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How Did Early Church Sites Differ From One Another?: A Comparative Approach Within the Kingdom of Fir Maige, Ireland

Rory O'Donnell and Tomás Ó Carragáin

Early medieval Europe is characterised by a wide spectrum of church sites that contributed in distinct ways to the formation of communities and polities. However, it is challenging for archaeologists and historians to distinguish between them because they often employed the same basic 'grammar' in their layout and architecture, while most of them receive scant attention in the textual sources. It is argued that the most promising approach is a comparative one within a small, well-defined area, as this removes extraneous regional factors so that measurable variables primarily reflect the character, function, and relative importance of the church. This is illustrated by topographical and geophysical surveys of four examples in the northeast of the Irish kingdom of Fir Maige: a substantial landed monastery (Brigown), an ecclesiastical out-farm on its lands (Kildrum), a lesser landed church (Labbamolaga), and a royal community church (Killeenemer). New evidence is presented for the origins of the sites; for their scale, layout, and development; for habitation, agriculture and craft activity; and for ritual practice. This targeted comparative approach greatly refines our understanding of the specific niches they occupied within the settlement hierarchy.

Recent publications have highlighted the diversity of early medieval church sites across Europe (eg Sánchez-Pardo and Shapland, 2015; Ó Carragáin and Turner, 2016; Ripoll et al., 2017; Sánchez-Pardo, et al., 2020). They demonstrate that by the Carolingian period (later 8th to 9th centuries) the density of churches was often considerable and included many lesser establishments. Especially in France, this represents a break with the traditional view that the main wave of lesser church foundations was in the 11th and 12th centuries (Lunven, 2016, 338-341; Zadora-Rio, 2016, 348-354). But these sites were more diverse than the parish churches of the Central Middle Ages (from *c.* 1000). They fitted within a wide spectrum that included major and lesser monasteries, dependent churches on ecclesiastical estates, pastoral community churches, elite proprietary churches, and churches associated with noble and even non-noble kin-groups. At the ends of the spectrum there are dramatic contrasts between, for example, major monasteries (eg, San Vincenzo al Volturno, Monkwearmouth-Jarrow, Clonmacnoise) and very minor ones (eg, Illaunloughan, Co. Kerry; see: Marshall and Walsh, 2005). However, only a minority of landscapes incorporated a top-tier monastery and its estate, or an ascetic island establishment, so variations in scale are often far less marked. Differences in function can also be difficult to recognise because in many regions church sites employed the same basic 'grammar' in their layout and architecture. Nevertheless, churches within such 'ordinary' landscapes fulfilled distinct roles and occupied specific niches within the settlement hierarchy. Characterising and understanding such differences are among the most important challenges facing archaeologists and

historians alike in relation to early medieval churches. With rare exceptions, when it comes to lesser churches, textual sources lack the level of detail required for a fine-grained exploration of diversity (see below).

We argue that the most promising approach is a comparative, interdisciplinary one, focussed within a small, well-defined area, ideally part of a single polity. Of course, comparing church sites from different polities is also useful, but extraneous factors come into play. For example, within Ireland, there are substantial regional variations in ecclesiastical enclosure size (below). While some such differences are due to regional traditions and practices, others may be influenced by economic or demographic factors. For example, in pre-Viking southeast England, local minsters had greater access to 'international' trade networks than their equivalents further north and west (Blair, 2005, 203-4). Within a specific landscape or polity, one is comparing like with like: differences in measurable variables are more likely to reflect the character, function, and relative importance of the church. Our initial understandings of specific sites based on field remains and textual evidence can be refined or qualified through additional archaeological research. While texts and archaeology sometimes suggest alternative, contradictory narratives, correlations between them are more common where they are produced by the same elites, as is clearly true of most early medieval churches (eg, Moreland, 2001, 30-2; 2006, 138-9).

Various strands of archaeological evidence can be brought to bear, including the placement of churches in the landscape and their spatial relationships to other places of settlement and ritual (eg, Ó Carragáin 2021a, *passim*). Here, however, we draw primarily upon topographical and geophysical surveys of selected sites in the kingdom of Fir Maige, Co. Cork. The extant archaeology of this study area is unremarkable, and it was chosen primarily because of exceptional textual evidence. As one might expect, there is hagiography relating to the kingdom's substantial monasteries (below). More important, however, is *Críchad in Chaílli*, an unusually detailed topographical text that also enumerates many of the kingdom's lesser churches (Power, 1932). Even so, the information it provides on individual sites is quite limited. It allows us to undertake a basic categorisation – to distinguish, for example, between a subsidiary church on an ecclesiastical estate and the designated 'pastoral' church of a local district (below) – but rarely provides additional details about the character, function, and economy of church sites, especially lesser ones. This underscores the need for the comparative, interdisciplinary approach advocated here.

The Kingdom of Fir Maige and its Churches

His analysis of *Críchad in Chaílli* and other sources allowed Paul MacCotter to produce the most fine-grained territorial map of any of Ireland's 200 or so local kingdoms (MacCotter, 2011-12; Figure. 1). While *Críchad in Chaílli* is 12th century, many of the land units it describes have origins in the 7th century (MacCotter, 2011-12; Ó Carragáin, 2015; 2021a, 30-3). The kingdom was divided into 14 local districts (*túatha*), about 10km across, while the estate of Brigown, the kingdom's most important church, comprised a 15th unit of similar size (*c.* 75km²). There were two additional landed monastic churches, Labbamolaga and Clenor, with smaller estates (*c.* 20km²) respectively carved from – and therefore comprising subunits of – the *túatha* of local kings of Fir Maige stock, the Uí Labrada and Uí Chúscraid. These groups competed for control of the kingdom until the arrival of the far more powerful Eóganacht Glennamnach, an intrusive group who became overlords of Fir Maige around the 7th century and made it the base from which they vied, often successfully, for the kingship of the province of Munster, based at Cashel *c.* 40km to the northeast. It was they who established the estate of Brigown adjacent to their home *túath,* perhaps in part to consolidate control over this newly won territory.

There are 50 definite or probable early medieval church sites in the kingdom, quite evenly distributed, and a further 20 possible sites (Ó Carragáin, 2015, Table 4.1). Omitting the latter, and excluding land unsuitable for permanent settlement, this gives 14km² per church, which is about average for well-studied areas of Ireland (Ó Carragáin, 2017a; 2021a, 204). Most churches were identified using textual and toponymic evidence, and only a minority have archaeological indicators, usually a curvilinear enclosure. Topographical surveys were undertaken of six of these (including Ballyguyroe, Ballymaclawrence, Kilmaculla: Ó Carragáin, 2021a, Figs 148, 151, and 221), of which three (Labbamolaga, Killeenemer, and Kildrum), and an additional site (Brigown), were chosen for geophysical survey based on their potential to illuminate diversity. The four surveyed sites are

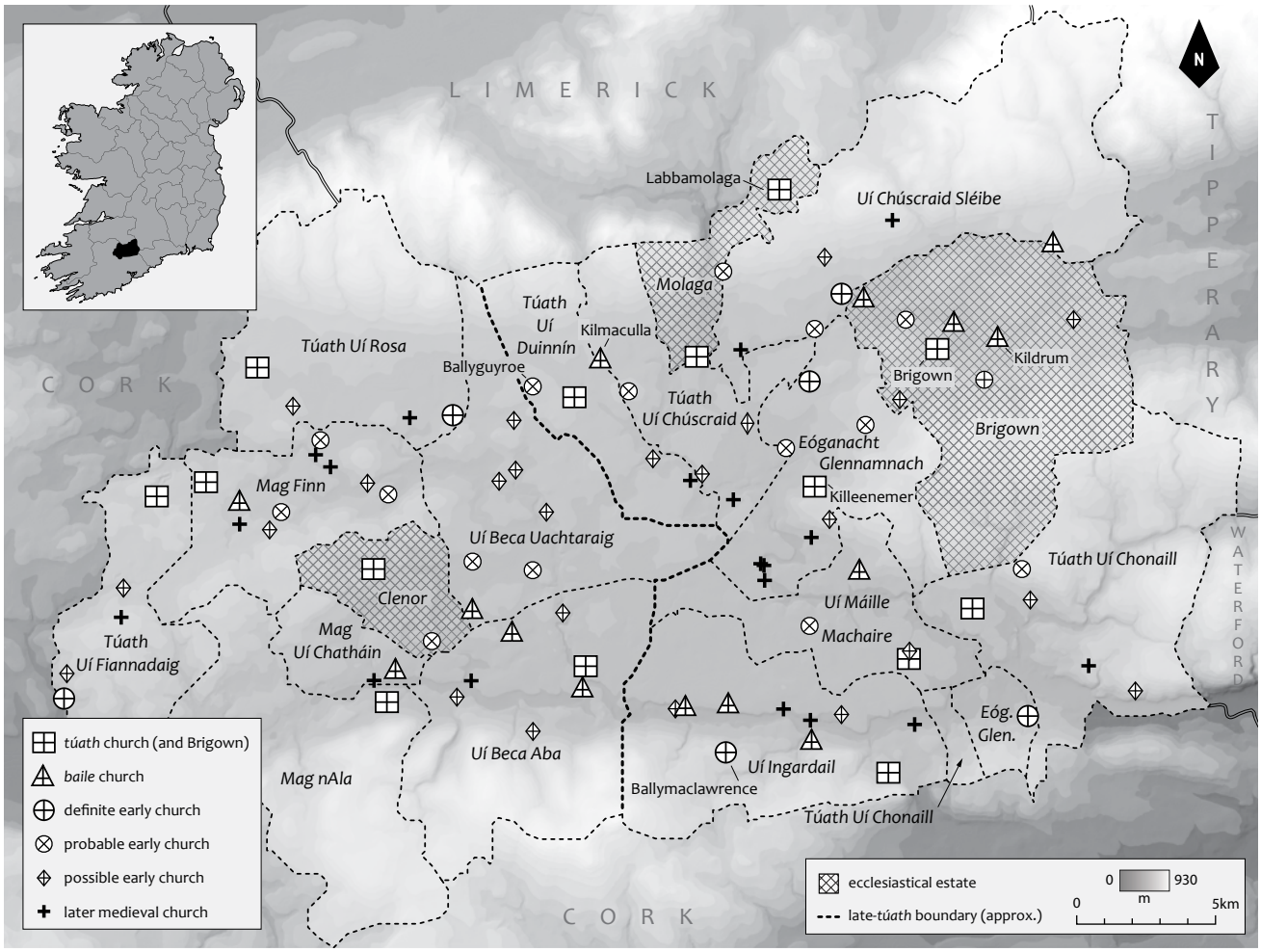


Fig 1
The kingdom of Fir Maige, showing its major sub-divisions (local districts known as túatha*); the estate of its most important church, Brigown, and those of two lesser monasteries, Labbamolaga and Clenor; and all medieval churches classified according to the likelihood that they are early medieval (ie pre-1100) in origin, with those referred to in the text labelled. The four sites discussed in detail are in the northeast of the kingdom: Brigown and Kildrum on the lands of Brigown; Labbamolaga on its own estate (Molaga); and Killeenemer in the* túath *of Eóganacht Glennamnach (Nick Hogan and the authors).*

within 8km of each other in the northeast of Fir Maige. Labbamolaga was a landed church supposedly established at a site of pre-Christian ritual. Brigown was the kingdom's premier landed monastery, while Kildrum was a lesser church on its estate. Finally, Killeenemer was the designated church of the home *túath* of the Eóganacht Glennamnach. Comprehensive magnetic gradiometer surveys were supplemented at Brigown, Kildrum and Killeenemer with targeted earth resistance surveys (O'Donnell, 2021). The following sections, outlining the results of the four surveys, are followed by a thematic, comparative discussion of their wider implications for our understanding of the diversity of early church sites.

Questioning the Pagan Origins of Labbamolaga: A Lesser Landed Church

Labbamolaga, with its small estate, was chief church of the Uí Chúscraid, one-time kings of Fir Maige (Figure. 2). Its diminutive shrine chapel housing the saint's crosier and bell and incorporating his grave or bed (*leaba*), may well be late first millennium, making it the earliest extant church in the kingdom (Figure. 3 A; Ó Carragáin, 2010, 64-85). The *c.* 180m across curvilinear ecclesiastical enclosure is incorporated into a field fence at the northwest, while its trajectory is preserved by a sunken lane at the southwest (Fig. 3 C; Power et al., 2000, 443). The process whereby traces of

such enclosures are commonly preserved by later linear features is illustrated by the recent construction of a farm track running immediately outside the line of the enclosure at the northwest, and roughly on the line of the bank at the north to northeast. Immediately outside this are surface traces of a ditch also evident in the magnetometry (Fig. 3 C).

Prior to the survey there was little or no trace of the enclosure at the south to southeast, but on sloping ground in the field south of the graveyard stands a rectangular arrangement of standing stones (1.5m – 1.9m high), comprising two pairs (*c.* 1.85m between the paired stones and 7.5m between the pairs: Fig. 2). There was a fifth stone in the 19th century, and according to local tradition, there had originally been eight, leading to speculation that this was a megalithic tomb or stone circle (Windele RIA Ms. 12.1.10,79; RIA Ms. 12.C.3, 599-601; Borlase, 1897a, 8; Grove White, 1925, 3-4). Ó Nualláin (1984, 65 and 71) classified it as one of the "*anomalous groups of standing stones [… that do not] fit easily into any of the recognised categories of free-standing megalithic monuments represented in the south of Ireland*," though he gave some credence to the stone circle theory, suggesting that the northern (downslope) pair could have formed an entrance. However, the First Edition OS Map shows the fifth stone north of these, and its position suggests it belonged to a third pair, raising the possibility that the putative seventh and eighth stones formed a fourth in a broadly north-south linear, avenue-like (rather than circular) arrangement.

It is unusual to find standing stones in such close proximity to an ecclesiastical site in Ireland, and their presence has meant that Labbamolaga is among the most commonly cited examples of a church possibly established at a place of pre-Christian ritual. The idea was perhaps encouraged by the megalithic appearance of the doorway of the shrine chapel, the only example



Fig 2
Labbamolaga from the south showing the standing stones and the possible causeway leading to the knoll on which two churches (a pre-Romanesque shrine chapel and a larger Romanesque church) stand within a graveyard (Nick Hogan).

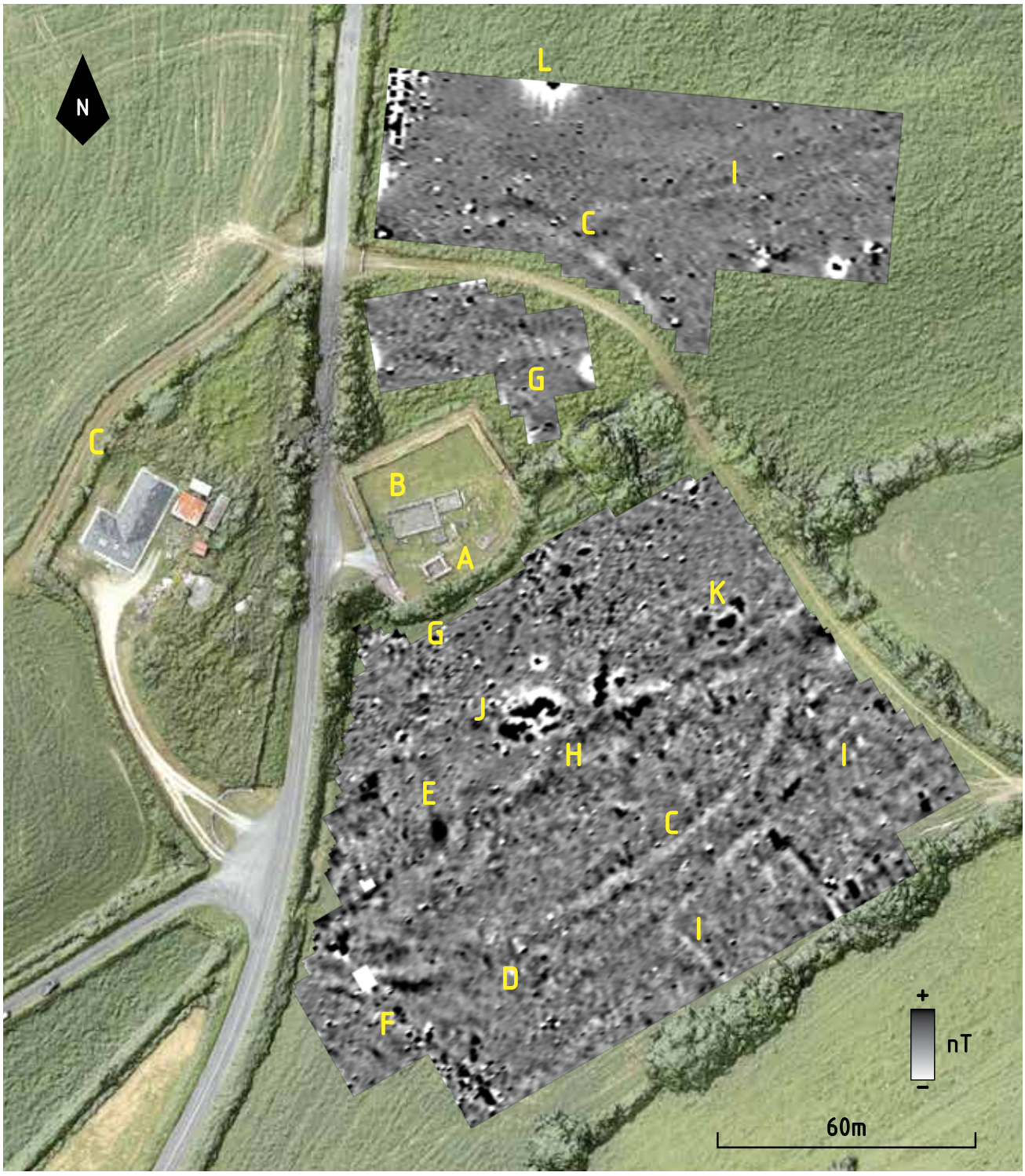


Fig 3
Gradiometer survey of Labbamolaga superimposed on photogrammetry: A – shrine chapel; B – congregational church; C – outer enclosure; D – standing stones, gap in outer enclosure, parallel ditches; E – possible causeway leading from entrance to churches; F – road depicted on First Edition OS map; G – possible inner enclosure; H – linear feature at base of knoll; I – field boundaries; J – possibly ironworking; K – possibly pits; L – D-shaped enclosure (Nick Hogan and the authors).

in Ireland with monolithic jambs. The extant standing stones are large enough for similar ones to have been carved down to form these jambs (Ó Carragáin, 2014a). Might elements of a prehistoric monument have been incorporated into the church? Possibly, but there is far less evidence for this in Ireland than some other parts of Europe (Ó Carragáin, 2010, 156-8; cf. eg, Holtorf, 1998). Instead, the jamb stones might be seen as supporting the possibility that the standing stones are early medieval, for they suggest that this community was one of the few in Ireland to make use of such very large stones. Borlase compared the plan of the shrine chapel to those of prehistoric dolmens with antae-like projections and suggested that the founder, Molaga, was a Christianisation of the god Lug, the '*mo*' element being a hypocoristic prefix denoting a pet form of the name (Borlase, 1897b, 638; 1897c, 768-9). While the latter suggestion had some merit, as later argued by Ó Riain (1977; 2011, 480-82; though see Williams, 2016, 20), the former was of course spurious, so the archaeological case for a pre-Christian origin rests primarily on the standing stones.

Magnetometry (covering *c.*2.5ha) revealed the southern stretch of the ecclesiastical enclosure ditch for the first time (*c.* 5m wide; Fig. 3 C). Though it has a low magnetic response, this is undoubtedly a ditch (perhaps filled with bank material) rather than a bank. The ditch at the north produced a similar response, as did the ditches at Killeenemer, whereas likely ditches at Kildrum and Brigown had enhanced magnetic responses. The standing stones were centrally positioned within a substantial break in the ditch (32m wide), strongly suggesting that they represent an entrance feature (Fig. 3 D). While the break is wider than required for an entrance, we might speculate that the *c.* 10m gaps either side of the standing stones (and associated linears: below) were bridged by palisades, as demonstrated by excavation at Toureen Peakaun, Co. Tipperary (Ó Carragáin, 2017b). The survey also revealed a pair of linear features (*c.* 4m long x 1.5m wide, *c.* 10m apart) running perpendicular to the main enclosure, to either side of the standing stones, which are possibly small ditches defining the entrance and keeping it relatively dry. They have enhanced magnetic responses suggesting that they are filled with quite different material than the ditch of the main enclosure. About 20m north of, and aligned on, the entrance, a raised linear feature (about 20m long) revealed by photogrammetry may be a causeway across the relatively low ground leading to the knoll on which the churches stand (Fig. 3 E). Labbamolaga is bisected by a modern road that, at first sight, would appear to follow the most practical route to the heart of the kingdom, whereas this newly identified entrance faces upslope. However, in the early 19th century, there was another road a little further upslope. While it then veered northwest to follow the line of the southwest portion of the ecclesiastical enclosure (Fig. 3 F), it may well originally have been aligned on the entrance and causeway. A little south of the site, it curved around the hill, following the contour, before proceeding via a possible early medieval church in Gortroe to the definite example of Killaclug, 4km to the southeast on the boundary between Túath Uí Chúscraid and the ecclesiastical estate of Brigown, and on to Ceall Dá Naomh ('Church of the Two Saints'), just across the border. This pair of lesser churches seem to represent an important point of communication between the two land units (Ó Carragáin, 2014a, 285 and 291-2). In contrast, there are few prominent early medieval sites along the other road. Thus, identifying Labbamolaga's original entrance provides new insights not only about the site's origins, but also its interactions with contemporary settlements.

A curvilinear anomaly northeast of the graveyard might possibly be part of an inner enclosure (Fig. 3 G). If the curving graveyard wall south of the churches (on which see Cleary, 2000, 39-40) perpetuates the line of this enclosure, it was *c.* 72m across. Otherwise, little showed up north of the graveyard, but on the south-facing slope of the knoll outside the putative inner enclosure, where photogrammetry highlighted several undulations, was a significant number of anomalies. Some are suggestive of burning and ferrous material, including a cluster of relatively large examples with dipolar responses (Fig. 3 J), while excavation also uncovered some iron slag of unknown date (Cleary, 2000, 37). Just north of the outer enclosure is a D-shaped enclosure (*c.* 38m across), the surveyed portion of which produced a response suggestive of ferrous material (Fig. 3 L); if early medieval, it might possibly be a subsidiary ironworking enclosure like that excavated at Brigown (below). Immediately outside the enclosure at the southeast, and seemingly respecting it, are one or possibly two small fields (*c.* 35m wide; Fig. 3 I). There is textual evidence for a later medieval mill, which might have had early medieval antecedents (MacCotter and Nicholls, 1996, 27). Most likely this was on the stream 100m north of the site. There is a millstone fragment (along with several quern stones) and limited excavation uncovered remains of wheat, barley, oat and rye, albeit undated (Cleary, 2000, 43-4).

Brigown: Fir Maige's Chief Civitas

Material expressions of Brigown's pre-eminence within Fir Maige include its relatively large pre-Romanesque church and its round tower, the only example in the kingdom, which fell in a storm in 1720 (Figure. 4, Figure. 6 A and B). The current survey identified several sandstone blocks, trapezoidal in plan, the wider face carefully dressed to a consistence curvature, that undoubtedly come from the outer face of the tower's wall (Figure. 5). They have been fitted together roughly where the tower stood to form the rounded southwest corner of the graveyard wall, which is mainly limestone. The adjacent ground produced a moderately high resistance response (Figure. 7 B), but this is unlikely to represent *in situ* foundations of the round tower as these seem to have been comprehensively robbed out in 1807 (Brady, 1863, 70; Moore, 1889, 225). There were no clear indications of enclosures prior to the survey. Magnetometry (covering 1.8ha) revealed concentric outer and inner/middle enclosures, the former with a projected diameter (based on the available radius) of *c.* 225m, the latter *c.* 180m (Fig. 6 C and D). They were generally *c.* 20m apart, and the area between was divided by several radial ditches into rectilinear areas, some possibly gardens or corrals for livestock (Fig. 6 E). This strongly suggests the two enclosures were in use at the same time. They are represented by enhanced magnetic signatures suggestive of exterior ditches and by narrower interior drainage ditches in places; there is little trace of the banks that once stood between these. Near the northwest of the surveyed area, an apparent gap in the outer enclosure might be an entrance (Fig. 6 F); aligned with it is a less clear-cut break in the middle/inner enclosure and tentative evidence for radial ditches defining a path to the core of the site.



Fig 4
Brigown from the south showing the surveyed field to the south and west of the graveyard. Note that substantial portions of the site were not available for survey due to modern dwellings at the north and a modern cemetery at the east (right; Nick Hogan).



Fig 5
Ex situ *sandstone blocks from the round tower that stood at Brigown until the 18th century (Rory O'Donnell).*

Otherwise, the clearest subdivisions evident in the magnetometry are a pair of parallel linear features – possibly truncated banks and associated ditches – *c.* 12m apart and extending westward from the modern graveyard wall for *c.* 20m, apparently stopping short of the inner/middle enclosure (Fig. 6 H). They also appear as low resistance ditch-like features in the resistivity, and there are tentative indications here of an additional ditch running between them at the west to create an area enclosed on three sides (Fig. 7 H?). A short distance south (*c.* 8m) is a third east-west oriented ditch-like feature (Fig. 7 N), but unlike the other two, it terminates at the north-south ditch discussed presently and is not evident in the magnetometry, raising the possibility that is it not contemporary. The north-south oriented linear ditch-like feature runs parallel to (*c.* 4-6m west of) the modern graveyard wall, before curving in at both ends to run under it (Fig. 7 O). Though not readily apparent in the magnetometry, it possibly surrounded the church and burial ground. The fact that it excludes the round tower could suggest either that it is an earlier feature (possibly the innermost of three enclosures), or perhaps more likely that it is a post-1100 graveyard boundary replaced by the modern one. If the east-west ditches (H) are early medieval, their position directly west of the pre-Romanesque church, and on broadly the same alignment, raises the possibility that they defined an area for ritual or related activity (further below).

Some of the discrete anomalies could be pits or large postholes, including a possible four-post arrangement (*c.* 5m square; Fig. 6 I), while the dipolar ones may relate to ferrous metalworking. However, given the amount of modern activity (eg, Fig. 6 J and K) and that the anomalies are just as common outside the outer enclosure as within it, an unknown proportion of them may well be post-medieval, limiting our ability to assess the intensity of early craft activity. According to the 12th-century *Life* of the founder, Findchú, he developed his church as a metalworking centre, renaming it Brigown ('Hill of the Smiths') and giving seven local master-smiths "the gift of handiwork provided that they should perform or begin it there" (Stokes, 1890, 235). While this suggests either contemporary (ie, 12th-century) ironworking at the site, or at least a tradition that it had once been an important centre for

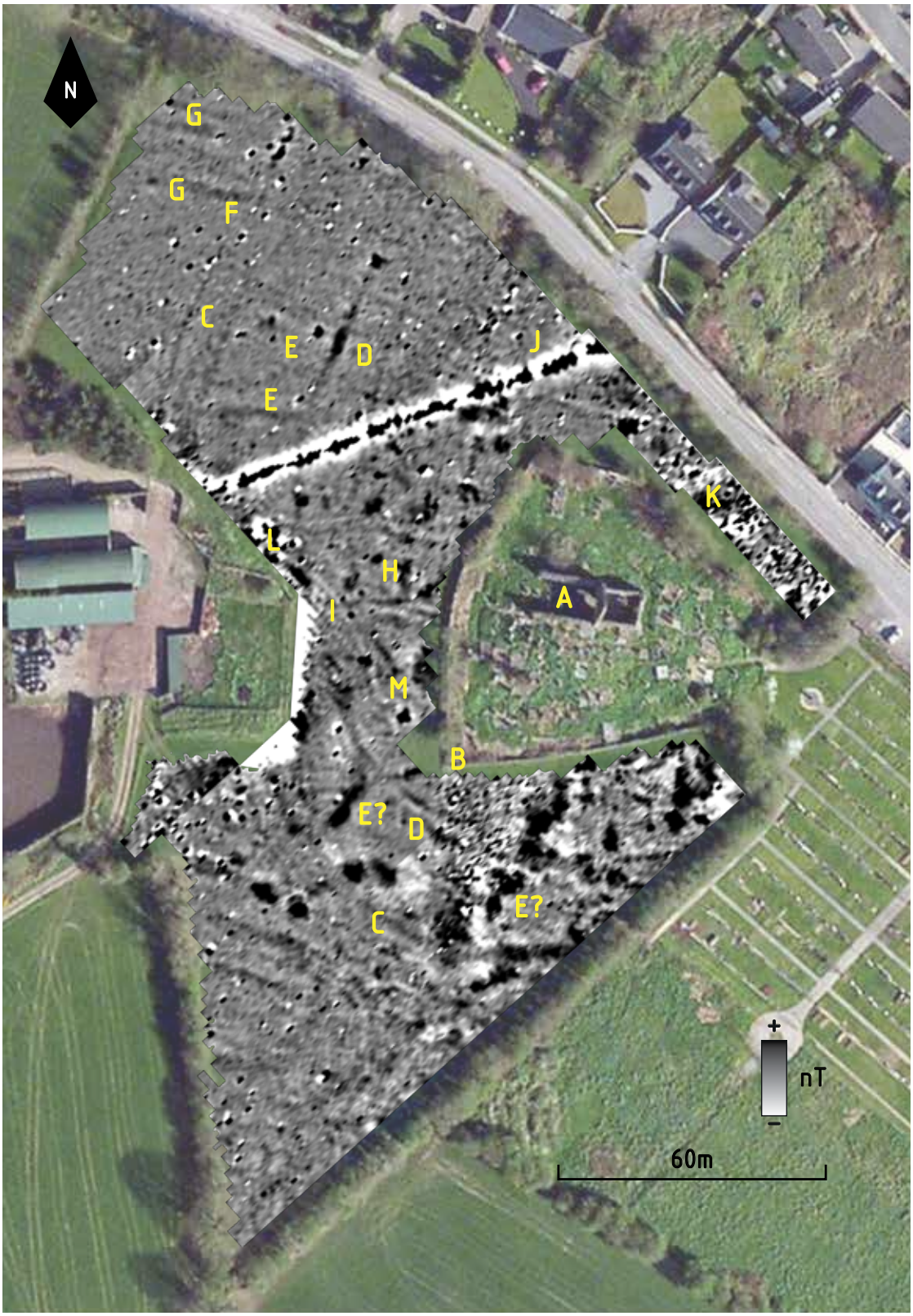


Fig 6
Gradiometer survey of Brigown superimposed on aerial photograph: A – pre-Romanesque church; B – site of round tower; C – outer enclosure; D – inner/middle enclosure; E – radial divisions (likely and possible); F – possible entrance gap; G – possible field boundaries; H – pair of parallel linear features also evident in resistivity (see Fig. 7 H?); I – possible four-post structure; J – modern metalled track; K – modern settlement (First Edition OS map); L – well; M – sinuous linear feature of unknown date (Nick Hogan and the authors; aerial photograph: Google/Maxar Technologies).

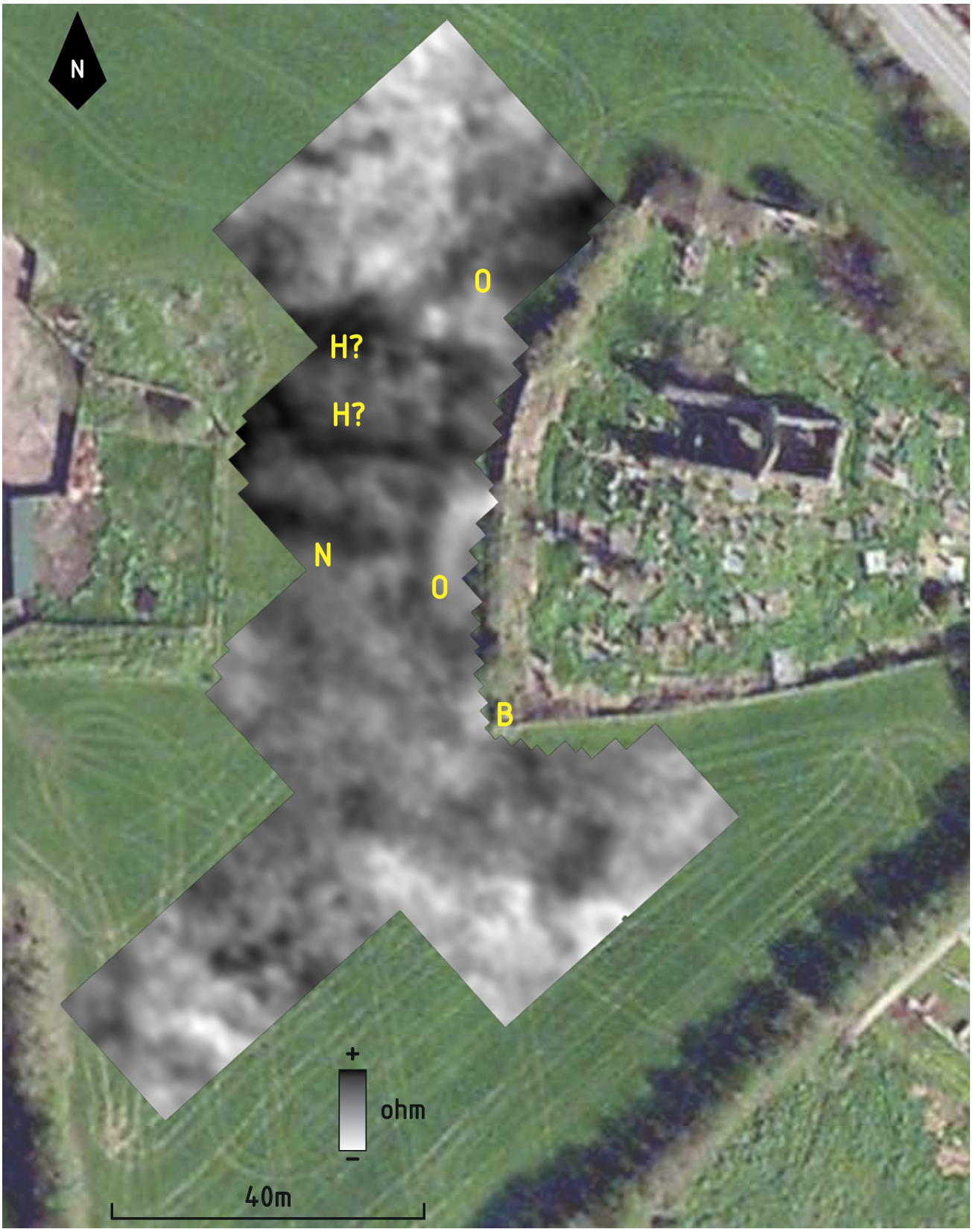


Fig 7
Resistivity survey of Brigown superimposed on aerial photograph: B – site of round tower; H? – parallel ditches also evident in gradiometry (Fig. 6, H) that continue east of O; O – north-south ditch, possibly a predecessor of the modern graveyard wall; N – east-west ditch that (unlike H?) seems to respect O (Nick Hogan and the authors; aerial photograph: Goole/Maxar Technologies).

ironworking, it is possible that most of this activity was concentrated in and around a specialised subsidiary complex *c.* 150m east of the main outer enclosure, comprising a *c.* 80m diameter curvilinear enclosure, where excavation produced abundant ironworking evidence (Carroll, 2005).

Kildrum: An Out-farm on the Lands of Brigown

The large estate granted to Brigown seems to have been under-utilised borderland, and the settlement pattern is very different from that on the royal lands further west (Ó Carragáin, 2014a, 275-81; 2021a, 70-5). Instead of a high density of ringforts (many of them family farmsteads), settlements are quite widely spaced (*c.* 1.5–2km). Most of them are subsidiary church sites, larger than ringforts, and some may have had complementary roles in harnessing the available resources for Brigown. In a central location on good farmland, 2km east of Brigown, the most extensive of these 'out-farms' is Kildrum. It is the only one mentioned in Findchú's *Life* and may also feature in the *Life* of Abbán as Cell na Marbh ('Church of the Dead'; Stokes, 1890, 237; Plummer, 1922, 8; Power, 1932, 22, 81-2). Its principal enclosure is substantial (136m across; Figure. 8 A; Figure. 9 A) and a mill a short distance to the south may be early medieval in origin (Fig. 8 S). This is supported by the identification through photogrammetry of an additional *c.* 100m curvilinear enclosure next to the mill. It might be a subsidiary complex like that just noted at Brigown, in this case possibly for cereal processing (Fig. 8 T).

The main enclosure (A), up to 10m in overall width, was incorporated into a modern field fence at the west and a field fence and trackway incorporate a short stretch of it at the east but mainly run alongside. Though evident in the magnetometry at the southeast and northeast, it is largely obscured by modern disturbance at the north. Prior to the survey (comprising 1.8ha magnetometry plus 0.52ha resistivity), no features were known within the main enclosure (A), but the geophysics revealed a rectilinear area at the centre, possibly for ritual and burial (Figure. 10 P) and two or three possible smaller enclosures (Fig. 9 C, D, and E). Represented by two separate curvilinear anomalies, E is a possible *c.*50m diameter ditch (*c.* 2.5m wide) in the southeast quadrant of A (perhaps partly removed by A, B, C, and G); it might possibly represent pre-ecclesiastical settlement. In



Fig 8
Topographical survey of Kildrum: A – ecclesiastical enclosure partially preserved in modern field fences; R – slight undulations corresponding to ditches delimiting high resistance rectilinear area (Fig. 10 P); S – mill site, possibly of early medieval origin; T – portion of a curvilinear enclosure, c. 100m across (Nick Hogan and the authors).

contrast, D and C may be successive inner enclosures encircling the rectilinear area (Fig. 10 P). Their west sides are not evident in the magnetometry, probably because of waterlogging and recent ground disturbance, though there are precedents for incomplete, C-shaped inner enclosures (eg, Parknahown 5, Co. Laois, a cemetery settlement: O'Neill, 2010). The north side of D is evident as a relatively faint enhanced magnetic anomaly, probably a modest (*c.* 2m wide) ditch. At the east, traces of it have been removed by C and I, while at the south, a relatively short anomaly (14m), evident in both magnetometry and resistivity, might be a section of its south side, in which case it was *c.* 46m across. C may be a replacement for D, perhaps not much wider east-west, but oval in plan, *c.* 70m north-south. Either of two *c.* 6m breaks in its east side might be entrances

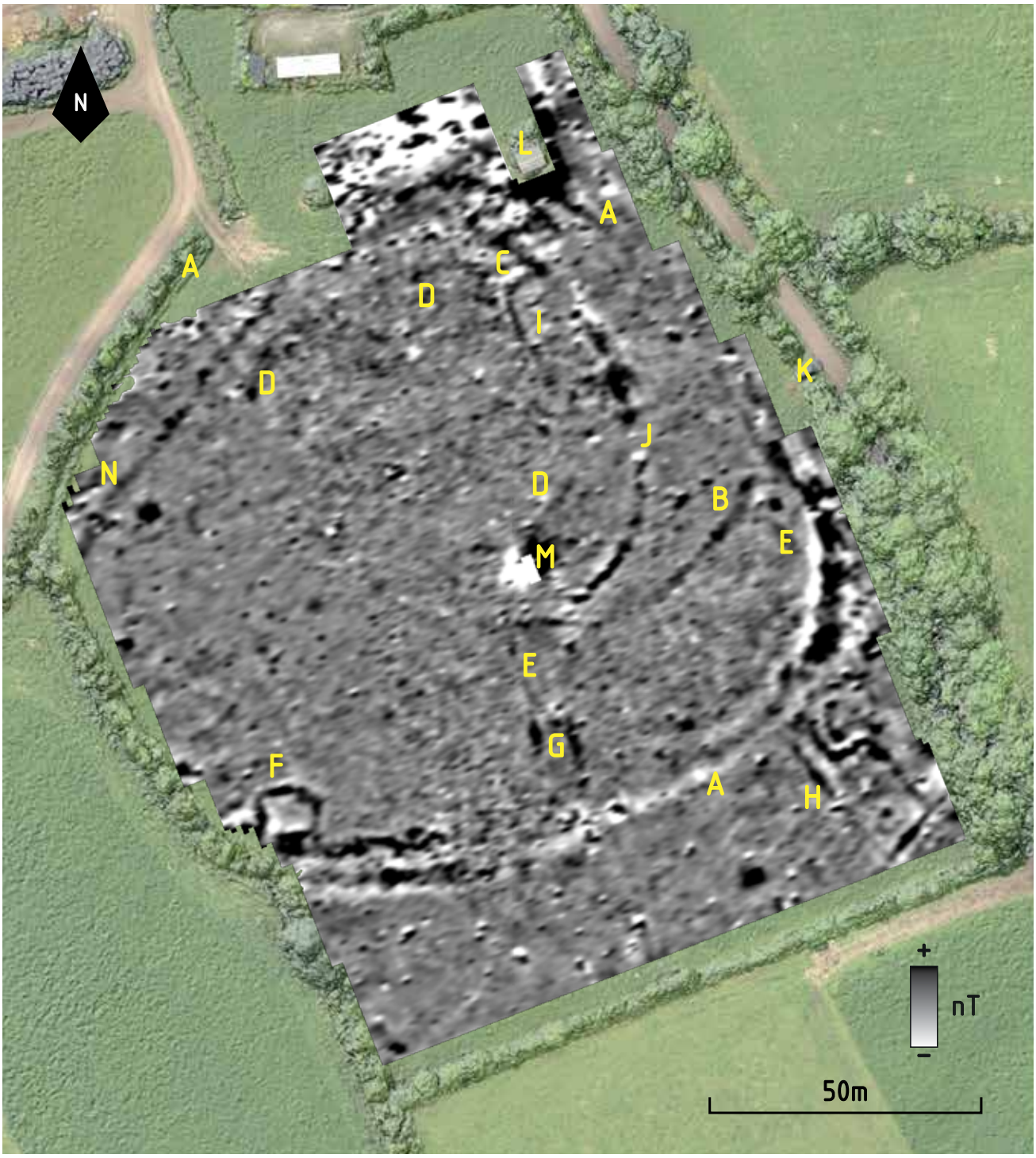


Fig 9
Gradiometer survey of Kildrum superimposed on photogrammetry: A – outer enclosure partially preserved in modern field fences; B – linear feature; C – curving linear feature delimiting east half of the core of the site, possibly later than D; D – the three labelled curvilinear features possibly represent sections of an inner enclosure, delimiting (or partly delimiting) the core of the site, possibly replaced by C; E – the two labelled curvilinear features possibly represent sections of an enclosure in the southwest quadrant of A, possibly pre-dating it and other nearby features (B, C, F); F – rectilinear enclosure (12m x 11m) open at south; G – rectilinear enclosure (9m square) abutting A; H – extramural complex at southwest; I – L-shaped linear (12m x 8m) probably later than D and possibly abutting C; J – possible entrance to C; K – modern gate; L – modern shed and related disturbance; M – modern water trough; N – modern water pipe (Nick Hogan and the authors).

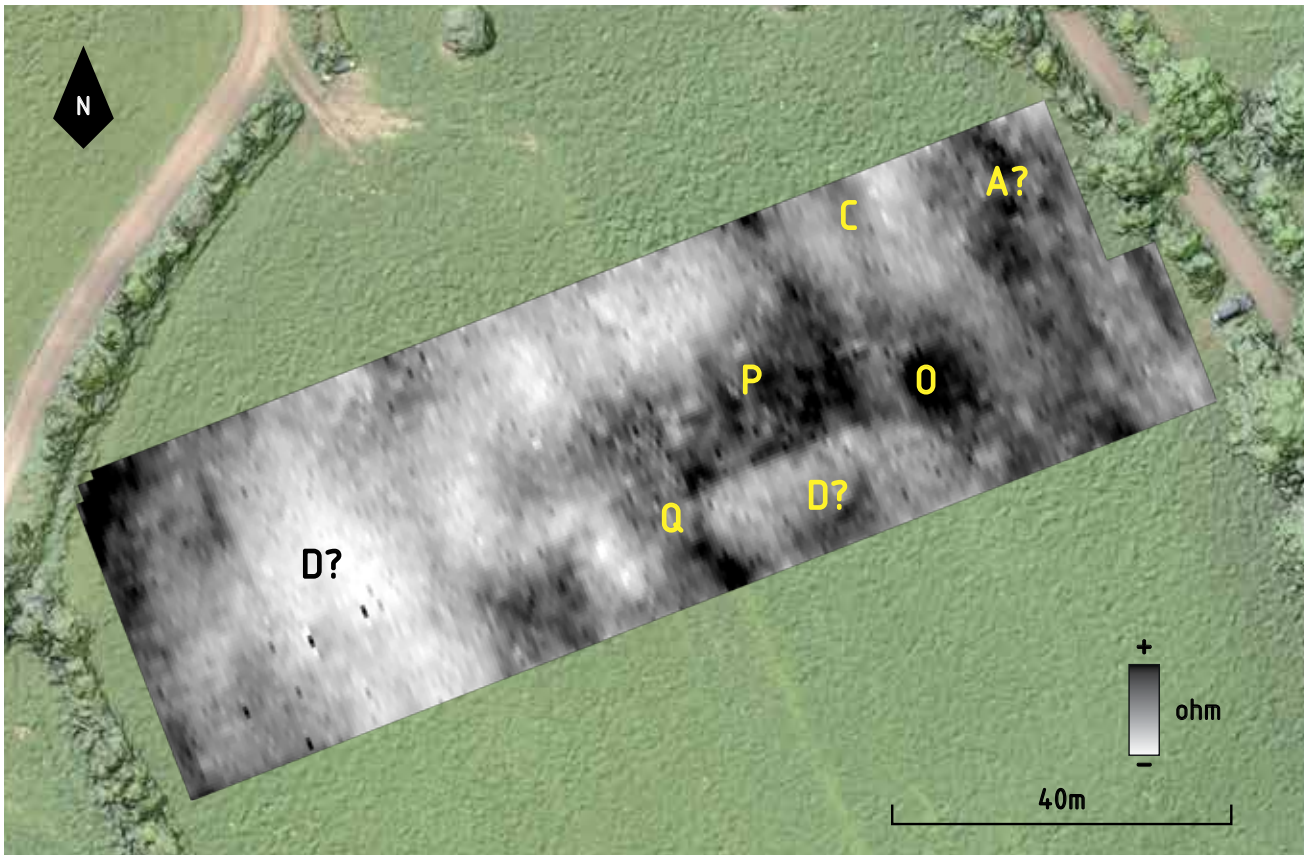


Fig 10
Resistivity survey of Kildrum superimposed on photogrammetry: A – outer enclosure evident in gradiometry and possibly in resistivity (A?); C – inner enclosure evident in both gradiometry and resistivity; D – inner enclosure (possibly replaced by C) evident in gradiometry and possibly in resistivity (D?); high resistance sub-circular (c. 10m across) anomaly corresponding to a gap in C in the gradiometry; P – high resistance sub-rectangular area, c. 42m east-west by 18m, defined by likely ditches; Q – gap in ditch at south possibly providing access to P (Nick Hogan and the authors).

(Fig. 9 J and next to I). It should be noted that the break at J could be caused by a high resistance feature obscuring C at this point (Fig. 10 O).

While the magnetometry turned up little of significance within the inner enclosures, the resistivity revealed a relatively high resistance rectilinear area (Fig. 10 P; *c.* 42m east-west by *c.* 18m north-south, narrowing to *c.* 14m at the west) defined by low resistance features, possibly wide (*c.* 7-8.5m) ditches, faint indications of which were also evident in the topographical survey (Fig. 8 R). Near the west end of the south side, a *c.* 8m wide break in the putative ditch possibly provided access to the interior (Fig. 10 Q). If early medieval, the rectilinear area is far too large for a building but might possibly be a core area within the successive inner enclosures (D, C) set aside for burial and ritual, perhaps incorporating a wooden church. As late as the 12th century, the site was considered a revered burial ground (above), but there is no firm evidence that it remained in use as an ecclesiastical site (for example, a chapel) in the later medieval period, so it may never have acquired a stone church. The relatively high resistance signature might reflect the use of stone in graves (ie, stone-lined graves), but not necessarily as the contrast between low to high readings is modest (~40ohm).

Even when (as suggested above) D was replaced by C, there was considerable space to the south. The magnetometry revealed three small rectilinear enclosures probably defined by cut features. The latter are too wide for foundation trenches (*c.* 2m on average), so they are more likely to be drains or narrow ditches defining distinct areas. In any case, if these three rectilinear features are early medieval, they would be unusually large for buildings. The one at the southwest (Fig. 9 F), abutting the interior of A, is sub-rectangular and *c.* 12m east-west with no indications of an entrance. That at the south (G) is

rectangular and *c.* 13m north-south and open at the south side. Finally, the enclosure at the southeast (H), abutting A at the exterior, is larger and more complex (*c.* 30m north-south) and incorporates a smaller sub-rectangular enclosure at its north end. The former may be a garden or indeed a field (like that noted in a similar position at Labbamolaga) as it extends beyond the survey area. The three smaller enclosures suggest a compartmentalisation of groups or activities within and around the site. By analogy with sites such as Toureen Peakaun, some might possibly have been used for domestic, food-processing or craft activity (Ó Carragáin, 2017b). A somewhat similar rectilinear enclosure (*c.* 15m north-south), again open at the south, possibly abuts the interior of C, just north of the putative burial area. If it was domestic, given its relatively central location, we might speculate that it was for one or more senior ecclesiastics, while junior ecclesiastics and labourers were accommodated in more marginal locations, some of the latter perhaps in the subsidiary enclosure near the mill (Fig. 8 T). Otherwise, indications of occupation are slight, apart from a few possible pits, and a modest number of dipolar anomalies especially outside A at the south, some of which could be modern metal objects.

Killeenemer: A Royal Túath *Church*

Unlike Brigown and Labbamolagga, Killeenemer had no saintly or monastic associations, and its landholding was much smaller. In the early 12th century, it was the designated church of the home district (*túath*) of the Eóganacht Glennamnach, kings of Fir Maige. Though reminiscent of the pastoral, *plebes* churches of early medieval Brittany (on which see Davies 1988), there is no firm evidence that this '*túath* church' system originated long before *c.* 1100. However, there are indications that some of the sites selected were already pastoral community churches with public functions within their respective *túatha* (MacCotter, 2011-12; Ó Carragáin, 2015; 2021a, 156-8). Befitting its royal associations, Killeenemer is the only *túath* church in Fir Maige with a mortared stone church dating to around 1100; most of the others were probably still of wood. It was the most prominent church within a multi-focal royal landscape, incorporating high-status settlements, fortresses, watermills, specialised iron-working sites, and one or possibly two assembly sites (see below and Figure. 11).

The topographical survey showed that the extant graveyard was within a heart-shaped curvilinear enclosure *c.* 218m north-south (Figure 12 A) and highlighted possible evidence of an inner enclosure (Fig. 12 B; Figure. 13 B) and one or more palaeochannels (ie, inactive, filled-in water channels) immediately east of the site (Fig. 12 C, D, and E). The magnetometry (covering 6.4ha plus 1.08ha resistivity) showed that the outer enclosure comprised a bank and ditch, the latter *c.* 3-4m wide (Fig. 13 A) with breaks due to modern disturbance (Fig. 13 F). At the east, immediately outside the main ditch, and following its somewhat irregular course was a second cut feature, and in places, there was seemingly a third cut feature. At the northeast, the junction between them is obscured by modern disturbance in the magnetometry, but the topographical data shows that the outer cut feature diverges from the ditch at this point and continues to the northeast as a sinuous linear, as seemingly confirmed by the resistivity data (not illustrated). Thus, the outer cut feature appears to be a palaeochannel, or perhaps a drainage ditch cut into an already filled-in channel in an area prone to waterlogging and perhaps even flooding, and therefore excluded from the site (Fig. 12 C). To the east, another palaeochannel (D) may have been the principal stream in the early medieval period. The First Edition OS map shows that it had been channelled into a straight field boundary to the east by the early 19th century. Having circled around and joined another stream, it eventually flows into the River Funshion at Ballykenly where it was dammed and diverted in the early medieval period to drive a two-flume watermill (CO027-012----). This site was on royal land 1.4km to the west. While the inhabitants of Killeenemer may well have been entitled to use it, they may have invested in a mill of their own at some point. Channel D extends northward from the southern boundary of the survey area, coming to within 30m of the outer enclosure and channel C before turning northeast. A third channel (E) ran parallel to its south-north section, before joining it when it turned northeast. Between them, the topographical survey showed two sub-rectangular platform-like features, and on one of these, resistivity revealed a sub-rectangular anomaly defined by linears (not illustrated). Though too large for an early mill-house, this nonetheless supports the possibility that channel E was a millrace, and we know there was a mill hereabouts in the high medieval period (MacCotter and Nicholls, 1996, 25). In any case, the palaeochannels explain the two most unusual characteristics of Killeenemer's layout: the second ditch at the east, and the sinuous trajectory of this boundary, as a result of which the site is substantially narrower at the south

(110m) than at the north (194m), giving its distinctive heart-shaped plan. The modern graveyard (H) is within an inner enclosure (125m north-south) (B), north of centre of the outer enclosure (A), and more rectilinear. Its morphology argues against the possibility that this was originally the outer enclosure with A representing an expansion. At the west and north, there is a consistent *c.* 60m between them, and the northwest corner is rounded like that of the outer enclosure. Elsewhere, they do not correspond so closely, and the three other corners of the inner enclosure are sharper, giving it a straight south side. At the east, while not mirroring the outer enclosure precisely, the side of the inner one is sinuous, reducing its width from *c.* 114m to *c.* 91m. The most obvious explanation is that it was laid out at the same time as (or less likely later than) the outer enclosure, which as we have seen was influenced by the palaeochannel.

The best candidate for an entrance is at the northwest where a pair of ditch-like features (with possible exterior banks, averaging 10m apart) may delimit an avenue (I). Perhaps coincidentally, it seems to be aligned on a modern road that leads directly to the mill at Ballykenly. Its junction with the outer enclosure is obscured by another north-south road, but thereafter, it runs east-north-east until it reaches the inner enclosure, at which point it turns abruptly southeast towards the church, tapering slightly before reaching the graveyard wall. Albeit faintly, the inner enclosure ditch continues across this possible avenue, suggesting that the enclosures were laid out first. However, it seems to be respected by another east-west ditch (J) that subdivides the northern part of the inner enclosure and continues eastward beyond it towards the outer enclosure (their junction obscured by modern disturbance, F). Radial ditches between it and the inner enclosure create three gardens, cultivation plots, or small corrals (L; 0.05–0.06ha). One of the ditches continues at a different angle to the outer enclosure and possibly beyond, while one or two other possible radial divisions provide further evidence that the interior of the site was subdivided, perhaps primarily for agriculture (marked 'L?'). Though modest compared to Brigown or Labbamolaga, Killeenemer had a



Fig 11
The east window of Killeenemer church with Caherdrinny hill fort, a likely assembly site, in the background (Rory O'Donnell).

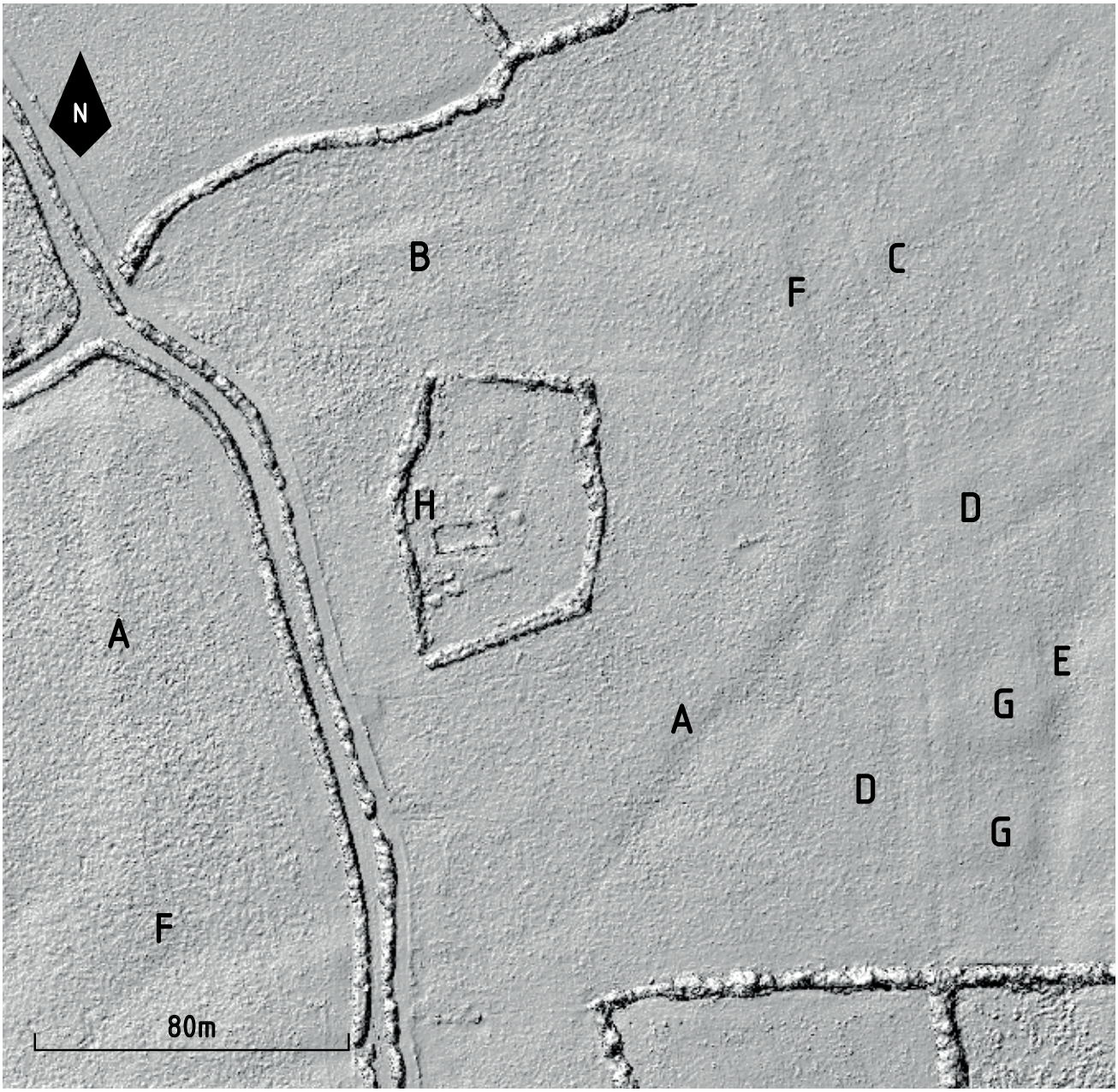


Fig 12
Topographical survey of Killeenemer: A – outer enclosure; B – inner enclosure; C – palaeochannel that appears to merge with A; D – palaeochannel; E – palaeochannel running parallel to D; F – substantial areas of modern disturbance at southwest and northeast; G – two sub-rectangular raised areas between channels D and E; H – modern graveyard wall surrounding church (Nick Hogan and the authors).

landholding (*baile*) of at least 170ha, so may have been largely self-sufficient, though it must also have received dues for pastoral care.

Given its position directly west of the extant stone church, another ditch-like feature is unlikely to have been for agriculture (M). It extends from the modern graveyard wall towards the inner enclosure (but is obscured by the modern north-south road), and there are tentative indications of a fainter parallel division *c.* 9m north. Possibly, they delimited a rectilinear area aligned on the church like that at Brigown. Between the inner and outer enclosures at the southeast, an L-shaped anomaly possibly delimits two sides of a small rectilinear enclosure, *c.* 18m across, somewhat reminiscent of those at Kildrum (N). Largely outside the outer enclosure at the west is a possible penannular



Fig 13
Gradiometer survey of Killeenemer superimposed on photogrammetry: A – outer enclosure; B – inner enclosure; F – substantial areas of modern disturbance at southwest (see First Edition OS map) and northeast (perhaps due to removal of field fences etc); H – modern graveyard wall surrounding church; I – possible avenue leading to church; J – east-west ditch that seems to respect I; K – east-west ditch on the line of a modern field fence; L – likely ditches, mostly radial, subdividing the site; M – immediately east/right of this label and west of the church is an east-west ditch-like anomaly, while c. 9m to the north is a second possible example running parallel to it, possibly defining a rectilinear area in front of the church; N – L-shaped anomaly; O – possible penannular enclosure (surrounding label) apparently opening to the north; P – field fence; Q – possible pit cluster; R – modern water pipe and field fence (Nick Hogan and the authors).

enclosure perhaps defined by bank and ditch, *c.* 21m across with a *c.* 13m opening at the north (O). Partly due to modern disturbance, its chronological relationship with the outer enclosure is unclear. It could be pre-ecclesiastical or a subsidiary enclosure of the church site. There was a modest number of pit-like features including a cluster between the inner and outer enclosure at the east (Q), but relatively few dipolar anomalies or other possible indicators of craft activity. In the northeast corner of the graveyard, a rectilinear high resistance anomaly could represent a later or post medieval building. Another immediately south of the church is more likely to be rubble (not illustrated).

Discussion

Here, we consider the broader implications of these surveys, looking in turn at what they may reveal about the origins of church sites, their relative scale, layout and development, and their character, as suggested by evidence for habitation, agriculture, craft activity, and ritual practice both within the enclosures and in the wider landscape.

Because most Irish church sites seem to have been established at greenfield sites (eg, Ó Carragáin, 2003, 130; 2021a, 25-29; forthcoming; *pace*, for example: Thomas, 1971, 48-90), any evidence for pre-ecclesiastical activity is particularly important. Owenbristy, Co. Galway, is perhaps the best candidate for a church originating as a burial ground, while churches that may have originated as settlements include Reask, Co. Kerry, and Kilgobbin, Co. Dublin (Lehane and Delaney, 2011; Fanning, 1981; Bolger, 2008, 108; Ó Carragáin, forthcoming). The latter sequence may have been quite common, given that churches were often established on the land of a family that thereafter became the ecclesiastical branch of an extended kin-group, but the evidence for pre-ecclesiastical settlement at Kildrum and Killeenemer was tentative to say the least. Labbamolaga provides a more important insight on origins because it now seems clear that the arrangement of standing stones was an early medieval entranceway. Though unusual, there are possible parallels at Oughtihery and perhaps Kilcullen in mid-Cork where some of the standing stones also have ogham inscriptions (Boazman, 2008; CO060-040001-; CO061-188----). While reuse of a prehistoric monument is not impossible, Labbamolaga must now be removed from the very short list of Irish churches likely to have been founded directly on sites of non-Christian ritual. Perhaps the two most likely examples are Armagh, Co. Armagh, and Carns, Co. Roscommon, the latter suggested by geophysical evidence for a figure-of-eight arrangement characteristic of late prehistoric ceremonial sites (Swift, 2006; McNeary and Shanahan, 2009). Both are within important royal landscapes with prehistoric roots, which seems to have been true of a high proportion of the earliest churches (*c.* AD 400-550; Gleeson, 2017; Ó Carragáin, 2018; 2021a, 58-63). In retrospect, then, Labbamolaga was perhaps always an unlikely candidate, for two reasons: first, it is later, probably 7th century (MacCotter, 2011-12, 251); and second, it is not within Fir Maige's principal royal heartland. The latter, several kilometres to the south, incorporated the kingdom's most prominent prehistoric site, Caherdrinny hillfort, which was selected as the kingdom's principal assembly place (see below). It was the intrusive Eóganacht Glennamnach who controlled this landscape and founded churches there including Killeenemer; their arrival may have displaced the Uí Chúscraid to the hilly northeast periphery where they founded Labbamolaga. Even within core royal landscapes, it seems that most early churches took their place between existing ritual foci rather than replacing them directly (Ó Carragáin, 2021a, 58-63). While the latter sequence potentially involved destruction of existing foci, the former suggests they were still revered and so perhaps indicates greater accommodation between different systems of belief rather than less.

There has been little discussion of the scale of Irish ecclesiastical sites since the pioneering work of Swan (1983; 1985), Hurley (1982) and others, and very few comparative studies within specific kingdoms. A study of Mag Réta, Co. Laois, found a much greater diameter range than Fir Maige, because on the one hand it incorporates Aghaboe (possibly >400m), a much more important monastery than Brigown, while on the other, some of its lesser churches had surprisingly small, almost rath-like enclosures of a sort usually associated with the west of Ireland (Ó Carragáin, 2018, 73-4). In contrast, Fir Maige's enclosures are mostly within the 90-200m range identified by Swan (1983) as the mean for Ireland. It is then all the more significant to find a good correlation between enclosure diameter on the one hand and other indicators of status and character on the other. Befitting Brigown's status, its newly revealed outer enclosure may well have been the largest in Fir Maige, probably at least 225m, perhaps more because the church may be off-centre (see below; cf Ó Carragáin, 2015, Table 4.1; Ó Carragáin, 2014a, 288). Killeenemer was almost as large (*c.* 218m), but Brigown

has far more extra-mural evidence including satellite churches and monuments and a subsidiary ironworking enclosure (*c.* 80m) on the banks of the River Gradoge, which skirts the complex on three sides (at a minimum distance of 450m) and is depicted as its outer boundary in hagiography (Ó Carragáin, 2014a, 275). Killeenemer is unusually large for a *túath* church without a large estate, reflecting its close association with the Eóganacht Glennamnach, and larger indeed than Fir Maige's other two landed churches – Labbamolaga (180m) and Clenor (perhaps *c.* 160m based on the First Edition OS map) – reflecting the fact that these were associated with lesser kings. Other *túath* church enclosures are *c.* 120m (Kilcummer and Killada), while sites that did not achieve *túath* church status are usually smaller again (Ballyguyroe 108m; Ballymaclawrence 72m; Kilmaculla 90m). Expressing its role as the most important 'out farm' on the Brigown estate where settlements were relatively widely spaced and substantial, Kildrum is about as large as one of the lesser *túath* churches (132m), excluding its possible subsidiary enclosure.

Unlike raths which tend to be circular, ecclesiastical enclosures – including almost all those in Fir Maige (Kilmaculla being a possible exception) – often have recognisable sides and corners. Another recurring characteristic is that the inner enclosures tend to be off-centre. They are north of centre at Kildrum, Labbamolaga, and Killeenemer, while the church may be south of centre at Brigown. This created a relatively large area for other activities on one side. At small sites where space is limited, the obvious next step is for the inner enclosure to abut the outer one, or simply form an eastern subdivision of it. In Fir Maige, we see this arrangement only at Ballymaclawrence, the site with the smallest surviving enclosure (72m), but it is almost ubiquitous in areas like Corcu Duibne where even smaller enclosures predominate. The surveys found no evidence that the outer enclosures represent secondary expansion; rather, they may have been constructed at, or soon after, foundation. This is consistent with the excavation evidence that most large enclosures are pre-Viking (O'Sullivan et al., 2013, 329). Some represent expansion in the 7th to 8th centuries, including Clonfad, Co. Westmeath and possibly Ardreigh, Co. Kildare (Stevens, 2012, 120; Moloney et al., 2012), while in the case of Killeen Cormac, Co. Kildare, this is suggested by geophysical survey (Greene, 2012-2013; Anon., 2009, 28). It may be significant that these were 5th- to 6th-century foundations, whereas most, if not all, of our four were probably founded after 600, by which time large enclosures were becoming ubiquitous. If the main enclosures were primary, changes in layout were limited to internal reorganisation – though only Kildrum produced substantial evidence for this – and possibly the addition of extramural subsidiary enclosures (Brigown, Kildrum) and structures such as mills (possibly at all four).

Of course, geophysics provides a partial and chronologically uncertain picture. Apart from Kildrum, these sites became parish centres, so some features – perhaps especially near their cores – could be later medieval. Indeed, small scale excavation immediately outside the graveyard at Labbamolaga uncovered a 15th-century slot trench (Cleary, 2000, 35). Possible candidates for late medieval features are the innermost enclosure at Brigown (Fig. 7 O) and possible stone foundations within the graveyard at Killeenemer where there was an ecclesiastical court in the 13th century (MacCotter and Nicholls 1996, 22-23, 106-7). Nevertheless, by analogy with excavated sites, most of the features are likely to be early medieval. The paucity of evidence for domestic buildings is not surprising given that in Ireland, most of these were light-weight post-and-wattle structures. Some of the small, mostly rectilinear, enclosures at Kildrum and Killeenemer might have surrounded buildings for habitation or craft activity, like that excavated at Toureen Peakaun, Co. Tipperary (Ó Carragáin, 2017b), but an agricultural purpose is just as likely, as illustrated by the possible grain store (*c.* 10m x 6m) within a larger rectilinear enclosure at Ferns, Co. Wexford (McLoughlin, 2020). Small enclosures in Killeenemer and possibly Brigown created by radial divisions between the main enclosures are closely paralleled at churches like Killeen Cormac, Co. Kildare, and Oldtown and Grange, Co. Dublin, and extensive non-ecclesiastical settlements like Ballynakelly, Co. Dublin, and Cahercommaun, Co. Clare (Baker, 2010; Greene, 2012, 27; McCarthy, 2011; O'Sullivan et al., 2013, 186, Figs. 5.1 and 5.4). Excavation tends to support the idea that many of them were garden plots (some perhaps for vegetables) or corrals for animals, which are well-attested in the historical sources (Kelly, 1997, 248–9; Harney, 2015-16, 185), though some of those at Oldtown were used for craft activity. Only Labbamolaga produced clear-cut evidence for extramural fields delimited by ditches; hedges and fences were probably more common but rarely leave any trace (eg, Harte and Ó Carragáin, 2020).

While Brigown benefited from surpluses produced at subsidiary sites, the resident population may also have been directly engaged in agriculture. At least they were involved in food processing at the nearby

mill, while there may well have been an additional mill on its estate at Kildrum. In contrast, the possible mill at Labbamolaga may have been the only one on its relatively small estate. Killeenemer's landholding was much smaller again, so if it did have a mill (the evidence is inconclusive), we might envisage people from some nearby land units (*baili*) paying dues to access it, just as they may have paid for pastoral care. Regardless, there is plenty of evidence for water management at Killeenemer, whose layout seems to have been influenced by the course of a stream channel. This is a recurring feature of ecclesiastical sites. For example, at Monasterboice an extra ditch along one side of the enclosure, like that at Killeenemer, may have been to 'manage and divert water away from the main complex' (Anon., 2009, 28). Similarly at Toureen Peakaun and Portmahomack, though definitive evidence for mills was illusive, water channels were straightened and diverted to improve drainage and facilitate craft activity, including vellum production at the latter site (Carver et al., 2016; Ó Carragáin, 2017b). Apart from possible corrals and fields, there is more evidence for arable than livestock farming, but this is probably due to differential visibility, for textual and placename evidence relating to Brigown and its estate indicate a mixed agricultural economy, as excavations elsewhere would lead us to expect (eg, Ó Carragáin, 2014a; 2021a, 140-45).

Excavations throughout these islands and beyond have demonstrated that largescale craftworking was a defining feature of substantial monasteries (eg, Carver et al., 2016; Campbell and Maldonado, 2020, 34), whereas it was usually on a smaller scale at other church sites (eg, Marshall and Walsh, 2005; Ó Carragáin, 2014b). The clearest potential indicators of craft activity are discrete anomalies, especially dipolar (ie, paired positive-negative) magnetic anomalies suggestive of burning and/or ferrous material, as demonstrated by subsequent excavation at sites like Clonfad (Stevens, 2012, 110, 114, and 116-7; Gaffney and Gater, 2003, 109–11). Such anomalies are far more common at the two landed churches (by a factor of twenty to thirty) than the others, representing *c.* 2.2% of the surveyed area at Labbamolaga and *c.* 3% at Brigown but >0.1% at Kildrum and Killeenemer. Of course, some are probably modern, limiting the value of these quantitative comparisons, as noted above in relation to Brigown; on the other hand, there is independent evidence for largescale ironworking at this site focused on a subsidiary enclosure outside the surveyed area. Therefore, the paucity of such anomalies at Killeenemer and Kildrum may be significant, and the pattern highlights the benefits of comparative studies of nearby sites. However, any conclusions we draw from it must not be too broad or reductive. For example, the contrast between Brigown and Kildrum does not indicate that craft activity was confined to the principal site on monastic estates, because, elsewhere in Ireland, specialised iron-working sites have been identified at a distance from the principal church (eg, Lismore, Co. Laois; Kilgowan, Co. Kildare: Ó Carragáin, 2021a, 79, 147). Rather, Kildrum provides further tentative evidence that subsidiary sites on such estates had complementary roles, perhaps agricultural production in this case. Similarly, the apparent paucity of ironworking at Killeenemer does not indicate that this primarily took place on monastic estates like that of Brigown; there are several specialised ironworking sites within the royal *túath* of Eóganacht Glennamnach: a pair of raths just 1km away in Lisleagh that produced 1800kg of slag; bloom-smithing in Ballinglannagh; and bell production in Gortnahown on the border with Brigown (Monk, 1995, 111; Kiely and O'Donoghue, 2011, 18; Young, 2019). It does, however, raise the possibility that churches with public pastoral functions (later designated *túath* churches) tended not to engage in large-scale craft activity, as it was outside their core remit. This would need further investigation, and it must be remembered that many craft activities are hard to detect with geophysics (eg, leather- and bone-working). In any case, Eóganacht Glennamnach highlights how, like monastic estates, royal *túatha* were characterised by churches and other settlements with complementary, sometimes specialised roles.

Evidence for ritual includes the rectilinear area, possibly for burial and a church, at the heart of Kildrum, and perhaps that defined by ditches due west of the church at Brigown. One possibility is that there was an additional carpentry church here (unlikely to be detected by geophysics), like those aligned end-to-end on a rectilinear terrace in 8th-century Whithorn (Hill, 1997, 150). However, while a second church would not be unexpected at Brigown, they are usually side-by-side rather than end-to-end in Ireland (Ó Carragáin, 2010, 212). Perhaps instead this was a well-defined area in front of the church equivalent to – though formally far removed from – the colonnaded atrium of an Early Christian basilica. (It should be noted that in early medieval texts, the term, *atrium*, was often defined more flexibly, and sometimes seems to denote a larger area incorporated habitation. In Irish sources it was sometimes synonymous with the

terms, *platea* and *faithche* (Swift, 1998).) We might speculate that the rectilinear area at Brigown had a liturgical role and was the place outside the church alluded to in textual sources where corpses were laid prior to burial (see, for example, Swift, 1998, 109-10; Ó Carragáin, 2010, 34-5, 84, 155, 169-70; 2021b). It might also have been a place of sanctuary, where gifts for the church were collected, and the setting for ecclesiastical law courts which, according to the *Hibernensis*, should take place at the door (*ostium*) of the church (*tabernaculum*), directly west of it (Wasserschleben, 1885, 63; Swift, 1998, 107). Tentative evidence for a similar arrangement at Killeenemer raises intriguing questions given that these were the two most important churches patronised by the Eóganacht Glennamnach in this kingdom. Might this be a local or regional phenomenon, an alternative to the wider and apparently more open public spaces defined by high crosses in front of the main church at the Southern Uí Néill monasteries of Clonmacnoise, Co. Offaly, and possibly Kells, Co. Meath, and Monasterboice, Co. Louth (King, 1997; Ó Carragáin, 2010, 44, 121-2; Manning, 2021)? At Monasterboice, geophysics revealed a D-shaped enclosure directly west (and possibly later than) the inner one around the sacred core (Anon., 2009). Though much larger than the rectilinear area under consideration here (*c.* 80m north-south) and further west of the core of the site, it is precisely bisected by a linear feature that seems to be quite carefully aligned on the principal axis of the sacred core (ie the Tall Cross, round tower and possibly the principal albeit non-extant church: Manning, 2021), raising the possibility that it had a ceremonial or symbolic role, supplementary to the geometrically-delimited area within the core itself.

Returning to Fir Maige, we are on slightly firmer ground when considering entrances, and these allow us to consider how churches interacted within the wider landscape. While the entrance to Irish church sites was most commonly at the east, of the four sites considered here only Kildrum has evidence for one in this position. The only definite entrance is at the south (Labbamolaga), while there are two possible examples at the northwest at Killeenemer and Brigown, the latter possibly a second, subsidiary entrance. It is worth noting that all three faced towards the lands of the sites' royal patrons, raising the possibility that this was a consideration that sometimes overrode convention. Killeenemer was an important node within a polyfocal royal landscape between two assembly (*óenach*) sites, Caherdrinny and possibly Killeagh (Ó Carragáin, 2015, 115). Assemblies were complex affairs often continuing over several days with gatherings of various groups in distinct locations, including the churches that were integral components of these landscapes (Gleeson, 2017). Given its close association with the Eóganacht Glennamnach, it is perhaps in the context of such gatherings that we should consider the possible avenue at Killeenemer. Its unusual form may have had symbolic significance for it meant that those arriving at the site had to turn right (sunwise, *deiseal*) to access the church. Though doubtless used for mundane purposes at other times, it served perhaps as a processional way at times of assembly and other major festivals. Monumental pathways and avenues are well-attested at both royal sites like Tara and ecclesiastical sites like Iona (eg, Newman, 2007; Campbell and Maldonado, 2020), while nearer-by at Labbamolaga, we see considerable investment in a monumental entrance, leading via a likely causeway to the centre of the site, again presumably involving a sunwise right turn near the churches. Though probably not prehistoric, it may have been intended to underscore Labbamolaga's credentials as a point of access to the numinous by evoking the distance past and creating a visual link between this new establishment and ancient monuments in the vicinity (cf nearby Kilgullane, 'Church of the Standing Stone'). At Kildrum too, a possible southern entrance to the central rectilinear area would have been accessed via a sharp sunwise turn if indeed the outer enclosure was entered from the east. It seems possible, then, that those laying out these sites chose to incorporate the symbolism of sunwise (or right-hand-wise) movement, which was considered propitious not least because the sun was equated with Christ. This is a recurring feature of Irish ecclesiastical sites and a guiding principle when it came to structuring movement within and around them. While the great sunwise circuit of Inishmurray, Co. Sligo, is perhaps the best-known example (O'Sullivan and Ó Carragáin, 2008), there are many others, including Killeany, Co. Laois, a church site or cemetery settlement, where overlapping ditches at the entrance channel people sunwise to the interior (Wiggins, 2014). Textual sources attest to it also including the tract on consecrating churches preserved in the *Leabhar Breac*; while on a smaller scale, church doors were invariably hung at the north ensuring that people used their right hand when entering the building (see Ó Carragáin, 2010, 40, 42, 96, 169).

Conclusion

The surveys reported here have revealed a great deal about these four sites, while the comparative approach adopted has wider implications for the study of early churches in Ireland and beyond. Though the interpretations presented are constrained by the limitations of geophysics, this is countered somewhat by the proximity of the sites, which means that regional variation is not an issue, and by other textual and archaeological evidence about their distinct roles, namely a substantial landed monastery (Brigown), an ecclesiastical out-farm on its lands (Kildrum), a lesser landed church (Labbamolaga), and a royal community church (Killeenemer). In general, the surveys complement and enhance these prior understandings, rather than contradicting them.

In terms of origins, little evidence was found for pre-ecclesiastical activity, which is particularly significant in the case of Labbamolaga given that it is often cited as one of the best Irish examples of a church founded at a place of pre-Christian ritual. In fact, this sequence seems to have been rare. Lacking either a top-ranking *civitas* like Clonmacnoise or very small-scale establishments, Fir Maige has a relatively narrow range of churches in terms of scale and investment, and yet, there is a good correlation between outer enclosure diameter and other indicators of character and status. This illustrates how the comparatively modest differences between churches in 'ordinary' landscapes such as this are susceptible to interdisciplinary analysis. All four surveys produced circumstantial evidence for agricultural activity and perhaps milling or at least water-management. Brigown and Labbamolaga produced by far the most evidence suggestive of craft activity, underscoring the role of substantial monasteries as centres of craft production. In contrast, it was tentatively suggested that Kildrum was primarily agricultural (an 'out-farm'), while large-scale craft activity may also have been outside the core remit of Killeenemer, a pastoral, community church. It was tentatively suggested that rectilinear areas in front of the church at Brigown, and possibly Killeenemer, were foci for ritual (possibly examples of a distinct layout not readily paralleled elsewhere in Ireland), while the positioning of entrances and avenues may express links to nearby royal sites, especially at Killeenemer which was an important node within a polyfocal assembly landscape.

Because most church sites share some essential tenets of layout and are characterised by some of the same activities (eg, the mass, burial, food processing), there is a tendency to lump them together and assume that we cannot distinguish between them archaeologically (eg, O'Sullivan, et al., 2013, 143). However, though challenging, such distinctions are essential to an understanding of the varied ways that churches contributed to the formation of early medieval communities and polities. As this paper has attempted to show, there is considerable potential, in Ireland and elsewhere, to study these subtle variations by adopting a comparative approach within a small, well-defined area, informed by historical as well as archaeological evidence.

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