAP)

Following initial studies and visits to the hill, it was clear that research into the archaeology of Ballon Hill would require several phases.[7] With Phase 1 now complete, this article details the findings to date. Phase 1 included:

- A thorough analysis of the nineteenth-century published material.
- Analysis of available LiDAR, cartographic and aerial photographic sources.
- Up-to-date analyses of the identifiable pottery, human bone assemblage and metal artefacts.

The current research will focus on the earthwork monuments on the hill summit. While the material apparently found under a large boulder (*Cloghan-na-Marbhan*) to the north of the hill is treated here, this and other features below the hill will form part of future studies.

Cartography, aerial photography and LiDAR data

A number of cartographic sources were examined, including the Down Survey (1656–58), and the First edition (1840, Sheet no. CW013) and the Third edition (1907) Ordnance Survey (OS) six-inch series maps (Sheets CW013-14 and CW013-15). Electronic aerial photographic sources were accessed, including Google Earth and Bing Maps while Gillian Barrett also kindly provided aerial photographs. LiDAR data for the hill was processed by Steve Davis and Eimhear O'Brien. While the Down Survey offered limited information to the research aims of the project, the OS survey maps, aerial photography and LiDAR data provided invaluable information. Some changes in the local landscape are identifiable since the 1840s, including many altered or removed field boundaries and significant tree planting on the hill between 1840 and 1907. The 1907 OS map indicated the burials at *Cloghan-na-Marbhan*, by recording 'Urns found AD 1853'.

The Monuments

In all, four monuments have been recognised on Ballon Hill (Fig. 3), although further work is required to prove these interpretations conclusively. These four included a burial mound (Monument A) referred to as the 'old-rath' in the nineteenth century, two possible barrows (Monuments B and C) and a large enclosure (Monument D).

The 'old rath' (Monument A: Sites and Monuments Record [S.M.R.] CW013-067)
The nineteenth century publications make numerous references to an 'old rath' (S.M.R. CW013-067) on the hill and suggest that some of the

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Fig. 3: *Location of the potential monuments on Ballon Hill.*

(Robert McNamara)
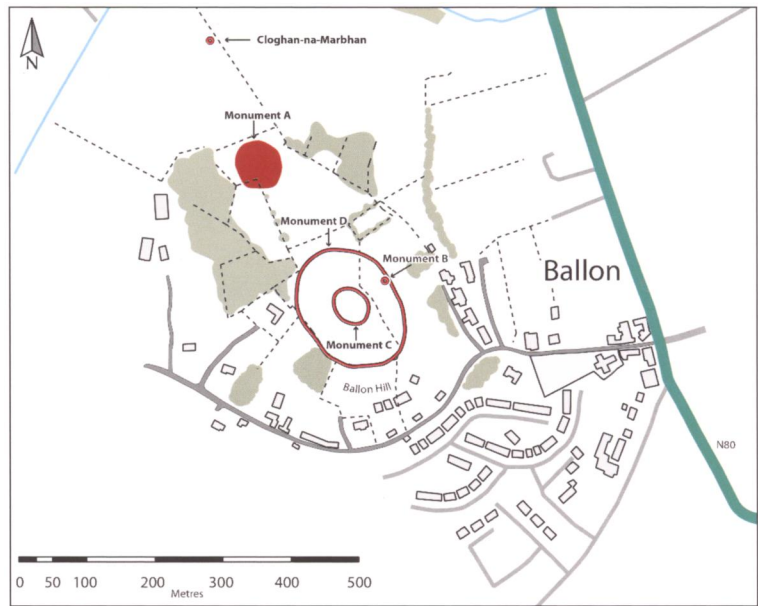
best pottery vessels were recovered from this earthwork. Although the evidence is still unclear, it appears that this was an important part of the cemetery complex, possibly a ring barrow (Figs 3–5).

In Graves' 1855 publication, he recounts that Richardson Smith tried 'the south side of the rath at the top of the hill', which suggests that the rath is to the north of the hilltop. The aerial photographs of Ballon Hill show a circular crop mark defined by a low bank approximately 60m in diameter in this location (Fig. 4). An east–west cross-section of this
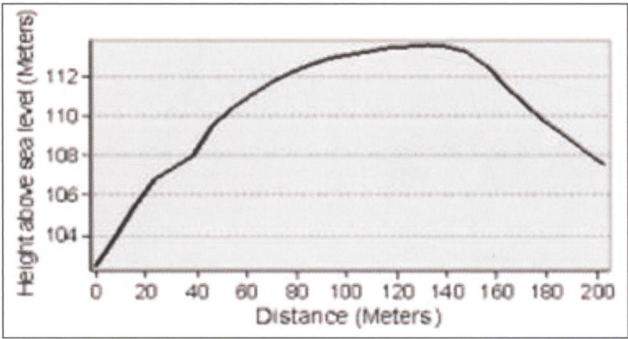
Fig. 4: *Aerial photograph showing the location of the 'old rath', highlighted by arrows.*

(source: Bingmaps.com)

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monument, derived from the available LiDAR data, suggests that the crop mark seen above is a mound with a possible external bank (Fig. 5). This location, referred to as the 'old rath', contained numerous burials discovered in the nineteenth century. In the 1853 publication, it accounted for at least five cists and eight pottery vessels. It is unclear how many burial pits were uncovered and many more of the cists and pots referred to in this article may have been located here.

Possible barrow on the eastern slope of the hill (Monument B: S.M.R. CW013-071001)
A circular-shaped enclosure measuring 16m in diameter and delineated by a bank (S.M.R. CW013-071001: 'ring-barrow') is located at the eastern side of Ballon Hill (Fig. 3). This was reported as having had a large stone or boulder at its centre. Local reports refer to urns possibly found here as well as ashes or cremated bone found in a trench immediately north of the enclosure.

The 'new' enclosure on the top of the hill (Monument C: S.M.R. CW013-068)
In both Graves' publications, works are referred to being carried out at, or close to, the top of the hill (Fig. 3). Graves recounted in 1853 that a 'large bed of charred wood and burned bones was struck on, two feet under the sod' while in 1855 his account 'found a spot with deeper soil; there were relics of fires, large quantities of charcoal, pieces of burnt bone, and fragments of urns of three patterns'.[8] This suggests Bronze Age activity although not necessarily funerary deposits. There is also reference to a quarry being opened on the top of the hill and, interestingly, we are told that a quarry man recounted how he had broken 11 urns found close together in these quarry works. It indicates the presence of significant Bronze Age activity on the hilltop. The LiDAR images indicate an enclosure at the very top of the hill (Fig. 6). It appears to be circular in plan
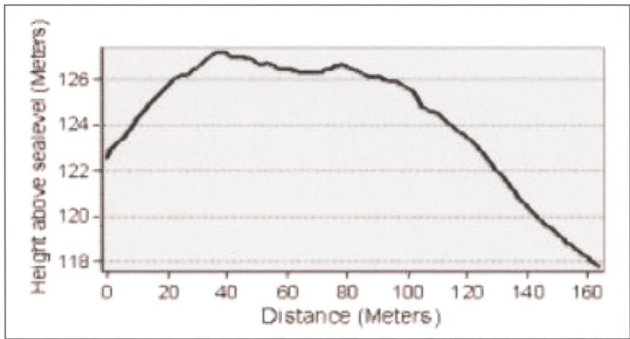

Fig. 6: *Ballon Hill with new enclosure (C) highlighted.*
(OPW LiDAR data)

Fig. 7: *Cross-section of newly identified enclosure (C) on hilltop.*

(OPW LiDAR data)

and measure approximately 30m in diameter—possibly another barrow. A cross-section of the enclosure (Fig. 7) was also produced from the available LiDAR data and this showed a banked enclosure with surviving banks measuring between 0.5m and 1.5m in height.

The large enclosure
(Monument D: S.M.R. CW013-124)

Combined scrutiny of the OS 1840 map (Carlow Sheet 13) and aerial photography appear to indicate a large enclosure (measuring *c.* 160m north–south by 120m east–west) on the hill summit (Figs 3–4). The map evidence shows a curving field boundary at the southern and western extent of the summit of the hill, while the aerial coverage suggests a similar boundary on the eastern and northern side of the summit of Ballon Hill. Based on its location and size this may be a Late Bronze Age hillfort; it is a tentative identification and further research is required to substantiate its presence and dating.

Review of the material from the nineteenth century

The pottery assemblage

Eoin Grogan and Helen Roche were commissioned by the Ballon Hill Archaeology Project (BHAP) to assess the pottery as a complete assemblage with a focus on Ballon Hill as a burial site. In all, 23 extant vessels were identified that date from approximately 2200–1500 BC. Several types of pottery were identified, including four bowls, 13 vessels (11 vase food vessels and two vase urns) of the Vase Tradition, one collared urn, three cordoned urns and two undiagnostic vessels. Following Brindley's comprehensive dating programme there are good date ranges for these different types (Tables 1 and 2),[9] and these indicate the use of Ballon Hill as a cemetery throughout much of the Early Bronze Age. Brindley presented preliminary calibrated date ranges (PCDR), based on radiocarbon dating of human bone from closed funerary contexts at one and two standard deviations. Also presented were final calibrated date ranges (FCDR), where the date ranges were visually compared against the calibration curve and 'wiggle matched' for 'mitigating the effects caused by the wiggles in the calibration curve for each group of dates in an attempt to address the attendant statistical scatter, which can make past activity appear to start earlier, end later and endure for longer than it did in reality'.[10] The FCDR has not been universally accepted and, notably, Sheridan and Bayliss question whether a sampling bias was introduced. Tables 1 and 2 below present the dating ranges for the Ballon Hill assemblage based on both Brindley's PCDR and FCDR; however, the PCDR will be used.

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Pottery type	Preliminary Calibrated Date range	Final Calibrated Date range
Bowls	2200–1800 BC	2160–1920 BC
Vases	2150–1700 BC	2020–1740 BC
Vase urns	2000–1700 BC	2000–1740 BC
Collared urns	1900–1650 BC	1850–1700 BC
Cordoned urns	1880–1500 BC	1730–1500 BC

Table 1: *Pottery types and date ranges.*

Catalogue number	Type	PCDR	FCDR	Condition	Illustration in Graves 1853
SA 1928:438	Bipartite bowl	2200–1800 BC	2160–2080 BC	Intact	Not illustrated
SA 1928:430	Tripartite bowl	2200–1800 BC	2080–1980 BC	Intact	Plate 1:2
SA 1928:435	Tripartite bowl	2200–1800 BC	2080–1980 BC	Intact	Plate 2:10
SA 1928:437	Tripartite bowl	2200–1800 BC	2080–1980 BC	Intact	Not illustrated
SA 1928:439	Ribbed vase	2150–1700 BC	2150–1700 BC	Intact	Not illustrated
SA 1928:431	Plain vase	2150–1700 BC	2150–1700 BC	Intact	Plate 1:4
SA 1928:432	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 1:5
SA 1928:433	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 2:8
SA 1928:434a	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 2:9
SA 1928:436	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 2:11
SA 1928:447	Bipartite vase	2150–1700 BC	2020–1920 BC	Fragments	Not illustrated
BM 1920 11-9,2	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 1:1
BM 1920 11-9,3	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 2:7
BM 1920 11-9,4	Bipartite vase	2150–1700 BC	2020–1920 BC	Intact	Plate 3:13
SA 1928:440	Tripartite vase	2150–1700 BC	1920–1830 BC	Intact	Not illustrated
SA 1928:443	Vase urn	2000–1700 BC	2000–1920 BC	Fragments	Plate 2:6
SA 1928:446	Vase urn	2000–1700 BC	1920–1830 BC	Intact	Not illustrated
SA 1928:441	Collared urn	1900–1650 BC	1850–1650 BC	Partial	Not illustrated
SA 1928:442	Cordoned urn	1880–1500 BC	1570–1500 BC	Partial	Not illustrated
SA 1928:445	Cordoned urn	1880–1500 BC	1730–1500 BC	Fragments	Not illustrated
SA 1928:444	Cordoned urn	1880–1500 BC	1570–1500 BC	Intact	Plate 1:3
SA 1928:434b	Unknown	Unknown	Unknown	One sherd	Not illustrated
Group II	Unknown	Unknown	Unknown	Illustrated but not preserved	Plate 3:12

Table 2: *Summary of the pottery from Ballon Hill held in the National Museum of Ireland (NMI: SA) and the British Museum (BM).*

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Sixteen of the 23 vessels have survived intact or are represented by substantial pot sections. The four bowls indicate an early burial phase beginning perhaps as early as 2200 BC. The most common pottery type in the assemblage is the bipartite vase with eight examples. This type has been dated (Brindley, Stage 1 vase) to 2150–1700 BC, while the cordoned urns indicate activity extending to possibly as late as 1500 BC.

The pottery in the nineteenth-century publications
In all, a minimum number of 21 vessels are described in the nineteenth-century accounts. It should be noted that where finds of pottery refer to broken pottery of different decoration or 'distinct patterns' found together, we cannot be sure if this represents more than one vessel, so these references are counted as a single vessel. Nevertheless, the various accounts suggest that many other finds of pottery were made both before and during the investigations; it appears that only intact, or particularly highly decorated material was retained. It is clear, therefore, that far more pottery was discovered than has survived. For example, in 1853 Graves records that 'large numbers of fictile vessels had been destroyed in planting the trees with which the hill is now partially covered. One man said he had smashed four perfect urns in a day, another (a quarry-man) reported that he had broken eleven found close together in the quarry opened on the top of the hill'.[11] In fact, it was these reported discoveries that prompted Richardson Smith to begin his investigations. Such a concentration of funerary pottery vessels or urns certainly indicates the presence of an extensive Bronze Age cemetery, and perhaps other activity, on the top of the hill.

Of the 21 surviving examples, eight were found in the burial 'mound'; three under *Cloghan-na-Marbhan*, one 'near the top of the hill', one in the 'neighbouring quarry to the top of the hill' and eight without any precise provenance. Five were retrieved from cists, three from pits with the remaining 13 of unclear burial context. Just eight of the pots were found intact, three were semi-intact and 10 were recorded as broken at the time of discovery. Only nine examples were recorded as associated with (apparently) human bone.

While 11 were described as recovered intact or partially intact, it is interesting to note that 12 intact pots were illustrated in the 1853 publication, indicating that Graves was either not privy to information surrounding the uncovering of all the vessels or he failed to include accounts of this in the 1853 publication.

Correlating the extant collection with the nineteenth-century accounts
To associate the extant assemblage with the pottery described in the nineteenth century is difficult for most of the vessels. However, in a small number of cases there is sufficient information to make some tentative identifications.

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Graves, quoting Smith's diary reference to 19 July, records '[t]his morning with a friend I re-commenced digging by the rath, and have never discovered more extraordinary remains. Early in the day we found two large cists, in one of which was an urn, above thirteen inches in height, quite hard, and in great preservation, with the mouth turned down, and almost full of bones'.[12] Unfortunately, this was not illustrated by Graves but, based on size and condition, it appears to be the vase urn SA 1928:446, which measures 345mm in height.[13]

Two pottery vessels were uncovered in a five-sided chamber or cist. It is clear that one of these is a small bipartite vase (BM 1920 11–9, 4).[14] This was found above the second vessel that was referred to as a 'larger urn inverted, of less striking form and ornamental design'.[15] The difficulty of identifying this pot exemplifies the problems in reconciling the surviving material with the nineteenth-century accounts.

There are two further vessels 'of larger size'—a vase urn (SA 1928:443) and a ribbed vase (SA 1928:439) (Table 2). The vase urn is certainly in the correct size range (height: 208mm) although it is a matter of opinion that it is 'of less striking form and ornamental design' (Fig. 8).[16] It is possible that this is the second vessel from the grave, but it is not certain that these were deposited at the same time. Likewise, a copper alloy razor-knife (CCM07 85B; see below) that apparently came from a higher level in the cist fill may represent a later insertion.

The distinctive ribbed vase appears to have been found on 23 December 1853 (Fig. 8). According to his diary entry for that date, Smith '[t]ried the west, or upper side of the rath, and soon found traces of great fires, and two very deep pits. The charcoal lay in deep beds; we found an urn seven inches high, of a curious pattern, and ornamented by six raised hoops.'[17] Some caution is required with this identification as Smith counted six, not the four actual, 'hoops', while the vessel measuring, at 165mm high, is smaller than the 'seven inches' (177.8mm) he suggested. Unfortunately, Graves did not publish an illustration of this pot.
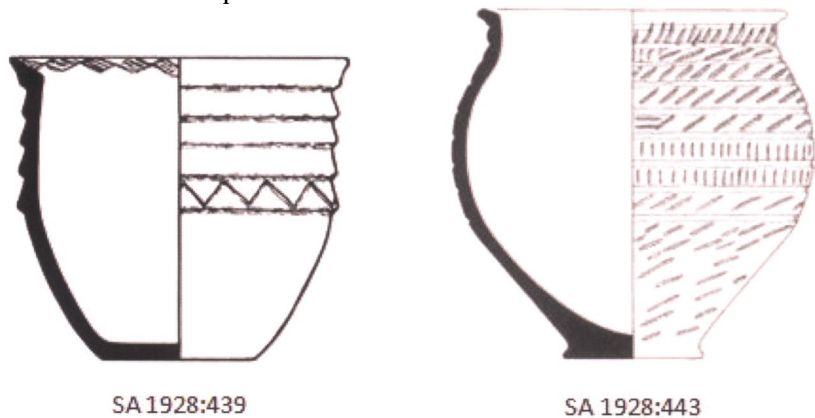

SA 1928:439   SA 1928:443

Fig. 8: *Pottery illustrations from Ó Ríordáin and Waddell (not to scale).*[19]

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Graves describes some discoveries from the rath on 23 July 1853:

[A] large urn was uncovered, resting in an inverted position, and quite perfect. The sod, or scraugh, which had been used to cover the mouth of the vessel, and prevent the bones which it contained from falling out, still held together. This urn is rudely decorated with an impressed chevron pattern, and two nearly equidistant raised hoops or rings: it measures fifteen and a-half inches in height, and nearly fourteen inches in width.[18]

This is one of the cordoned urns (SA 1928:444) dating to 1880–1500 BC.

Grogan and Roche have identified the collared urn (SA 1928:441) as the vessel found on 2 January 1854, probably also at the rath. Graves refers to 'the rim of an urn of a very handsome pattern. ….. The part of the urn, which remained, was filled with large bones and charcoal'.[19] None of the remaining vessels in the extant assemblage can be identified in the nineteenth-century publications, however tentatively.

On 16 January 1854 Smith recorded that 'the men worked by themselves [probably at the 'old rath'], and at night brought me down by far the most perfect and beautiful urn yet found. It is impossible to give an idea of the rich beauty of the patterns which adorn this splendid work of art.'[20] This vessel has been identified as probably the tripartite vase (SA 1928:440) with a date of 2150–1700 BC.[21]

Overall minimum number of pottery vessels
Mention has already been made to several pots, and in some cases 'sherds', that do not appear to have survived. This includes the 'large numbers of fictile vessels' destroyed during tree planting, and reference to 'four', and 'eleven' damaged on the hilltop. Elsewhere in the publications, there are references to other individual discoveries as well as 'several' and 'many' pots for which no precise record survives. If these are accepted as a minimum of 15 damaged and lost examples, then an overall number of 38 vessels (including the 23 now identified) appears to be a reasonable minimum, although it is probable that there were many more than this.

Burials unaccompanied by pottery vessels
The nineteenth-century accounts refer to at least 20 burials unaccompanied by pottery vessels. Of the 21 references to pottery discoveries, only nine specifically record associated bone. It is probable that because human remains were not the primary focus of the investigations and some of these clearly took place without Smith's direct supervision, the presence of bone did not always get recorded. If the count of nine is the minimum number of burials accompanied by pottery/pottery vessels: it provides an overall minimum of 29 definite burials.

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Catalogue No.	Artefact type	Date BC	Reference
CMM07 85B	Razor-knife	1800–1400	Grogan and Roche, 'The prehistoric pottery from Ballon Hill'; Grogan and Roche, 'A collection of bronze, iron and stone artefacts'.
SA 1928:451	Spearhead	1600–1500	George Eogan, 'The Later Bronze Age in Ireland in the light of recent research', *Prehistoric Society Proc.*, xvi (1964), pp 268–350 Colin Burgess, *The age of Stonehenge* (London, 1980); Grogan and Roche, 'A collection of bronze, iron and stone artefacts'.

Table 3: *Early Bronze Age metal artefacts from Ballon Hill.*

Metal Artefacts

The analysis of the metal artefacts from Ballon Hill has shown there are six of Bronze Age date, but only two overlap in date with the burial activity and will be discussed here (Table 3).[22] One of these artefacts is held in the National Museum of Ireland (NMI), Kildare Street, Dublin while the other is on display in Carlow County Museum.

The spearhead formed part of the 'Lecky Collection' donated by Colonel Frederick Beauchamp Lecky to the NMI in 1928.[23] The razor-knife was donated in 1997 by Mrs. P. Wright of Frant, East Sussex, along with two small stones in a bespoke display case (Fig. 2).[24] The razor-knife, and the two small stones, previously thought to be lost, are probably those found on or soon after 23 July 1853 in a five-sided or polygonal cist apparently associated with two pottery vessels, a bipartite vase (BM 11-9, 4) and a ribbed vase (NMI 1928:439).[25]

The razor-knife (CMM07 85B) was described by Graves in 1853 as a 'thin lamellar javelin-head, or dagger-blade of bronze' and has been variously referred to as a dagger since. This has a single blade and despite the archaeological term 'razor' may have been a simple utilitarian blade with a similar function to a modern pen-knife. These artefacts 'are the most common non-ceramic grave offerings in the Irish early to Middle Bronze Age'.[26] They are most often associated with cordoned urns and with male burials.[27] In total, 46 of these have been found in Ireland and these artefacts having a general date range of (*c.* 1885–1615 BC).[28] A similar grave context occurs at Knockast, Co. Westmeath (grave no. 14) where a razor-knife was associated with a vase and vase urn amongst some cremated bone.[29]

The end-loop socketed spearhead (SA 1928:451) has 'an elongated triangular blade with a low rounded midrib. A slight ridge runs along the blade edges and as a rounded feature at the blade base'.[30] Ramsey (1995) has dated this type of socketed spearhead to the early to Middle Bronze Age transition or 1600–1500 BC.[31] It is interesting to note that Graves states that 'although bronze spear-heads of the usual form have been frequently found in the neighbourhood, two of which, dug up near the base of the hill, are in Mr. Leckey's possession'.[32] It seems probable that this is one of the two spearheads referred to.

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Human Bone

Analysis of the human bone from the Lecky Collection, identified a minimum number of three individuals.[33] No disease or trauma was identified and where identification was possible, the remains were from individuals aged 25+ years. Due to the poor recording of bone in the nineteenth-century accounts, including the precise provenance of the surviving material, little more can be said about the bone at this stage.

Late Bronze Age activity

The large enclosure on the summit of Ballon Hill (Monument D) encloses an area of 1.51ha and is comparable, for example, to the inner rampart of the hillfort at Mooghaun, Co. Clare, dated to 1260–930 BC.[34] In this regard, it may be significant that four Late Bronze Age (all *c.* 950–800 BC) bronze artefacts are contained in the Leckey Collection and recorded as originating from Ballon Hill. These include a sword (SA 1928:454), a socket axe (SA 1928:453), a decorated socketed axe (SA 1928:452) and a sickle (SA 1928:457).[35] The possibility that there is a hillfort on Ballon Hill dating to the Late Bronze Age requires further investigation.

Ballon Hill and its place in the Irish Bronze Age

Given the uncertain quality of the available nineteenth-century descriptions it is difficult to ascribe Ballon Hill a particular place or to draw relevant comparisons to other sites within the tapestry of archaeological remains from Bronze Age Ireland. While it undoubtedly produced one of the largest Bronze Age funerary assemblages in Ireland, other large sites such as the burial mounds at Knockast, Co. Westmeath, and Mound of the Hostages, Tara,[36] or the flat cemeteries at Edmondstown, Co. Dublin, and Templenoe, Co. Tipperary,[37] are not comparable to Ballon Hill. Ballon Hill appears to have been a very extensive hilltop cemetery complex incorporating both funerary monuments and burials without covering mounds. It is also located on a hill with only Freestone Hill, Co. Kilkenny, with its cairn and later hillfort providing a clear parallel, just 25km to the southwest.[38] Indeed, the location and setting of Freestone Hill, as well as the construction of a later hillfort, also resembles the proposed sequence of events on Ballon Hill. A sequence of test pits excavated on Freestone Hill recovered eight pottery vessels and 18 burials as well as numerous flint and bone artefacts.

Another comparable site is possibly the Hill of Rath, Co. Louth. Here works carried out in 1841 uncovered a number of pottery vessels with associated bone. An early reference to 100–200 vessels has never been substantiated and may well have been exaggerated.[39] A rath or tumulus on the western slope of the hill has been mentioned as well as a much larger enclosure incorporating the rath or tumulus. The vessels are said to have been uncovered at a depth of 4–5 feet relative to the old ground

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surface.[40] No information appears to have survived as to the relationship of the vessels uncovered and the rath or tumulus. In total six vessels (four cordoned urns and two encrusted urns) have survived although only two of the cordoned urns are clearly provenanced to the site.[41]

While Mount has identified over 900 Bronze Age burial sites in Ireland, the vast majority of these contain one dozen or fewer graves.[42] He also found that the average number of burials reported in cemeteries in the southeast of Ireland to be just four.[43] Waddell identified only four sites with more than 20 graves.[44] Another recently excavated site at Templenoe, Co. Tipperary, contained 57 pit burials.[45] To these five, we can add Ballon Hill with its minimum of 29 burials.

With specific reference to the burial 'mound' on Ballon Hill, a minimum of five cists were recorded with three containing pottery vessels, there were three pits with one containing a pottery vessel and a further four references to pottery vessels. There are other records of at least 10 further bone discoveries. This indicates a minimum of eight pottery vessels and 10 burials in this monument. It is difficult to say with any certainty what the true number of cists, pits and burials may have been. For instance, it is entirely conceivable that the polygonal cist containing the two pottery vessels, razor-knife and small stones noted by Graves, and the cists uncovered by Lecky were also found in the burial mound. However, the information in the early publications is insufficient to state this with any certainty. At the same time, with a minimum of five cists this discovery compares favourably with other sites at a national level. In this regard, there are only six burial mounds in Ireland with more than five recorded cists.[46] This is all the more impressive as five of the other six burial mounds were professionally excavated in the twentieth century. Of the 42 other cemetery mounds and cairns identified by Mount as being investigated and reported sufficiently well to discuss in detail, only 16 contained both pits and cists. Of the 42 sites, the average number of burials was just under six.

The impressive pottery assemblage at Ballon Hill sets it apart from most other Bronze Age burial sites, not just in sheer numbers but also in its variety. The minimum number of 23 Bronze Age funerary vessels make it one of the largest assemblages across Ireland, while Ballon Hill and Edmondstown, Co. Dublin, are the only sites known to contain bowls, vases and cordoned and collared urns in the same cemetery.

Ballon Hill is an exceptional site not only for the number of burials and pottery vessels recovered, but also for the range of ceramic types, its hilltop setting, the variety of burial monuments and the associated large enclosure. Each of these findings is impressive, while the sum demonstrates the extraordinary importance and nature of Ballon Hill as a funerary complex in Bronze Age Ireland.

18

NOTES

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2 John James Lecky, 'Proceedings and Papers' in *Kilkenny and South-East of Ireland Archaeological Society Jn.*, New Series, vi (1) (1867), pp 209–210; O'Neill, 'Ballon Hill'.

3 Charles Mount, 'The context of the Early Bronze Age cemetery in the Mound of the Hostages, Tara' in Muiris O'Sullivan, Christopher Scarre and Maureen Doyle (eds), *Tara—from the past to the future. Towards a new research agenda* (Bray, 2013), pp 184–195, at p. 189.

4 James Graves, 'Proceedings and Transactions' in *Kilkenny and South-East of Ireland Archaeological Society Proc. and Trans.*, iii (2) (1855), pp 374–375.

5 Eoin Grogan and Helen Roche, 'The prehistoric pottery from Ballon Hill, Ballon, Co. Carlow', report commissioned on behalf of the Ballon Hill Archaeology Project, (2014). See also Nial O'Neill, 'The archaeology of Ballon Hill, Co. Carlow: a review and proposal' in *Carloviana* lxi (2012), pp 81–89.

6 Charles Mount, 'Early Bronze Age burial in the south-east of Ireland in the light of recent research' in *R.I.A. Proc.*, xcvii (1997), sect. C, pp 101–193; Eoin Grogan, 'North Munster Project. Interim report' in *Discovery Programme Reports* 2 (Dublin, 1995), pp 45–61.

7 O'Neill, 'Ballon Hill and the Lecky collection'; O'Neill, 'The archaeology of Ballon Hill'.

8 Graves, 'The pagan cemetery at Ballon Hill', p. 297; Graves, 'Proceedings and Transactions', p. 375.

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10 Alison Sheridan and Alex Bayliss, 'Pots and time in Bronze Age Ireland' in *Antiquity*, lxxxii (2008), pp 204–207.

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13 Grogan and Roche, 'The prehistoric pottery from Ballon Hill', no. 17.

14 Graves, 'The pagan cemetery at Ballon Hill', p. 298. See also Table 2.

15 Ibid.

16 Idem plate 2:8.

17 Idem p. 300.

18 Breandán Ó Ríordáin and John Waddell, *The funerary bowls and vases of the Irish Bronze Age* (Galway, 1993).

19 Graves, 'The pagan cemetery at Ballon Hill', pp 297–298, plate 1:3.

20 Idem p. 300.

21 Idem p. 301.

19

22 Grogan and Roche, 'The prehistoric pottery from Ballon Hill', no. 5.
23 Eoin Grogan and Helen Roche, 'A collection of bronze, iron and stone artefacts from the Ballon Hill area of Co. Carlow', Report commissioned on behalf of the Ballon Hill Archaeology Project (2014).
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25 O'Neill, 'Ballon Hill and the Lecky collection'.
26 Graves, 'The pagan cemetery at Ballon Hill', p. 298.
27 Grogan and Roche, 'The prehistoric pottery from Ballon Hill', p. 12.
28 Rhoda M. Kavanagh, 'A reconsideration of razors in the Irish Earlier Bronze Age' in *R.S.A.I. Jn.,* cxxi (1991), pp 77–104.
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43 Mount, 'The context of the Early Bronze Age cemetery', p. 184.
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45 Waddell, *The Bronze Age burials of Ireland,* p. 28.
46 Doody, 'Templenoe, Co. Tipperary'.
47 Mount, 'The context of the Early Bronze Age cemetery', p. 186, Fig. 1.