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Hillforts and Warfare in Bronze Age Ireland

Bronze Age warfare

The Bronze Age is often considered to be the first period of organized warfare on a significant scale in Europe.¹ This is due to the archaeological visibility of specialised weapons, depictions of fighting on rock art, the building of fortifications and, most vivid of all, osteological evidence of human casualties. The second millennium BC witnessed the widespread adoption of swords and other weapons across Europe, produced for the specific purpose of killing human beings. This represents a new ideology of martial ideals linked to a warrior aristocracy.² Such warriors are believed to have played a central role in the development of Bronze Age societies, involving hierarchical polities termed chiefdoms, controlled by central figures whose power was based on political, military, economic and other responsibilities.³ This concentration of power was accompanied by competitive and expansionist tendencies, which could be expressed in hostile acts against neighbouring groups. From this social evolutionary perspective, warfare and militarism can be regarded as a causal agent and an inevitable outcome of the way societies developed during the Bronze Age.

Whatever about their intensity, most conflicts in the Bronze Age were short-lived and geographically confined. In the absence of written sources, it is not easy to understand the dynamics of these events from the position of a static and equivocal archaeological record. Battlefield evidence is generally problematic, given the dynamic nature of those engagements, and what happened afterward in terms of disposal of the dead and the gathering of weapons as *spolia*. The remarkable discovery of a Bronze Age battlefield along a 3 km stretch of river at Tollense, north-east Germany,⁴ emphasizes

the considerable gaps that exist in our understanding of such conflicts. Because such discoveries are exceptional the absence of battlefield archaeology cannot be used as evidence for the absence of war, particularly when there are other indications of militarism. In the case of Bronze Age Ireland this included the mass production of specialised weaponry and the building of fortifications.

Other sources of information are absent in Ireland; for example, rock art with images of warriors and fighting, such as those found in Iberia, Italy and Sweden. There is almost no osteological evidence of violence, partly because cremation was the dominant burial rite, in a period when weapons were not deposited as personal grave goods. No massacre sites or mass graves are recorded near Irish hillforts, the excavation of which has yielded very few human remains, and none that can be associated with violence. On a wider level, there may be indications of warfare and political instability in settlement patterns, metal hoarding, and religious practices involving votive deposition, but any such interpretations are usually controversial.

Prehistoric hillforts in Ireland

There are approximately 100 sites in Ireland that might be properly termed prehistoric hillforts, though that number varies depending on the criteria chosen. This is where an elevated area of 1–10 ha, and occasionally much larger, was enclosed by artificial means, involving the construction of earthworks, stone walls and/or timber fencing. These hillforts have a wide distribution, occurring in isolation or in small clusters, but also absent from some parts of Ireland such as the central lowlands or higher mountain ranges. They typically occur in prominent positions, generally on the highest point, upper slopes or spurs of hills or ridges, at elevations of 100–300 m OD, or sometimes higher. Most hillforts have panoramic views over broad expanses of lowland, indicating that

¹ Reviewed by Harding 2000, 271–307; Thorpe 2013.

² Harding 1999; Harrison 2004.

³ Kristiansen 1999.

⁴ Jantzen *et al.* 2011; see Th. Terberger *et al.* in this volume.

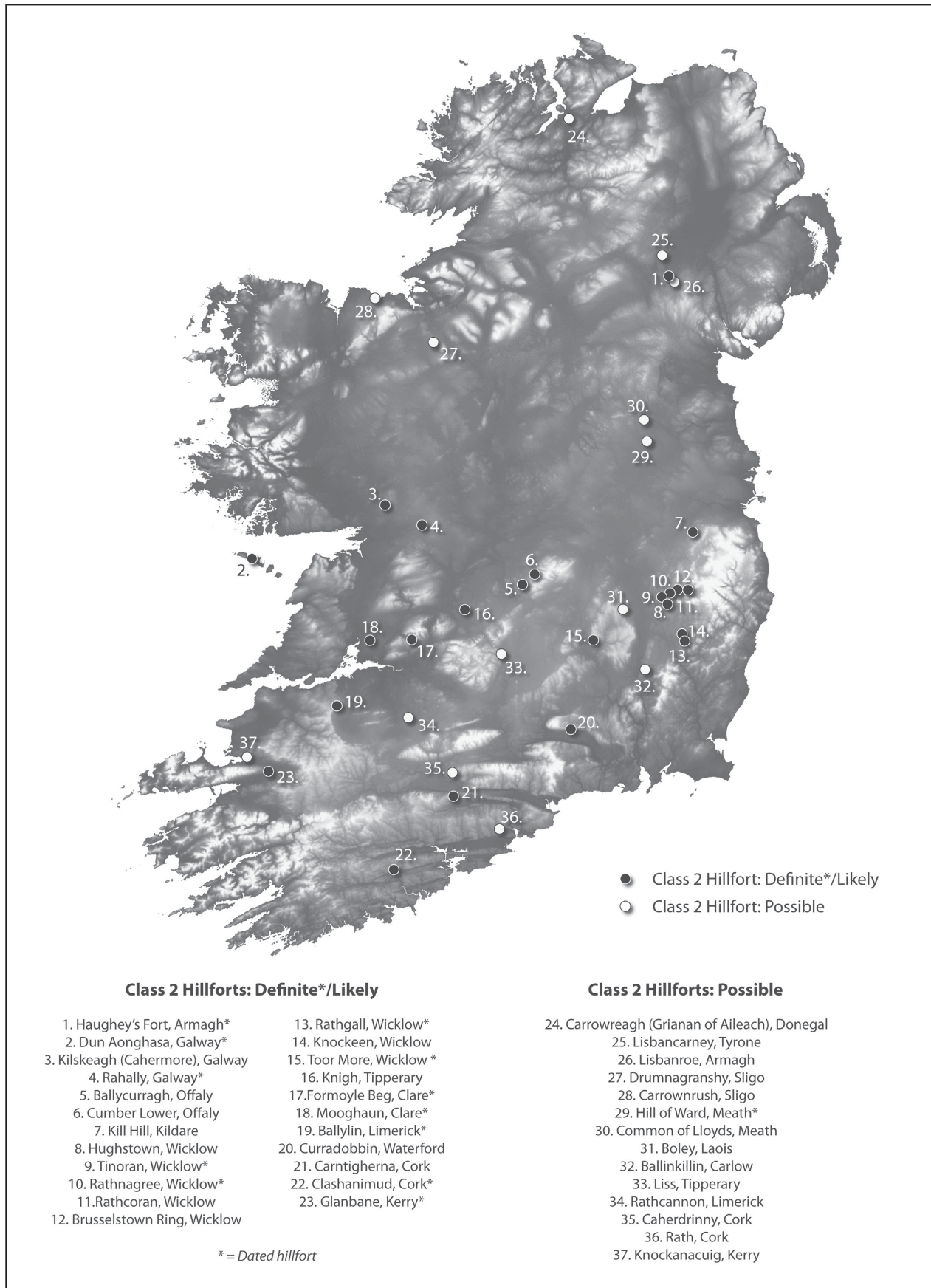


Fig. 1 Distribution of Class 2 (multiple enclosure) hillforts in Ireland, showing location of sites mentioned in text (source: author)



Fig. 2 Aerial view of Class 2 hillfort (two enclosures) at Ballylin, Co. Limerick (source: author)

visual impact was an important consideration in their landscape setting.

The basic classification was devised by Raftery,⁵ who separated simple univallate enclosures (Class 1) with an average size of 3.6 ha, from larger examples with widely spaced, multivallate defences (Class 2), and a smaller group of inland promontory hillforts (Class 3). The chronology of these hillfort types is broad, with Class 1 and 2 examples dated to both the Early Neolithic and later Bronze Age.⁶ To complicate matters, there is also a category of 60 or more sites known as “hilltop enclosures”, each less than 1 ha in size, the dating and cultural affinities of which remain unclear.

The focus of this paper is the Class 2 category, which are best described as multiple enclosure hillforts. There are as few as 23 confirmed or probable examples, with an additional 14 possible sites (Fig. 1). These are distributed across Ireland, with a notable concentration in the north Munster/south Leinster region, including a cluster of five

sites in the Baltinglass area of Co. Wicklow. They have an average size of 7.8 ha, with larger examples up to 20 ha (Fig. 2), and an exceptional site at Tinoran, Co. Wicklow, that may cover 84 ha. They comprise of two or three (rarely four) concentric enclosures, circular or oval in plan, positioned along or across the natural contours of a hill or ridge (Class 2a), or on a cliff edge (Class 2b). The enclosing elements consist of stone walls or earthen or stone banks, with or without accompanying ditches and wooden palisades. The enclosures themselves are spaced either 10–30 m apart, or else wider than 50 m.

Our understanding of Class 2 hillforts in Ireland comes from a small number of excavations, beginning in the 1970s with important results from Rathgall, Co. Wicklow (Fig. 3).⁷ Investigations were subsequently carried out at Haughey’s Fort, Co. Armagh,⁸ Mooghaun, Co. Clare,⁹ Dún Aonghasa, Co.

⁵ Raftery 1972.

⁶ O’Brien/O’Driscoll 2017.

⁷ Raftery 1976.

⁸ Mallory 1995; Mallory/Baban 2014.

⁹ Grogan 2005.



Fig. 3 Aerial view of Class 2 hillfort (four enclosures) at Rathgall, Co. Wicklow (source: author)

Galway,¹⁰ and Rahally Co. Galway.¹¹ In recent years the author carried out research excavation at eight such hillforts in southern and eastern Ireland, including Ballylin, Co. Limerick, Clashanimud, Co. Cork, Formoyle, Co. Clare, Glanbane, Co. Kerry, Hughstown, Co. Kildare, Rathnagree, Co. Wicklow, Tinoran, Co. Wicklow, and Toor More, Co. Kilkenny.¹² These investigations confirm that Class 2 hillforts were built during the Bishopsland Phase of the Middle Bronze Age (ca. 1400–1200 BC), and in increasing numbers during the ensuing Roscommon Phase (1150–1000 BC) of the Late Bronze Age. A number of large examples were also built and occupied during the Dowris Phase of the Late Bronze Age (1000–700 BC), after which the use of Class 2 hillforts came to an apparent abrupt end. Their origins are uncertain, complicated by recent results from Hughstown, Co. Kildare, that shows sites of similar design were built by farming communities of the Early Neolithic, ca. 3700–3500 BC.

¹⁰ Cotter 2012.

¹¹ Mullins 2008.

¹² O'Brien/O'Driscoll 2017.

Case-studies in hillfort destruction

Three recent hillfort investigations provide evidence of deliberate destruction by fire, which it is argued can be linked to warfare during the Bronze Age.

Clashanimud, Co. Cork

This hillfort lies on a prominent ridge (169 m OD), 14 km west of Cork City in south-west Ireland. There are two concentric oval enclosures, spaced ca. 48 m apart, measuring 350 m by 250 m over an area of 8.8 ha (**Fig. 4**). The site was excavated in 2004–2006, when a total of 37 trenches were opened to examine the interior of the hillfort and its defences. The outer enclosure was protected by a stone-faced earthen bank with light stake fencing, and a 2.9 m wide by 1.7 m deep external ditch, along a perimeter of 1.04 km. The original entrance is thought to be on the western side, where a bank opening is now blocked with large boulders.

The inner enclosure was surrounded by a similar arrangement, where a bank was built using soil and stone from an external quarry ditch (**Fig. 5**). Exca-

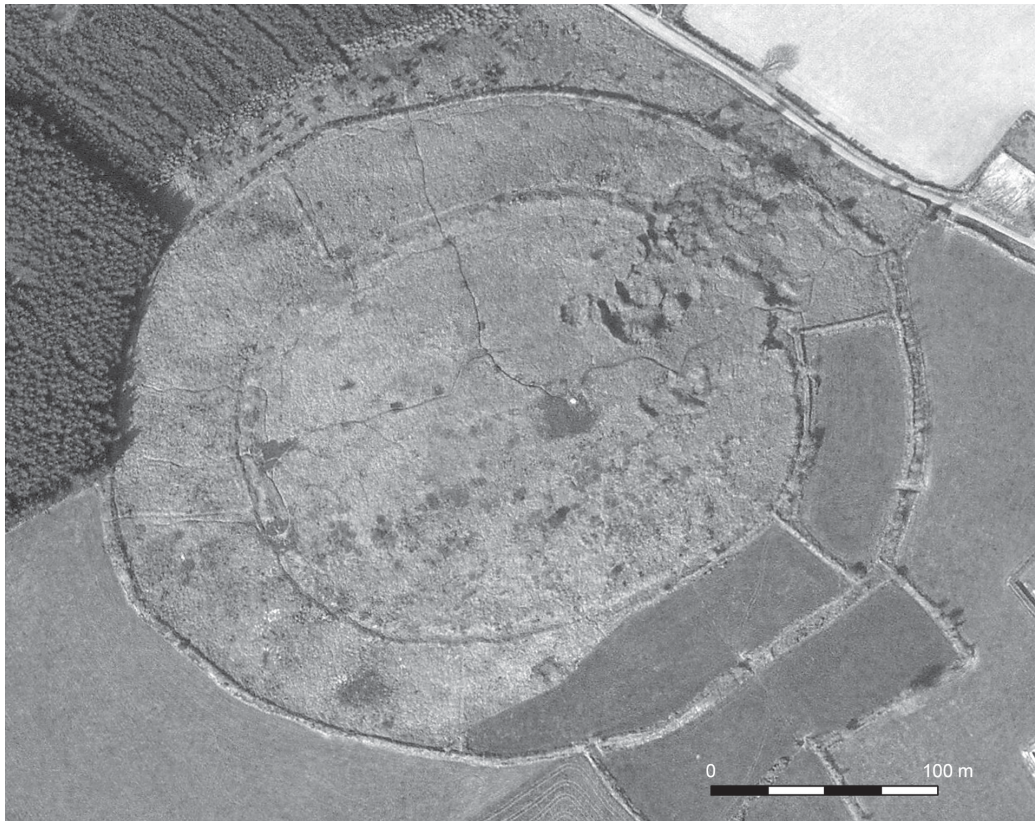


Fig. 4 Aerial view of Class 2 hillfort (two enclosures) at Clashanimud, Co. Cork (source: author)

vation identified a line of large postholes, spaced 1.9 m apart, along the central axis of the bank. These held roundwood posts of 0.2–0.3 m diameter, placed upright to a height of 4–5 m, secured in these pits with packing stones, and then by the bank itself. An estimated 360 posts, all apparently of oak, were used along the 0.69 km perimeter of the inner enclosure. The palisade was completed by digging a shallow trench along the top of the bank, to allow the insertion of smaller posts between the main posts. The exterior of the bank was faced with stone walling, and a wooden revetment was used to create a walkway on the inside of the palisade. A gated entrance with a ditch causeway was discovered on the western side of this enclosure.

Radiocarbon dating indicates Clashanimud hillfort was built ca. 1240–1080 BC, during the Middle/Late Bronze Age transition in Ireland. Excavation and geophysical survey confirm the defences of the inner enclosure were deliberately burnt down ca. 976–815 BC. There is evidence that intense heat affected the bank, with lengths of burnt wood and large amounts of charcoal also found (Fig. 12 below). The hillfort was then abandoned, with no evidence for later occupation.¹³



Fig. 5 Palisaded bank-and-ditch defences of inner enclosure, Clashanimud hillfort, Co. Cork (source: author)

¹³ O'Brien/O'Driscoll 2017, 39–124.

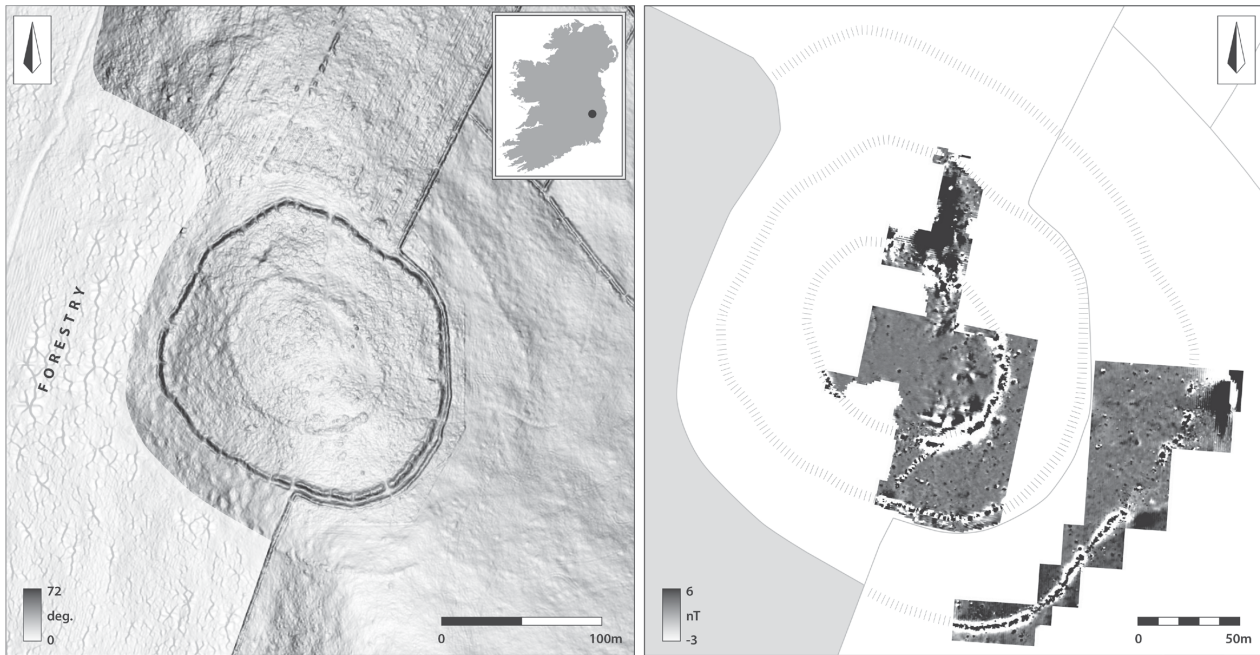


Fig. 6 LiDAR (left) and magnetic gradiometry (right) survey of Rathnagree hillfort, Co. Wicklow (source: author)



Fig. 7 Palisade postholes with burnt surface, inner enclosure of Rathnagree hillfort, Co. Wicklow (source: author)

Rathnagree, Co. Wicklow

This is one of three hillforts at an elevation of 315 m OD on Tuckmill Hill in the Baltinglass area of south-west Wicklow, eastern Ireland. There are three concentric sub-circular enclosures, spaced 35–37 m apart, measuring 294 m by 273 m in total over an area of 5.59 ha (Fig. 6). The defences of the inner enclosure consisted of a single palisade of roundwood posts, 0.2–0.25 m in diameter, supported by a low stone wall. It is estimated that

592 main posts, spaced ca. 0.5 m apart, as well as several thousand smaller posts, were used to complete this fencing. Evidence of intense burning in the bank, in the form of charcoal spreads and heat-shattered stone, confirms the palisade was burnt down and was not re-built (Fig. 7).

Excavation in 2014 of the middle enclosure defences revealed two periods of construction, beginning with a wooden palisade followed by a bank and ditch earthwork. A slot trench held upright posts, spaced approximately 1.5 m apart,

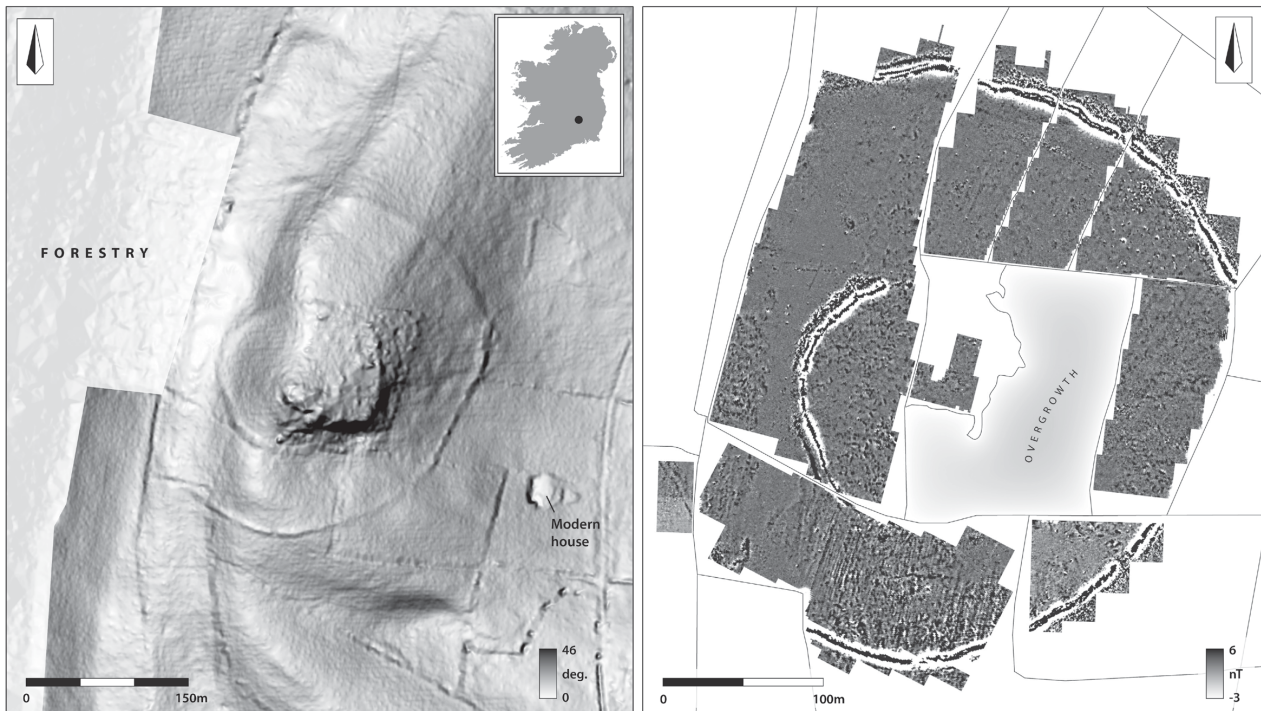


Fig. 8 LiDAR (left) and magnetic gradiometry (right) survey of Toor More hillfort, Co. Kilkenny (source: author)

supported by a low external revetment of large stones. With a perimeter of 549 m and an average post spacing of 1.2 m, this palisade may have required as many as 458 such posts, in addition to other fencing materials. The structure was eventually burnt down, leaving a charcoal layer beneath the later bank. Unlike the inner enclosure, these defences were restored soon afterwards, when a stone-faced earthen bank was built using soil and quarried rock from an external ditch.

The defences of the third (outer) enclosure were similar to the other two, where a low bank of stones provided support for a wooden palisade. A line of large pits, spaced 0.7 m apart, contained round-wood posts of 0.2–0.25 m diameter. With a perimeter of 873 m, this required as many as 1247 main posts and a large amount of smaller posts to finish the palisade. The presence of heat-shattered stone and charcoal on a fire-reddened surface around these postholes confirms that palisade also burnt down and was not re-built. Radiocarbon dates for the palisades of all three enclosures indicate the hillfort was built ca. 1400–1200 BC, and was destroyed in the same period. The site was occupied as there are indications from LiDAR survey of hut circles in the interior, as well as Bronze Age pottery from the defences of the middle enclosure.¹⁴

Toor More, Co. Kilkenny

This hillfort is on a prominent ridge (253 m OD) in the Ballyragget area of north-west Kilkenny, south-central Ireland. There are two concentric sub-circular enclosures, spaced 105 m apart, measuring 320 m by 340 m over an area of 8.94 ha (Fig. 8). Both defensive lines survive as low relief earthworks, which were investigated by geophysical survey and sample excavation in 2013. The inner enclosure is surrounded by a V-shaped ditch, 3.5 m wide and 1.5 m deep, quarried into bedrock. Soil and broken rock from this ditch was piled on the inner side to form a stone-faced bank that is now levelled. A wooden palisade was erected 1.4 m inside this bank, where a line of upright posts was secured with packing stones in a slot trench (Fig. 9). The defences of the outer enclosure were similar, comprised of a V-shaped ditch, 2 m wide and 1.35 m deep, soil and quarried rock from which was used to build a now-destroyed bank with stone facing on the inside. A narrow slot trench 2.3 m inside this bank held a line of wooden posts, each measuring 0.15 m in diameter and placed 0.1–0.15 m apart.

Radiocarbon dates indicate that the defences of Toor More hillfort were built ca. 1260–1160 BC. The geophysical survey and excavation results confirm that they were completely destroyed by fire in the same period. Both palisades were burnt

¹⁴ O'Brien/O'Driscoll 2017, 249–271.



Fig. 9 Bank-and-ditch defences of inner enclosure at Toor More hillfort, with partial reconstruction of internal palisade. Charred timber (inset) from burnt palisade (source: author)

down, and not subsequently replaced, with intense fires indicated by heat-shattered packing stones in the foundation trenches, and adjacent spreads of charcoal and pieces of charred timber. It is unclear whether the hillfort was abandoned after the burning event; the destroyed defences were certainly not re-built.¹⁵

These excavation results confirm the deliberate burning of massive wooden palisades used as enclosing elements in all three hillforts. The explanation for this destruction must relate to the original purpose of the palisades as defensive features. This can be explored further by considering how the location and design of Class 2 hillforts related to their intended use in the Bronze Age.

The military use of hillforts

As the name suggests, hillforts have long been interpreted as defensive structures built by prehistoric societies involved in conflicts and disputes of various kinds. This association is often questioned in respect of the limitations of these sites as defen-

sive strongholds, with attention drawn instead to their broader meaning in symbolic terms.¹⁶ Harding¹⁷ observed that recent criticisms of the defensive role of hillforts has more to do with a general objection to the prevalence of conflict in prehistory.¹⁸ The focus of modern research has shifted to understanding the economic, political and other functions of these sites. While the “function” of hillforts remains contentious, most researchers accept the multi-layered significance of these sites, while also acknowledging their variability over time and space. That said, there continues to be some reluctance in Ireland and elsewhere to engage with the military aspects of their use.

A defining feature of any hillfort should be an emphasis on fortification that takes advantage of some naturally defensive position on higher ground. The building of a hillfort combined the protection of human life and property behind physical barriers with an imposing presence on the landscape connected to political and military power. This served to deter would-be attackers,

¹⁶ See Armit 2007 and Lock 2011 for opposing views.

¹⁷ Harding 2012.

¹⁸ See Keeley 1996 for broader context.

¹⁵ O'Brien/O'Driscoll 2017, 176–191.

intimidate local communities, and display the social standing of the occupants. The presence of a hillfort was a significant deterrent, a statement of intent to defend and protect homeland, territory and resources.

While defensive considerations were important, the building of a hillfort was less an expression of insecurity than a highly visible demonstration of military power and dominion over a surrounding territory. Hillforts could also have played an important role in offensive warfare, and were possibly used to consolidate territorial gains acquired by conquest. As centres of leadership in their respective societies, they would have been important mustering points for raiding parties and military campaigns. The building of these enormous sites reflects a considerable input of labour and materials, organized under some form of centralized leadership over a short period of construction. This demonstrates an ability to mobilize an equally large fighting force at short notice.

The location of hillforts presents certain strategic advantages in respect of frontier defence, and the protection afforded to settlements within that territory vulnerable to raiding and enemy attack. While a hillfort was not able to control routeways in the way a hill fortified with modern artillery could, their visible presence was enough to ensure the security of trade routes passing through that territory. Any consideration of hillfort defence must also consider the wider settlement landscape. Many hillforts were surrounded by a defensive shield of outlying settlements in their respective territories. This meant that surprise attack was near impossible, and that many military confrontations probably occurred well away from the hillfort, at or near a territorial boundary. This explains why hillforts were not the initial location for conflict, but were eventually drawn into these clashes when they were targeted as centres of power with economic and strategic significance.

Class 2 hillforts in Ireland

The design and location of these sites is generally regarded as a determined effort to create an imposing stronghold in the landscape. Against this is the fact that these sites have extensive perimeters that could not be easily defended, while the enclosing elements of some examples were somewhat slight. It is important to recognize that the defensive potential of any fortification was based

not only on the passive resistibility of the physical barriers and natural topography, but also on the active force of the defenders.¹⁹ The number of warriors, their experience, fighting spirit and motivation, and the quality of command, were critical in the defence of any hillfort. These human factors do not leave much physical evidence, which is why archaeological consideration of hillfort function tends to focus on the military effectiveness of the physical defences.

Bronze Age hillforts in Ireland were rarely built as mountain fortresses in inaccessible locations. They mostly occur in elevated settings overlooking large tracts of lowland from which they are highly visible. For this reason, they were particularly unsuited as refuges, with few lines of retreat from what are highly exposed positions. That said, their elevated position did present defenders with some tactical advantages. Those sites that took most advantage of topography and elevation are the inland promontory and cliff-edge hillforts, such as Caherconree, Co. Kerry, and Dún Aonghasa, Co. Galway. These locations reduced the defensive perimeter, while also removing the option of retreat, as in the stark choice faced by the defenders of Dún Aonghasa (**Fig. 10**). That said, there are several well-known examples of Class 2 hillforts in Ireland in relatively low-lying locations, notably Haughey's Fort, Co. Armagh, Rathgall, Co. Wicklow, and Mooghaun, Co. Clare.

The design of a Class 2 hillfort has an element of defence in depth, where a heavily fortified inner enclosure in an elevated position was shielded by an outer perimeter. The defenders were afforded a certain level of protection from enemy weapons, and had a screen of manoeuvre that made it difficult for attackers to see how they were deployed. These tactical advantages were of course weakened by the difficulty of defending a hillfort perimeter of several kilometres. That required the rapid deployment of defending forces to points of attack, though how these tactics were managed in the case of multiple enclosures is unclear. This may not have been a major concern in the Bronze Age, where instead of massed infantry attack or siege warfare, for which there is no evidence, confrontations were on a smaller, more disorganised scale, that involved targeted attack on entrances and other points of weakness. What the excessive size of Class 2 hillforts does suggest, however, is

¹⁹ After Vencl 1999, 66.



Fig. 10 Dún Aonghasa hillfort, Inishmore, Co. Galway (source: author)

that barrier defence was a secondary consideration in the design of these sites.

The use of multiple enclosures in Class 2 hillforts suggests some separation of activities combined with elements of a layered defence strategy. One possibility is that the outer enclosure(s) was used for stockading livestock, with the innermost enclosure fortified for human protection. This is supported by excavation evidence from Dún Aonghasa, Haughey's Fort and Rathgall for residential occupation in the innermost enclosure. The ability to protect large herds of cattle at short notice may have been a significant concern in the design of these hillforts. This will be discussed below in the context of raiding as a strategy in Bronze Age warfare.

There are many variations in the defences of Class 2 hillforts, including the use of stone walling, dump ramparts of soil and/or stone, with or without revetments of wood and stone, heavy post palisades or light stake fencing on their own or within a bank, as well as external ditches, both soil and rock-cut, and counterscarp banks. Entrances

were usually simple openings in a bank protected by a wooden gate, with a causeway across an outer ditch. The closely-set multivallation and elaborate entrance arrangements of many hillforts in Britain and mainland Europe is absent in the Irish sites.

The defences of some Irish hillforts are rather slight, such as those at Ballylin, Co. Limerick, and Formoyle, Co. Clare. Others are more formidable, such as the stone walling used at Dún Aonghasa (Fig. 10), or the 6–7 m high palisaded earthwork of the inner enclosure at Clashanimud, Co. Cork (Fig. 5). Wooden palisades created a strong barrier at some hillforts, whether built into (Clashanimud) or inside (Toor More, Co. Kilkenny) earthen banks, or used on their own (Rathnagree, Co. Wicklow). Some hillforts have impressive bank-and-ditch defences with no wooden fencing, such as the middle enclosures at Rathnagree and Rathgall. The dump ramparts of many stone-built hillforts are also imposing, such as those at Brusselstown Ring, Co. Wicklow, and Mooghaun, Co. Clare (Fig. 11).

While layered defence may have been important in the design of Class 2 hillforts, there are also



Fig. 11 Dump rampart of middle enclosure, Mooghaun hillfort, Co. Clare (source: author)

elements of display connected to the visual symbolism of the monument. The division of space created by the multiple enclosures may have been significant in terms of access and social division. These sites manifest authority and political power, as the permanent or occasional residence of a political elite, as places of assembly and ritual ceremony. Their physical construction was a powerful statement of allegiance and solidarity by related groups who came together for this purpose, an act of communal endeavour central to the symbolic construction of their polity.

Finally, any examination of the defensive role of hillforts must consider what exactly was being protected. With some exceptions, the evidence from Class 2 hillforts in Ireland points to residential use. This is the case for Rathgall, Dún Aonghasa, Mooghaun, and Haughey's Fort, sites with artifacts and structures that probably represent continuous occupation over several centuries. The quality and quantity of this material culture, and its exotic origins in some instances, points to restricted residence for elite groups rather than a large permanent population. While the layout of some Bronze Age hillforts on the Continent has proto-urban characteristics, this is not the case for examples excavated in Ireland.

These excavations confirm that each hillfort had its own history of occupation and use. Some of their functions were part of the original hillfort design, while others developed over time in place of safety, political power and material wealth. While there was variability of use, the similarities in the design of Class 2 hillforts does suggest some common purpose. These central locations may have been places of assembly used for periodic gatherings of groups from a wider settlement territory. Their confirmed use for elite residence, specialised craftworking, and the storage of material wealth and livestock, made them obvious targets in any conflict involving other groups. Resources in the wider landscape also required protection, whether it was trade routes, agriculture or other resources. Such functions were all part of the broader significance of a hillfort, and their role in the exercise of power in a region.

The consequences of war

While the details of Bronze Age warfare remain obscure, it is possible to explore some of the consequences for the societies concerned. Loss of life was an immediate impact, while slavery, loss of cul-

tural identity, forced migration and depopulation are well-known outcomes of what Vencl called the second phase of warfare.²⁰ These traumatic events are not easy to recognize in the archaeological record. There are no obvious casualties of war, mass burials or warrior graves with weapons known from Middle and Late Bronze Age Ireland, partly because of the type of funerary customs practised. The only evidence of formal burial from an Irish hillfort comes from Rathgall, Co. Wicklow, where it is connected to elite residence.²¹ Human remains are recorded from two other Irish hillforts (Dún Aonghasa and Mooghaun), but as in the case of the Rathgall burials there is no reason to regard these as victims of war.

The impact of war on Bronze Age societies can be measured in other ways. These include the destruction of hillforts, the deposition of weapons, and the hiding and loss of valuables. Other indications include a greater concern with the protection of life and property in the wider settlement landscape.

The burning of hillforts

While evidence of direct assault on Bronze Age hillforts is lacking, the destruction of these centres by fire seems to have been commonplace.²² Some examples in Central Europe were rapidly destroyed, with artefact assemblages indicating a single phase of occupation rarely longer than 100 years.²³ Evidence of hostile attacks is recorded at the hillforts of Velim in Bohemia, Heunischenburg near Kronach in Bavaria, and the Welsh examples of Dinorben and the Breidden, amongst others.²⁴ These events are generally linked to conflict, where hillforts were targeted as strategic centres of power in their respective territories. It is also true that many hillforts have no recorded signs of violence, with indications instead of organized abandonment. Where evidence of deliberate destruction is found, the question is often asked whether this was an aggressive act or some arcane performance connected to symbolic closure. The evidence is open to different interpre-

tations, and as Harding observed,²⁵ we can only weigh the balance of possibilities for individual hillforts.

The geophysical and excavation findings confirm that some Bronze Age hillforts in Ireland were deliberately burnt down. The evidence is in the form of charcoal deposits, charred timbers, burnt soil and vitrified stone found in palisade foundations and in associated banks and ditches. Even allowing for occasional lightning strikes on exposed heights, the accidental burning of such defences would have been a rare event, if indeed it ever happened. Evidence of deliberate burning of palisades is presented above for three Class 2 hillforts. The hillforts of Toor More and Clashanimud were probably abandoned after their destruction. In the case of Rathnagree, adjacent animal enclosures were also destroyed, as indicated by the burning of a stake fence of similar date at nearby Sruhaun. The occupation on that hill resumed soon afterwards when the middle enclosure at Rathnagree was re-built with a bank-and-ditch earthwork, and the Sruhaun fencing replaced by a stone bank enclosure.²⁶

The burning of these hillforts must have taken considerable effort, particularly as the palisades may have been entirely of oak, as was the case at Clashanimud. A considerable amount of tinder and brushwood was required to ignite such heavy fencing, possibly assisted by the use of animal fat. As one commentator observed, "...the more extensive and systematic the destruction, the more likely it is to have been the product of punitive razing after capture, whereas more limited evidence of burning, especially where concentrated around the gates, may be indicative of tactical use of fire in an attack on the hillfort itself".²⁷ The latter may also indicate that an attack was successfully repelled, particularly if there is no evidence of destruction in the interior of the hillfort. The fact that the defences at Clashanimud, Rathnagree and Toor More were burnt along their entire perimeter points to punitive destruction after those hillforts were captured.

This could have been connected to an internal power struggle, but it is more likely that a victorious faction would seek to appropriate these sites because of the special significance they held for

²⁰ Vencl 1984.

²¹ Raftery 1976.

²² Härke 1979, 33; Primas 2002, 50; Osgood/Monks 2000.

²³ Harding, 1994, 332.

²⁴ See Thorpe 2013, 240.

²⁵ Harding 2012.

²⁶ O'Brien/O'Driscoll 2017, 249–281.

²⁷ Harding 2012, 187.



Fig. 12 Burnt timbers within bank of inner enclosure, Clashanimud hillfort, Co. Cork (source: author)

the exercise of power. That would have been the same reason they were targeted by other chiefdoms, and burnt down in a symbolic and vindictive display. The use of fire was a very visible way of communicating the subordination of a rival group, while an ability to create that destruction was no less impressive. Ralston observed that the intense glow from a burning hillfort would have been a distinctly unnatural sight and a spectacular display of calculated destruction and power.²⁸ Once alight, the ramparts could have burnt for days and nights, sending a dire signal for miles around and violating the communal sense of place that the hillfort embodied.²⁹

Taking Clashanimud as an example, the destruction of this hillfort may have been undertaken in one or two stages. The firing of the gated entrance and the burning of part of the defensive palisades could have been part of the initial military assault. The final burning of the palisades oc-

curred after the hillfort was taken (Fig. 12), as this would not have been feasible or necessary during any direct attack. An alternative to this is that battles occurred elsewhere, leaving the victorious party to enter an abandoned hillfort, which they then destroyed prior to withdrawal. Less likely is that the hillfort was burnt by the occupants themselves, as an act of defiance and to prevent it falling into enemy hands. This is because the burning of the oak palisade at Clashanimud would have taken a considerable amount of time and effort, resources that those fleeing a battlefield did not possess.

Some would argue that the destruction of hillforts represents an intentional act of ritual destruction by the inhabitants.³⁰ Comparisons have been made with the burning of Neolithic houses and enclosures in Europe, regarded by many as symbolic acts connected to the creation of memories of a place or event. It is difficult to compare

²⁸ Ralston 2006, 163.

²⁹ Harding 2012, 189.

³⁰ See Bowden/McOmish 1987, 78–79 for a discussion of the ritualized abandonment of so-called vitrified forts in Scotland.

the burning of hillforts and domestic buildings, as houses are vulnerable to accidental fire within a wooden structure. They can also be burnt down for reasons connected to the lives and beliefs of the occupants, to do with symbolic closure during site abandonment, purification connected to bereavement or disease, and for practical purposes to facilitate re-building.

Ritual explanations cannot be entirely excluded from these scenarios of hillfort warfare. One of the outcomes of Bronze Age warfare may have been a type of ritual performance, where a victorious group burnt down a rival hillfort following the defeat of their enemy. This highly visible destruction by fire was a calculated act, designed to humiliate a rival group through the slighting of its main power centre. It was more than the destruction of a place, but rather of the identity of a group in their ancestral homeland, involving the ritual dismemberment of a symbolic location. The dramatic nature of this event would have created vivid memories of subjugation, helping to maintain control of that territory and its people into the future. The fact that many of these Irish hillforts were not re-built or re-occupied may reflect the negative associations of those events in the collective memory.

Weapons in the landscape

The building of hillforts during the transition from the Middle to Late Bronze Age in Ireland (1400–1100 BC) coincided with a fundamental shift in weaponry. An earlier emphasis on archery, and various tool-weapons such as daggers and axes, gave way to specialised bronze weapons, beginning with the rapier and throwing spear, followed by the slashing sword used with spear and lance, accompanied by shields of wood, leather or bronze. There is an emphasis on close-quarter combat, with no apparent use of long-distance fire involving the bow or sling.

The militarism of this period is most evident in the amount of bronze weapons in circulation in Ireland. Records exist for an estimated 486 dirks and 15 rapiers,³¹ 660 swords,³² and 1800 spearheads.³³ With a density of 7.6 finds per 1000 km², the incidence of swords in Bronze Age Ireland is

one of the highest in Europe. In addition to these specialised weapons, the use of bronze implements must also be considered. There are as many as 700 flanged axes and 400 palstaves recorded from the Middle Bronze Age,³⁴ with approximately 2000 socketed axeheads and an unknown number of socketed knives from the Late Bronze Age.³⁵ When these are included with swords, spears and shields, there are close to 5000 bronze weapons recorded for the Middle and Late Bronze Age in Ireland. The fact that none of these were committed to graves, and so probably passed on through the generations, emphasizes the amount of weaponry available. Taking survival and recovery into account, there must have been hundreds of thousands of bronze weapons in circulation, leaving aside others made of organic materials and stone. This Bronze Age “arms race” is an important military context for understanding the use of hillforts.

There is a general correlation between the distribution of Class 2 hillforts and bronze swords and spearheads, though these weapons are also found in other parts of Ireland (Fig. 13). The likelihood of a close connection is supported by the evidence of weapon manufacture at Dún Aonghasa and Rathgall hillforts, both of which had workshops for the casting of swords, spearheads, axeheads, knives and scabbard chapes during the Late Bronze Age.³⁶ The weapons themselves are not generally found at or close to hillforts, but do occur in small numbers within a 10–20 km distance. Most come from “wet” places in the landscape, seemingly removed from contemporary settlements and burial/ceremonial sites. In Ireland, this practice began during the Middle Bronze Age with the majority of dirks and rapiers recovered from rivers, lakes and bogs, a pattern that continued into the Late Bronze Age. Most swords and spearheads with provenance were recovered from rivers, with a smaller percentage from lakes and bogs.

The tendency in modern research has been to interpret weapon finds from rivers, lakes and bogs as symbolic deposits, placed in liminal environments of religious significance. The possibility of some direct or indirect connection with war has not received adequate consideration, particularly when the nature of the objects concerned (mostly weapons) is taken into account. There is also

³¹ Burgess/Gerloff 1981.

³² Eogan 1965.

³³ Lineen 2017.

³⁴ Ramsey 1995, 56.

³⁵ Eogan 1964; 2000.

³⁶ Cotter 2012; Raftery 1976.

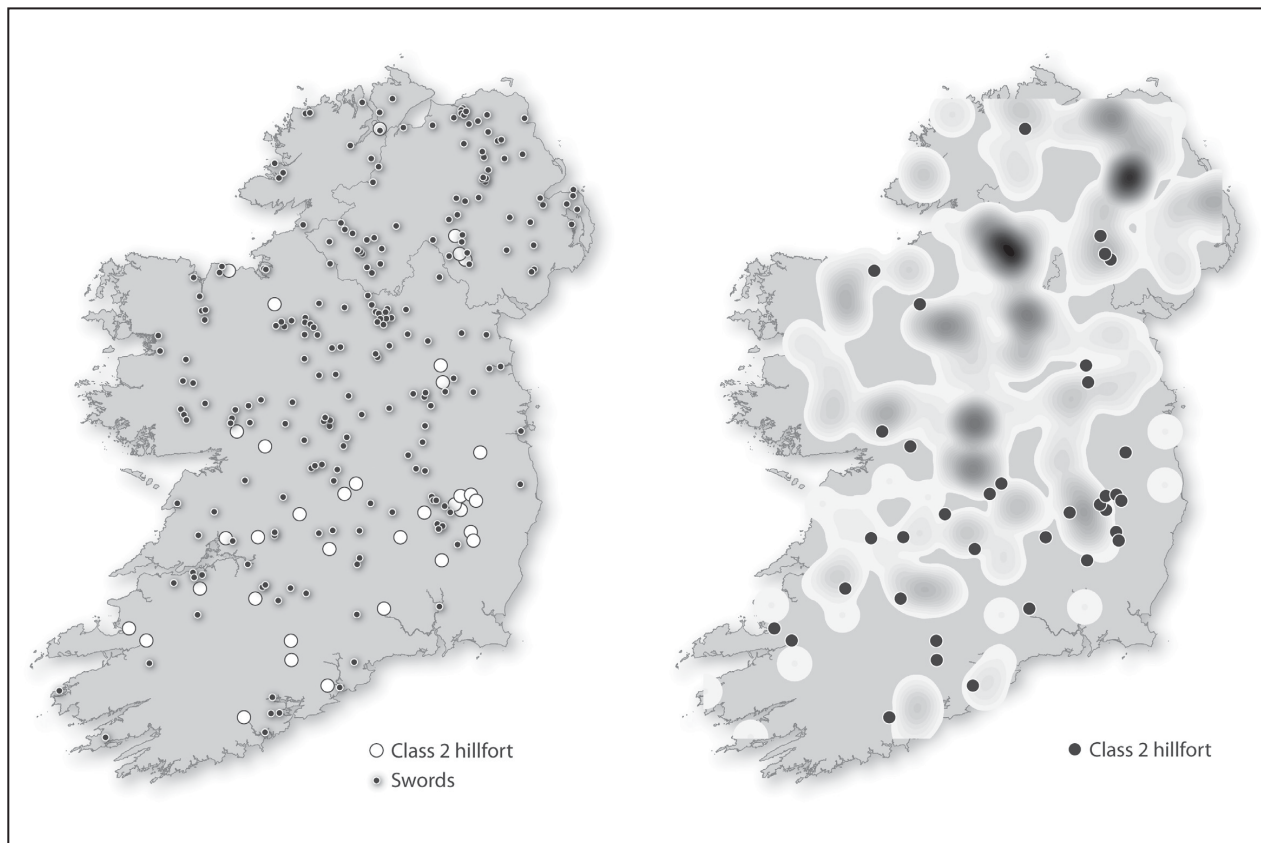


Fig. 13 Distribution of Class 2 hillforts and Bronze Age swords in Ireland (source data: Eogan 1965)

the possibility that these same rivers, lakes and bogs were territorial boundaries where military confrontations were likely to occur. Some of these weapon finds may have been intentional deposits, connected to the death of a warrior in a battle near that location. The possibility that they were made on boundaries may in itself represent "... an assertion of territory, an act of defiance, or an expression of ritualized violence".³⁷ They may also signify the celebration of a military victory, involving a ritualized destruction of the weapons of the vanquished. The main point is that the use of these weapons as funerary or votive offerings does not preclude a close association with warfare.

A climate of fear?

The practice of hiding valuables is a universal reaction to political turmoil and conflict. While this is well documented during periods of war in historic times,³⁸ the evidence from the prehistoric period is open to other interpretations. A good example is the deliberate hoarding of metalwork

during the European Bronze Age. Some of those hoards were of economic significance, connected to the supply and recycling of metal; some had a symbolic meaning in terms of social prestige or religious belief, while others reflect a political climate in which it was necessary to hide valuables.

There is a strong research tradition in northern Europe that regards Bronze Age metal hoards as ritual deposits, either grave-less funerary offerings or "gifts to the Gods" with religious intent. This is true of Ireland where approximately half of later Bronze Age hoards were recovered from bogs, and are generally considered to be irretrievable deposits in ritual contexts. The reality is that most Irish bogs were accessible with local knowledge, which means that they were also suitable hiding places for valuables in times of strife.

The building of hillforts in Ireland during the Bishopsland phase of the Middle Bronze Age, ca. 1400–1100 BC, coincided with an upsurge in metal hoarding of a distinctive type. There are 25 hoards known from this period, with all but two consisting of small collections of gold personal ornaments.³⁹ These are novel forms, includ-

³⁷ Bourke 2001, 153.

³⁸ E.g. Bradley 1998 fig. 3.

³⁹ Eogan 1983.

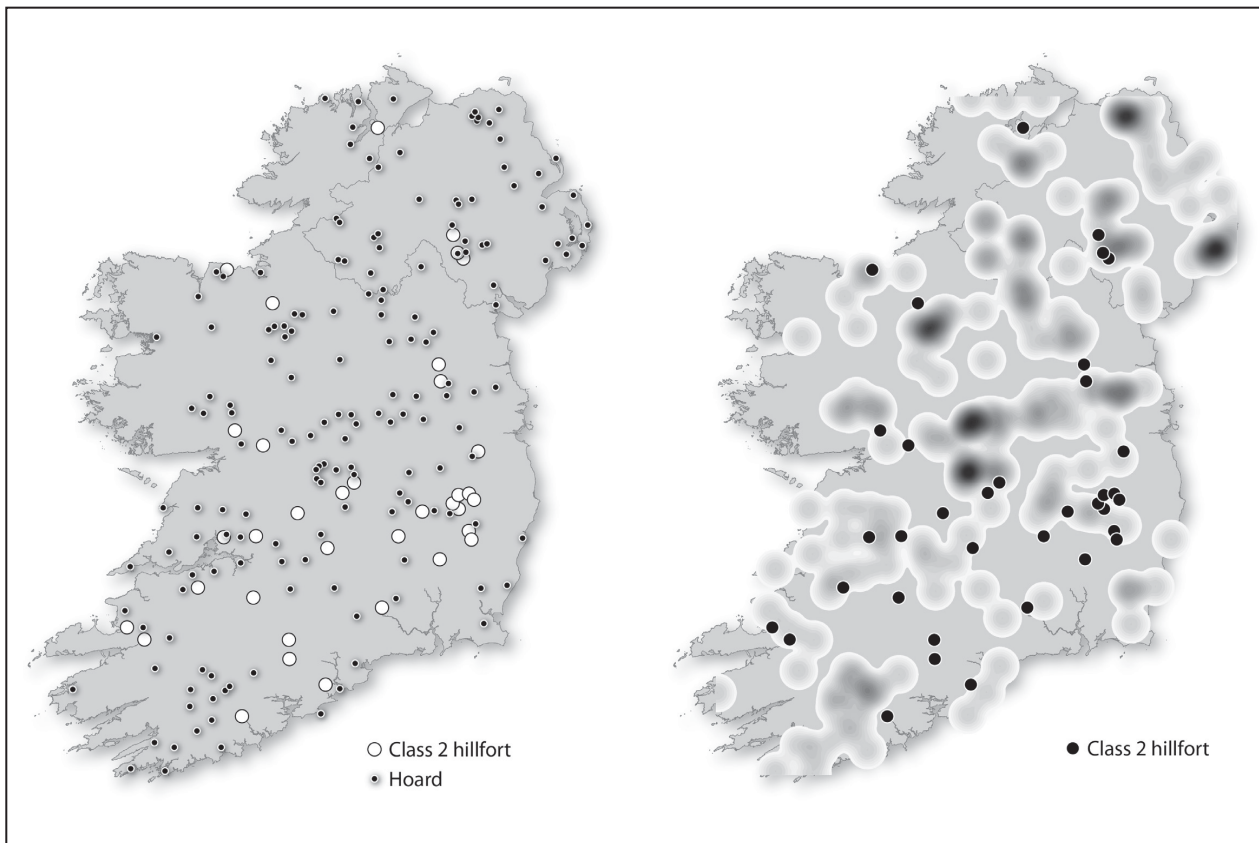


Fig. 14 Distribution of Class 2 hillforts and later Bronze Age metal hoards in Ireland (source data: Eogan 1983 with additions)

ing bar and ribbon torcs, neck rings, penannular bracelets, armllets, earrings and tress rings, which represent new developments in goldworking.⁴⁰ While the circumstances of deposition are unknown, the majority were dryland deposits with a small number of bog finds. The fact that they were buried in secret places where recovery was possible may point to the safeguarding of valuables during times of crisis. The scale and type of metal hoarding increased significantly in Ireland during the Dowris phase of the Late Bronze Age, ca. 1000–700 BC, when hillforts continued to be occupied at a time of peak weapon production.⁴¹ A total of 130 metal hoards are recorded for that period, approximately half of which were placed in wet contexts, mainly bogs.⁴²

The distribution of these Bronze Age metal hoards reveals a general proximity to Class 2 hillforts (Fig. 14). This reveals a concentration of wealth near the major centres of power, but also dispersed into wider settlement territories. The fact these hoards do not occur at the hillforts them-

selves suggests they were hidden for safekeeping or used as votive deposits some distance away, but still within the territorial domain of the hillfort. A good example is the “Great Clare Find” of 1854, a cache of hundreds of gold ornaments discovered 750 m away from the large hillfort at Mooghaun, Co. Clare.⁴³ This is one of the largest finds of prehistoric gold in Europe, often interpreted as a ritual deposit due to its proximity to a small lake, but may also have been hidden at a time of war by the occupants of the nearby hillfort.

Hillfort warfare in Bronze Age Ireland

The mass production of specialised weaponry is the strongest indication that warfare was a common occurrence in the Irish Bronze Age. The amount of weaponry in circulation during the main period of hillfort construction (1200–800 BC) could be taken as evidence of endemic warfare, but this is at odds with confirmation of stable economies, agricultural intensification and extensive trade networks for the same period. It is

⁴⁰ Eogan 1994, 47–63.

⁴¹ Eogan 1965.

⁴² Eogan 1983.

⁴³ Eogan 1983, 69–72.



Fig. 15 A depiction of a cattle raid in medieval Ireland, from John Derricke's *The Image of Irelande* (1581)

possible that large-scale war was a relatively rare occurrence in Bronze Age societies. The threat of war, and the deterrent effect of weapons and hillforts, may have been more significant than actual fighting, with political gift exchange, marriage alliances and other social strategies used to prevent conflict. That said, the hundreds of thousands of bronze swords, spearheads and other weapons produced in those centuries were not solely for social display or votive deposition. For the threat to be meaningful, and for weapons to have real symbolic value, violence would have to occur with devastating consequences from time to time.

While direct comparison is problematic, there may be similarities in respect of the scale and type of warfare conducted in medieval and Bronze Age Ireland, and the political context of those conflicts. Irish warfare of the Middle Ages was characterised by a general avoidance of pitched battle in favour of strategic retreat, counter-attack, the harrying of opposing forces, taking of hostages and raiding for cattle (Fig. 15). The general underpopulation of Ireland in that period meant that seizure of territory was rarely a priority, but was more about establishing dominion over people and agricultural production.⁴⁴ Raiding was also the most common form of warfare in the early medieval period. Annalistic sources present a

similar account of short-range sorties undertaken by a small body of warriors moving rapidly into enemy territory to seize and escape with as many cattle and other spoils as possible.⁴⁵ There is an entire genre of literature (*Táin*) devoted to the subject of raiding, of which the great epic *Táin Bó Cúailnge* is the best known. Sadowska⁴⁶ discussed how that particular raid was essentially a pretext for a sustained military campaign with long-term political objectives. The taking of hostages was an important part of that process, to ensure the political submission of the new territory.

Some comparisons can be suggested between the type and scale of warfare in medieval Ireland and the conflicts that involved hillforts two millennia or so earlier. Surprise, mobility and the tactical use of terrain were all probably important factors in Bronze Age warfare. Cattle were a significant economic resource in both periods, and so would have been a major prize in any conflict. It is not improbable that Class 2 hillforts had an important role in the protection of such herds, with their multiple enclosures used for this purpose. The absence of a water source at many of these locations meant the stockading of large herds would have lasted only for the duration of a raid.

⁴⁴ Simms 1975–6, 99–100.

⁴⁵ See Lucas 1989.

⁴⁶ Sadowska 1997.

The origins and context of hillfort warfare

Historical and ethnographic sources for primitive warfare reveal that the causes of conflict are many, and originate in specific historical contexts and socio-political circumstances. This is often rooted in a clash of cultures, where people of different ethnicity, religious orientation and political outlook have a fundamental fear and dislike of one another. There are numerous examples in ethnography of hyper-aggressive societies who wage war for its own sake and the honour and prestige of those involved. In other instances, conflicts have a political or economic motivation that involves disputes over territory, trade and resources.

Haas argued that the root causes of warfare lie in demography, the environment and the economic conditions of different societies.⁴⁷ This is an opinion also held by Keeley, who used ethnographic sources to demonstrate that primitive war was often economic in character. This could include competition for critical resources such as agricultural land, livestock, hunting and fishing grounds, mineral resources, and slaves. It might extend from short-lived raiding to the seizure of territory and resources through conquest warfare. Observing that “war is exchange gone bad, and exchange is war averted”, he identified various ways that trading partners in close proximity can become enemies. These include perceived slights in gift exchange, or discontent arising from the exercise of monopoly over desired commodities, leading to robbery, extortion and other types of forced exchange.⁴⁸

Many adhere to the Malthusian view that violent conflicts increase in frequency and intensity as human populations expand, with resulting pressure on food supply and other critical resources. Whether competition for territory was ever a motivation for warfare in the relatively under-populated societies of Bronze Age Europe is questionable. Where food shortages did occur, they are more likely to reflect the direct impact of war and conflict on the agricultural economy than environmental change or demographic factors.

Fundamentally, the causes of conflict in the Bronze Age lay in the political domain. Disputes over land, resources and trade, personal honour slights and other social infractions were often the

casus belli, but certain systemic factors in those societies must also be considered. These centre on a type of belligerent warrior culture that developed in this period, as well as the aggrandising tendencies of elites. The latter included the legitimization of leadership through prowess in war, plunder and the expansion of territory. The emergence of a warrior culture required outlets for aggression to build personal prestige. Ethnographic sources suggest that warfare was often waged to garner prestige and trophies. Other social causes include honour killings and revenge within or outside kin groups and marriage relationships. War-like pursuits such as raiding were significant in some societies as a rite of passage for young warriors. Finally, as recent history shows, religious motivation and conflicting belief systems can be a significant driver of conflict.

Carneiro argued that warfare was a critical element in chiefly power strategies in early societies, where the reputation of a warrior was central to rank and political standing.⁴⁹ In this way violence was an integral part of the power structure of Bronze Age chiefdoms, the threat or reality of which was used to exercise control within those societies, and to protect their territories and resources from external attack. Harrison suggests that fighting was commonplace in the European Bronze Age, and that many chiefly families had great difficulty in retaining power for more than a few generations before losing it to usurpers.⁵⁰ There were constant threats to the position of chiefs, which often led to conflict and internecine warfare. While chiefs developed different strategies to retain power, involving a combination of force, ideology and economic strength, many Bronze Age chiefdoms may not have lasted much longer than the lifetimes of their founders, certainly if ethnographic sources are any guide. Considered in this way, the military power represented by a hillfort was essential for the maintenance of chiefly power within that society.

What was it about the populations of Middle to Late Bronze Age Ireland that made them disposed to warfare? The answer lies in the type of society that evolved around that time: simple to complex chiefdoms with hierarchical power structures, controlled by leaders with aggrandizing tendencies. This was a politically centralized society,

⁴⁷ Haas 1999, 24.

⁴⁸ Keeley 1996, 122–123.

⁴⁹ Carneiro 1981.

⁵⁰ Harrison 2004.

with a stratified structure reflected in a regional settlement hierarchy with hillforts at the top.⁵¹ These hillfort chiefdoms were self-sufficient in subsistence agriculture, with an ability to produce food surplus to acquire various commodities and valuable objects by participation in regional exchange networks. They had a strong organizational capacity, with sufficiently large populations and economic power to engage in large-scale military conflicts. Most important, they had a warrior culture that encouraged these aggressive tendencies.

These chiefdoms grew by accretion, which mostly involved aggressive expansion through subjugation warfare. Full-blown conflict was usually preceded by raiding and reprisal, active defence of territory and an uneasy relationship between neighbouring chiefdoms. The tensions that arose between competing regional powers in Ireland during the Middle Bronze Age seem to have erupted into more sustained warfare during the Roscommon Phase of the Late Bronze Age (1150–1000/900 BC). There are indications of serious dislocation in trade networks during that period, with the circulation of imported metalwork and high status materials, such as gold and amber, reduced significantly from the preceding centuries of the Middle Bronze Age.

Various theories have been advanced to explain this political instability, from foreign invasion to a combination of environmental change, population growth and food shortages. None of these explanations are particularly convincing. A review of pollen records in Ireland provides no evidence of a crisis in agriculture caused by climate change around the twelfth century BC, nor any connection to the building of hillforts as a response to such pressures.⁵² Population pressure, insofar as it can be assessed through settlement density and distribution,⁵³ does not seem to have been a critical factor in relation to pressures on food supply creating widespread unrest.

There may have been other economic considerations. The importance of controlling trade and other productive resources meant that the chiefdoms in Bronze Age Ireland may have gone to war to protect their strategic interests. Military power protected trade in bronze and sumptuary goods, and could be used to expand those same networks

at the expense of weaker neighbours. The use of this material culture was political in nature, whether as bronze weapons central to warrior identity, or as prestige objects used in social transactions and ritual deposition essential for the maintenance of chiefly power. This political context created barriers and monopolies in trade relations, which gave rise to tensions involving the supply of essential goods in the political economy. The apparent shortage of bronze at a time of strong demand may have been a critical factor for political relations during the Middle Bronze Age in Ireland.⁵⁴

Conclusions

Warfare was a key factor in the rise of hillfort chiefdoms in Middle and Late Bronze Age Ireland. The scale of conflict in that period moved beyond the local and personal, to disputes involving opposing political forces on an inter-regional level. This type of warfare was both a consequence and a driver of more complex cultural systems. As Haas observed, “the higher frequency of warfare in states and chiefdoms is not necessarily a product of organizational complexity; rather, the economic and demographic conditions that are conducive to warfare are also conducive to the development of complex, centralised polities”.⁵⁵

The twelfth and eleventh centuries BC was a period of political turmoil and economic recession in Ireland, and in many other parts of Europe. The hillfort warfare of the Roscommon Phase had its origins in the preceding centuries of the Middle Bronze Age, when hillfort chiefdoms first developed in Ireland. There is enough evidence in the form of destroyed hillforts and peaks in weapon production, correlated with pressures in the wider economy, to suggest these conflicts were frequent, short-lived and intense. The deliberate burning of hillforts was a consequence of those wars, representing ritualised acts of punitive destruction of important centres. This unrest is also expressed in the hoarding of valuables, some of which were used as votive offerings to placate the gods, while others were buried for safekeeping. Many of those hoards were never recovered, which may reflect the devastating consequences of war in Bronze Age Ireland.

⁵¹ Grogan 2005.

⁵² Plunkett 2006; 2009.

⁵³ Ginn 2016.

⁵⁴ O’Brien forthcoming.

⁵⁵ Haas 2001, 343.

The story of hillforts in Ireland continues into the Dowris phase of the Late Bronze Age (ca. 1000–700 BC), a time of economic prosperity with far-flung trade connections. There may have been a greater concentration of power after 1000 BC, connected to the consolidation, peaceful or otherwise, of smaller hillfort territories into supra-regional polities represented by centres such as Mooghaun, Dún Aonghasa, and the continued occupation at Rathgall. This later phase of hillfort development may have come out of the turmoil of the hillfort wars of the twelfth and eleventh centuries BC. The final collapse of these later hillfort chiefdoms occurred soon after the eighth century BC. The reasons remain unclear, but are more likely to be connected to internecine warfare on a scale not seen before than to older ideas of Celtic invasions. What emerges in the Early Iron Age is a settlement landscape of small autonomous communities with no hillforts, something that distinguishes Ireland from many parts of Europe during the mid-first millennium BC.

Acknowledgements

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William O'Brien, Hillforts and Warfare in Bronze Age Ireland

This paper considers archaeological evidence for warfare and conflict in Bronze Age Ireland, with specific reference to the destruction of hillforts during the later second millennium BC. These centres were built at a time of growing militarism, reflected in an increased output of bronze weaponry, including the first use of swords. The indications are of a society obsessed with power and status, with competitive tendencies that on occasion led to open warfare. Recent fieldwork has uncovered evidence of conflict at a number of hillforts across Ireland, the significance of which is considered in relation to the political landscape of the Middle and Late Bronze Age.

William O'Brien, Burgen und Krieg im bronzezeitlichen Irland

Vorliegender Artikel erörtert den archäologischen Befund für Krieg und Konflikte im bronzezeitlichen Irland unter besonderer Berücksichtigung der Zerstörung von Burgen im späteren 2. Jt. v. Chr. Diese Zentren wurden zu einer Zeit des wachsenden Militarismus errichtet, der sich in einer Zunahme an bronzezeitlichen Waffen, einschließlich des frühesten Gebrauchs von Schwertern, widerspiegelt. Dies deutet auf eine von Macht und Status beherrschte Gesellschaft mit kompetitiven Tendenzen hin, die gelegentlich zum offenen Krieg führten. Neue Feldforschungen haben Befunde für Konflikte in einer Reihe von Burgen in ganz Irland erbracht, deren Bedeutung im Verhältnis zur politischen Landschaft der Mittel- und Spätbronzezeit betrachtet wird.