

# EXCAVATION AT MOYNE GRAVEYARD, SHRULE, CO. MAYO

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ABSTRACT

Limited excavation within this large ecclesiastical enclosure revealed pits, ditches and a lintel grave of Early Christian date. Further burials of uncertain date were also found. Earthworks visible on the surface were shown to be stratigraphically late.

## Introduction

Moyne graveyard lies some six kilometres east of Lough Corrib in County Mayo, very close to the Galway border (O.S. 6″ sheet 123: 83cm from west, 27·8cm from south; National Grid ref. M 255 500). It is situated in a low-lying patch of good grazing land bordered on the east side by a bog and on the west by rocky terrain (Fig. 1). The graveyard, ruined church and a pair of standing stones are contained within a large stone-walled enclosure averaging 130m in diameter. The graveyard area is D-shaped and lies immediately to the south of the ruined church (Figs 1–3; Pl. I). The remainder of the enclosure is under grass and traces of internal divisions are visible as low earthworks on the surface (Pl. I; Fig. 2). These were first highlighted in the well-known aerial photograph of the site published by Norman and St Joseph (1969, pl. 58 and dust-jacket). The aerial photograph published here (Pl. I) is a later photograph taken by Dr St Joseph in 1970 and shows considerably more detail of the earthworks within the enclosure.

The condition of the graveyard, which is still in use, was a cause of concern to the local people for a number of years. The edge of the burial area was not clearly defined, the ownership of the remainder of the enclosure was in dispute and there was no access road. Mayo County Council was in the process of acquiring an access way and the whole of the enclosure when the question of the archæological importance of the site was raised. Negotiations between the interested parties resulted in a limited extension to the graveyard being agreed to. This comprised a three-metre-wide strip around the edge of the graveyard on the west, south and east sides, and this area was to be archæologically excavated prior to use. The subsequent excavation, which lasted for six weeks from late September to early November 1982, was directed by the writer on behalf of the National Parks and Monuments Branch, Office of Public Works, which also paid the four assistants employed. Labour was organised under an AnCo Community Development scheme and Mayo County Council backfilled the cuttings.

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## History

The place-name Moyne is derived from the Irish *Maighin* (' precinct ') and it is not to be confused with the more famous medieval friary of Moyne in the barony of Tirawley in the north of the county. A number of saints are associated with places called *Maighin* (O'Donovan *et al.* 1864, 31, 63, 137 and 208) but none can be associated with certainty with Moyne in the parish of Shrule and there is no local tradition concerning a saint. The large number of place-names with this element in the country makes the identification of a particular one very difficult (Hogan 1910, 519, 533).

In pre-Norman times the site would have been in the territory of *Conmaicne Cuile Tolad*, also called *Conmaicne Cuile*, which was roughly equivalent to the modern barony of Kilmain (Hogan 1910, 289). According to Tírechán, writing in about the eighth century, St Patrick established churches in *Conmaicne Cuile Tolad* (Bieler 1979, 151). Moyne may well have been one of these churches claimed by Tírechán as Patrician foundations.

*Conmaicne Cuile Tolad* came under Anglo-Norman control around the middle of the thirteenth century and was originally granted to Maurice Fitzgerald (Mac Niocaill 1964, 16). In another deed this area is referred to as the cantred of ' Keneloch ' (Mac Niocaill 1964, 27), which must be Kinlough, 0·8km north-east of Moyne (Fig. 1). The fact that the cantred is called after this place implies that it was the chief manor of the area. Kinlough Castle is a small thirteenth-century rectangular keep to which new parapets and chimneys were added in the sixteenth century. Close by is a small thirteenth-century church in Gothic style. In the ecclesiastical taxation of 1302-6, Kinlough church (Kenlacha) had a total value of thirteen shillings and four pence while Moyne, written ' Maghenculi ', had a total value of one pound (Sweetman 1886, 229). ' Maghenculi ' here is undoubtedly derived from *Maighin Cuile*, so called from the territory of *Conmaicne Cuile* in order to distinguish it from other places of the same name.

In later medieval and post-medieval times the Burkes controlled this area and owned Moyne Castle, a squat fifteenth-century tower-house 0·8km south-south-east of the church (Fig. 1). In 1566 there was a dispute between the MacWilliam and the earl of Clanricarde over the ownership of Moyne (Knox 1908, 172). The earl appears to have won and was regranted Moyne in 1585 according to the *Compossicion Booke of Conought* (Freeman 1936, 95, 109). The Clanricarde family retained possession until the Cromwellian confiscations, but were regranted their lands at the Restoration and held Moyne until it was sold in 1711 (Blake 1909-10, 102). There is another castle (not marked on the O.S. map) in Moyne townland on the roadside 1km south-west of the church. A large rectangular bawn survives with some remains of buildings in the angles and along the south side, and it is situated beside the former cluster settlement or *clachan* of Rostaff.

Little or nothing is recorded about Moyne church apart from the reference in the ecclesiastical taxation (see above), which indicates that it was in use and was the centre of a parish in the fourteenth century. By 1501 it would appear to have been united with the parish of Shrule, for in that year the vicarages of ' Kenlaghyn ' (Kinlough) and ' Sruther ' (Shrule) were granted to the wardenship of Galway (Kelly 1909-10, 112) and there is no mention of Moyne. The wardenship was a

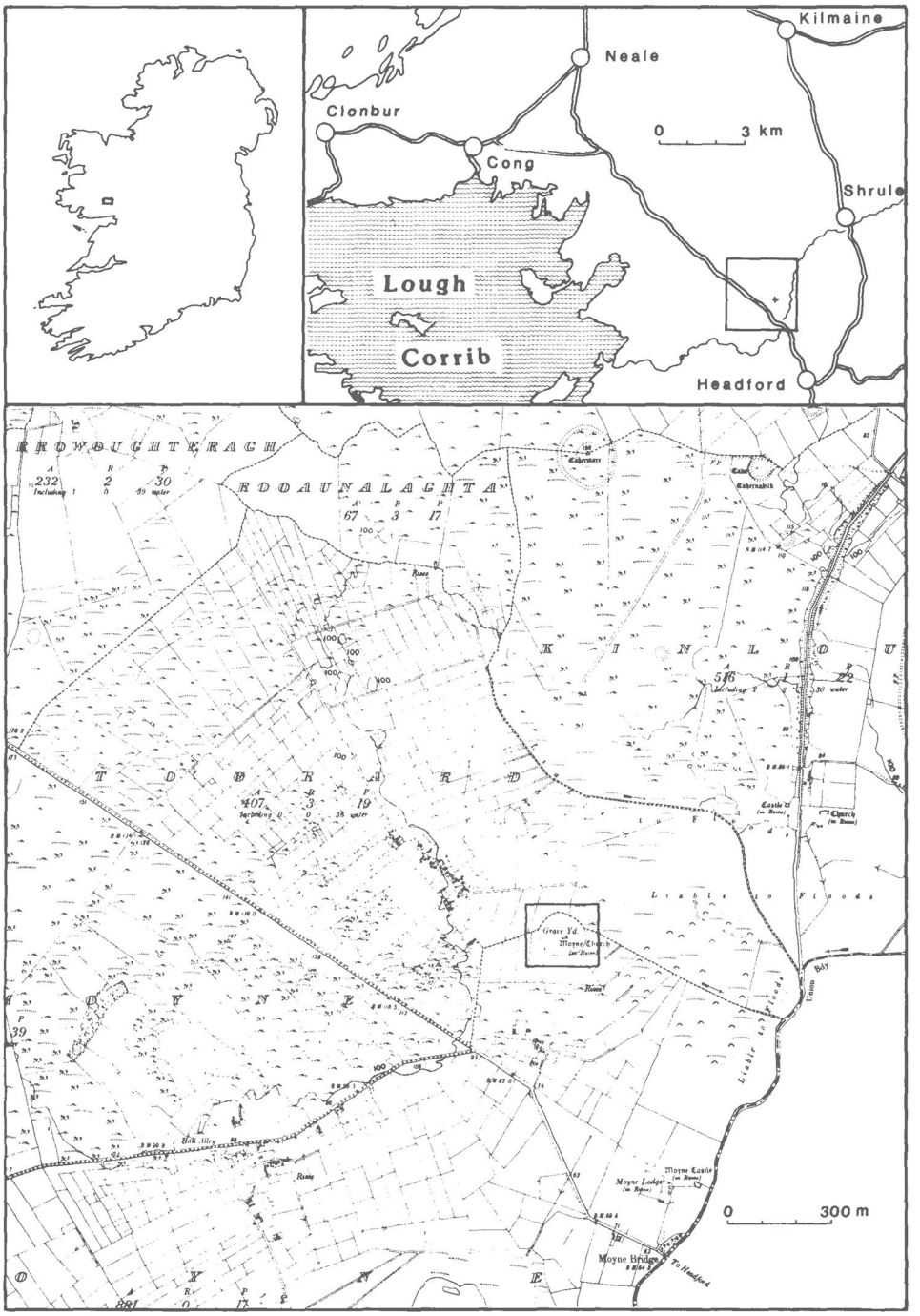



FIG. 1—Location map.

PL. I—Aerial view of the site from the east (Cambridge University Collection: copyright reserved).

semi-diocesan body set up originally by papal bull in 1484 and it was roughly conterminous with the present Roman Catholic diocese of Galway (established in 1831), which still includes the parish of Shrule in which Moyne is situated (Kelly 1909-10). Bodkin's visitation of *c.* 1565–7 gives the prebend of ' Maynkylle ' as having been violently usurped by a certain William, son of John, Burke (Nicholls 1970, 151) who had also usurped the rectories of Shrule and Kinlough (ibid., 154). There is no mention of Moyne in the visitations of 1615 (National Library of Ireland MS 10793, 13–15) and 1622 (Trinity College Dublin MS 2158, 85), suggesting that the church had gone out of use by the early seventeenth century.

A photograph from around the turn of the century (Blake 1909–10, 102) shows the church much as it is at present except that the eastern limit of the graveyard had the remains of a stone fence with some mature trees growing on it.

## Description of the site

*The enclosure* (Fig. 2)

This measures 135m east–west by 125m north–south and is delimited by a large stone wall varying from 2m to 3m in thickness. Generally the inner face of the wall, while much of it is not original work, is on the line of the original wall and has been maintained to a height of 1·60–2·10m. In places, especially around the west and north sides, much original work survives, characterised by the use of large blocks of limestone (Pl. IIa). Of the outer face usually only the bottom course of large blocks survives on the north and west sides (Pl. IIb). In places there is a more modern face built inside this, making the modern wall only half the width of the original. In places on the eastern side the outer face is not in evidence at all, but the estimated line of it is shown as a broken line on the plan (Fig. 2). The modern entrance on the west side is not original as the lower course of the outer face continues right across it. The position of the original entrance is uncertain but it may have been on the south side where there was until recently a modern entrance for farm animals. This now has a slightly recessed drystone blocking. Elsewhere on the east and south-east sides the wall is little more than a modern stone field fence on the line of the original wall. On the south-west side the wall has been greatly thickened on the inner side for a length of 47m. This addition, which is 1·50–2·00m thick and up to 1·80m high, was built of stones cleared from the graveyard in about 1952 (information from John Joe Keville, Moyne).

*Earthworks* (Fig. 2; Pl. I)

A system of earthworks is visible on the ground within the enclosure and shows up well from the air (Pl. I). Those on the north side of the enclosure stand out most clearly where two subdivisions, demarcated by low banks on three sides and by the enclosing wall on the fourth, are visible. Between the graveyard and the enclosure wall two radially placed banks can be seen, while across the east side of the enclosure there is a slightly sunken linear feature. The only possibly ancient feature outside the enclosure is a curving stretch of a bank and ditch on the north-east side (Fig. 2).

a.

b.

PL. II—a. Part of the interior face of the enclosure wall on the north-west side.
b. External view of part of the enclosure wall on the north-west side. Only the lower courses of the outer face survive here.

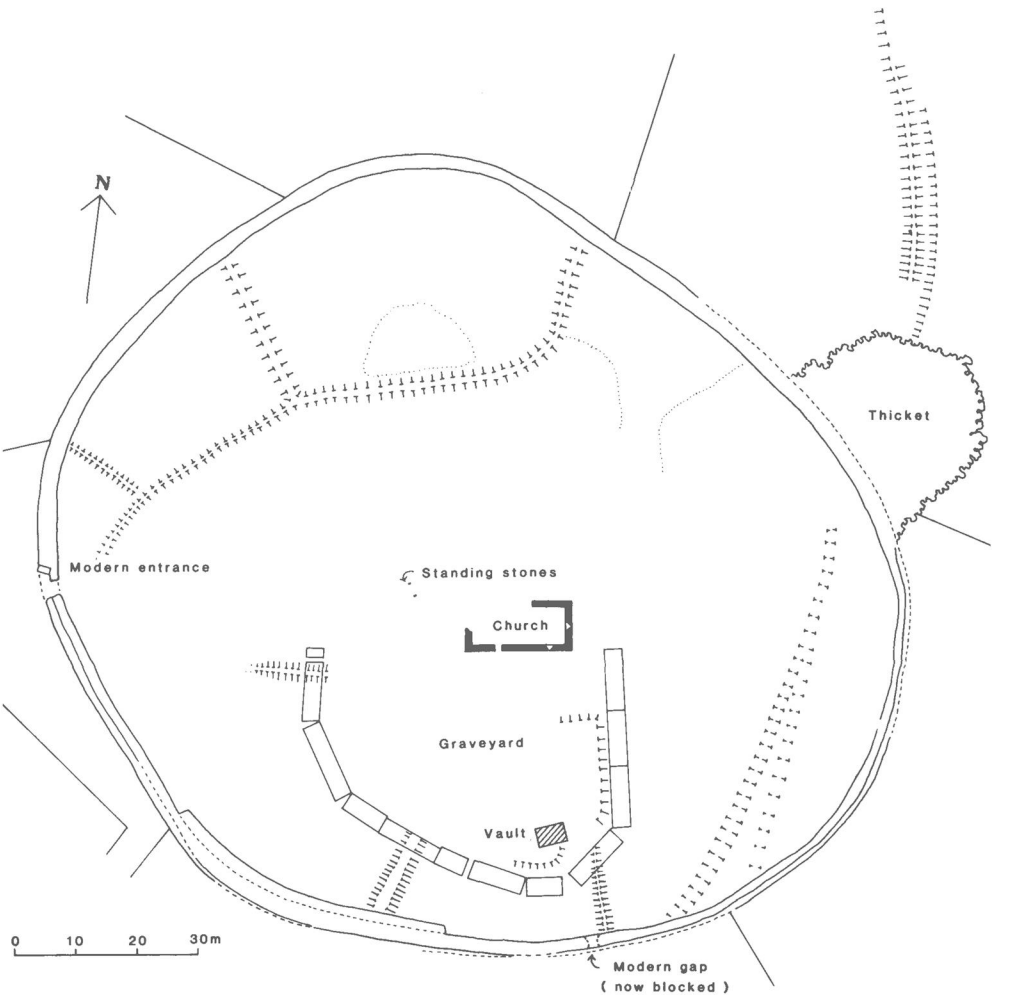



FIG. 2—Plan of enclosure showing the church, earthworks and the excavated cuttings.

*The church* (Pl. IIIa)

The church was a long, rectangular, single-cell structure measuring 7·97m by 17·50m externally and entirely built of local limestone. A plinth projecting 0·20m externally is visible at the east end where the ground level is low. The south wall survives in good condition to its full height (4·50m above the plinth). Most of the east wall survives except that the window head has collapsed bringing with it the centre of the gable. Only the south side of the west wall and the east end of the north wall survive. The only surviving doorway, near the west end of the south wall, is bluntly pointed and chamfered externally, while on the inside there is a flat segmental arch beneath a pointed relieving arch. There is a draw-bar hole just inside the east jamb and the jamb itself is plainly chamfered. The east window was a tall narrow

a.

b.

Pl. III—a. The church from the south.
b. The standing stones looking east.

opening widely splayed on the inside. The only window in the south wall, which is near the east end, is again a narrow single-light opening widely splayed on the inside. It is round-headed but the exterior single-piece head is split. There are the remains of broken-off corbel stones high up on the south-east and south-west corners which, like those at Reefert church at Glendalough and elsewhere in early churches, may have held the verge timbers of the gable. There is no sign of a corbel at the north-east corner but the top of this corner may have been rebuilt.

The church is difficult to date but is clearly built in the native tradition when compared with the nearby church of Kinlough, which is in thirteenth-century Gothic style. The indigenous features are the single-cell plan, the paucity of windows (one in the east wall, one in the south wall), the plinth and the corbels at the corners. It may be a plain example of twelfth-century work with the present doorway added at a later date.

*Standing stones* (Pl. IIIb)

A pair of standing stones are situated to the west of the north-west corner of the church (Fig. 2). Their purpose is uncertain but they may have served as an entrance to the immediate graveyard area at some period, as the local practice of carrying coffins between them before burial would suggest. Both stones are irregularly-shaped natural pieces of limestone. The northern one is 1·69m high and varies in thickness between 0·20m and 0·40m. The southern one is 1·78m high and varies between 0·14m and 0·45m in thickness. The distance between them is 1·95m. During works carried out at the graveyard around 1952 one of these stones, which had fallen, was re-erected and the second one, which was found to be leaning, was straightened up (information from John Joe Keville, Moyne).

## The excavation

The area excavated consisted of a strip 3m wide around three sides of the graveyard (Figs 2 and 3). The edge of the modern graveyard is most clearly defined along the east side where there is an abrupt drop in level; elsewhere the edge could only be estimated. The features excavated will be described under three main headings: early features, those of indeterminate date, and late features.

### EARLY FEATURES

*Cutting 1* (Fig. 4)

A number of features were found here stratified beneath F1, one of the radial banks showing on the surface. Two of these (F3 and F5) produced animal bones and a few iron finds which are consistent with an Early Christian period date.

F3 was a large steep-sided pit which extended beyond the limit of excavation to the east. It was 2·40m wide at the top and 1·20m deep below the surface of the undisturbed boulder clay (Fig. 4). It appeared to be a ditch terminal and could be part of the same ditch as that found in cutting 6. It had two main layers of fill: a light brown clay at the bottom and a dark brown charcoal-flecked stony layer above, with a thin layer of darker material separating the two. Animal bones were recovered

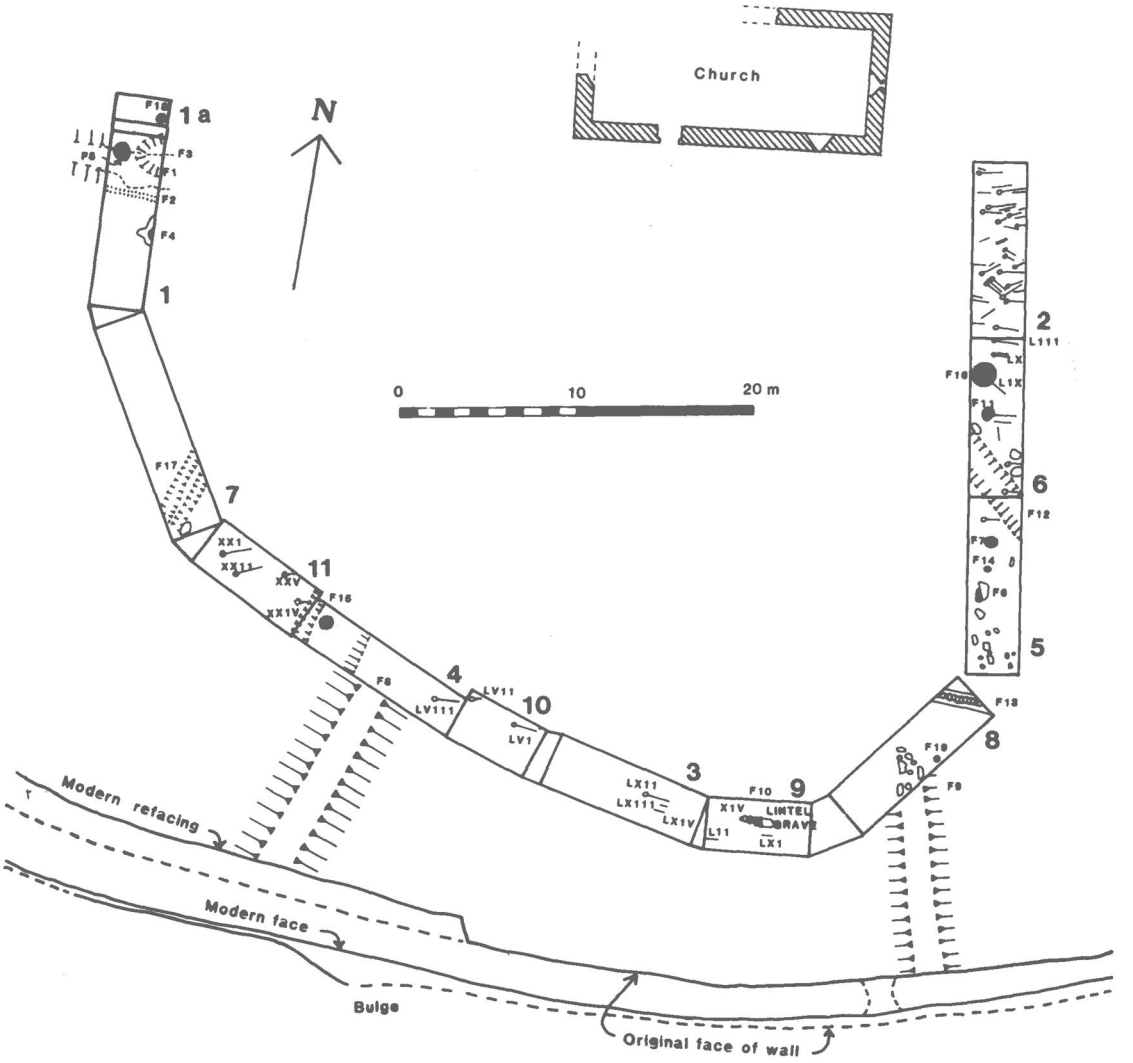



FIG. 3—The excavated area showing burials and other features.

from both of the main layers (see Appendix I) and three finds, a bent iron nail (9), a small iron knife (Fig. 9: 18) and a piece of worked bone (Fig. 10: 44), were recovered from the upper layer.

A pit (F5) was situated just to the west of F3 and measured 1m by 1·20m and 0·25m deep at the centre. It was filled with soft brown soil with charcoal flecks and some animal bones. Stones concentrated around the centre were lying flat and did not appear to have served as packing-stones for a post. On its southern perimeter there was a post-hole (F5a) 0·25m in diameter and 0·22m deep.

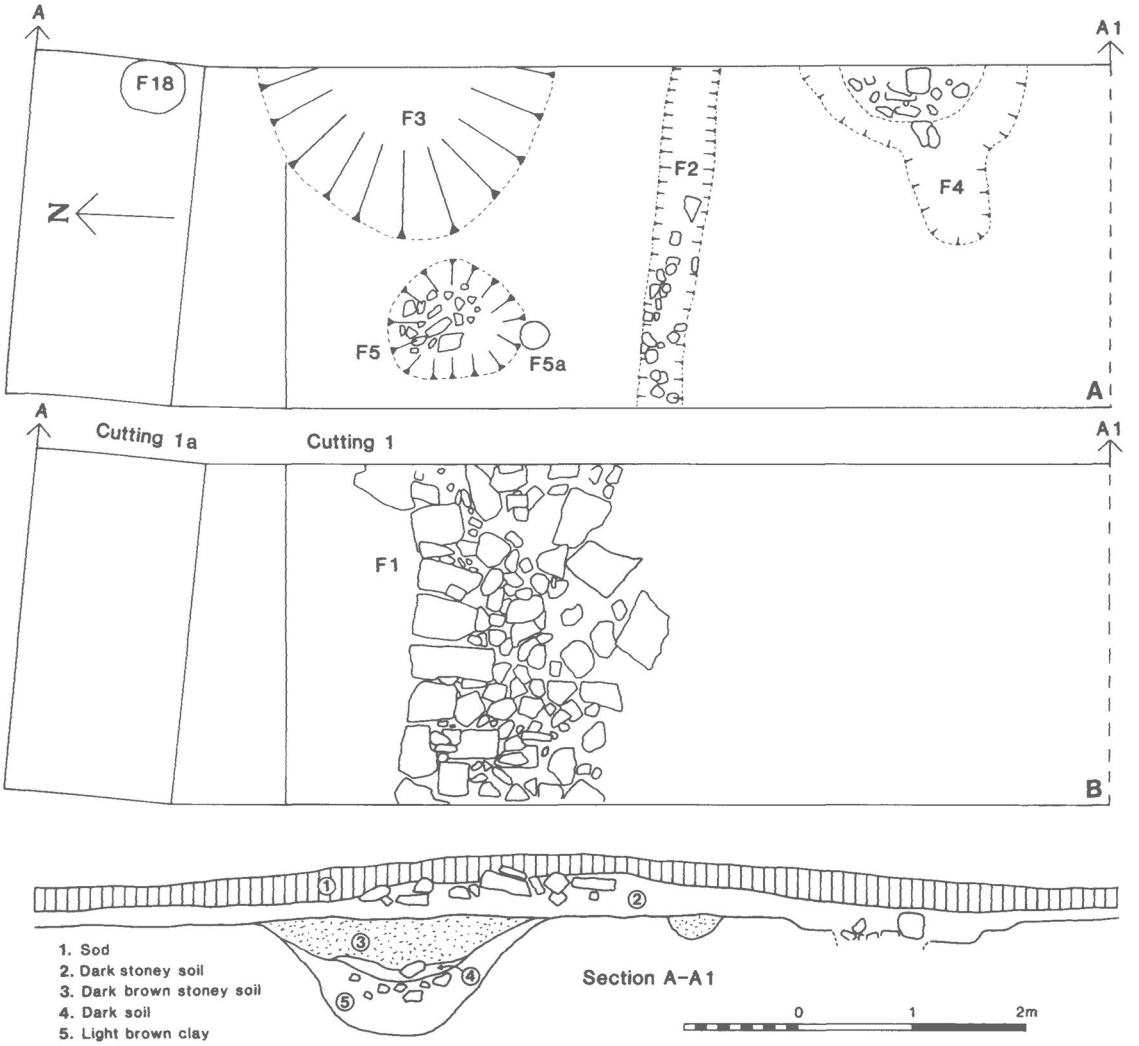
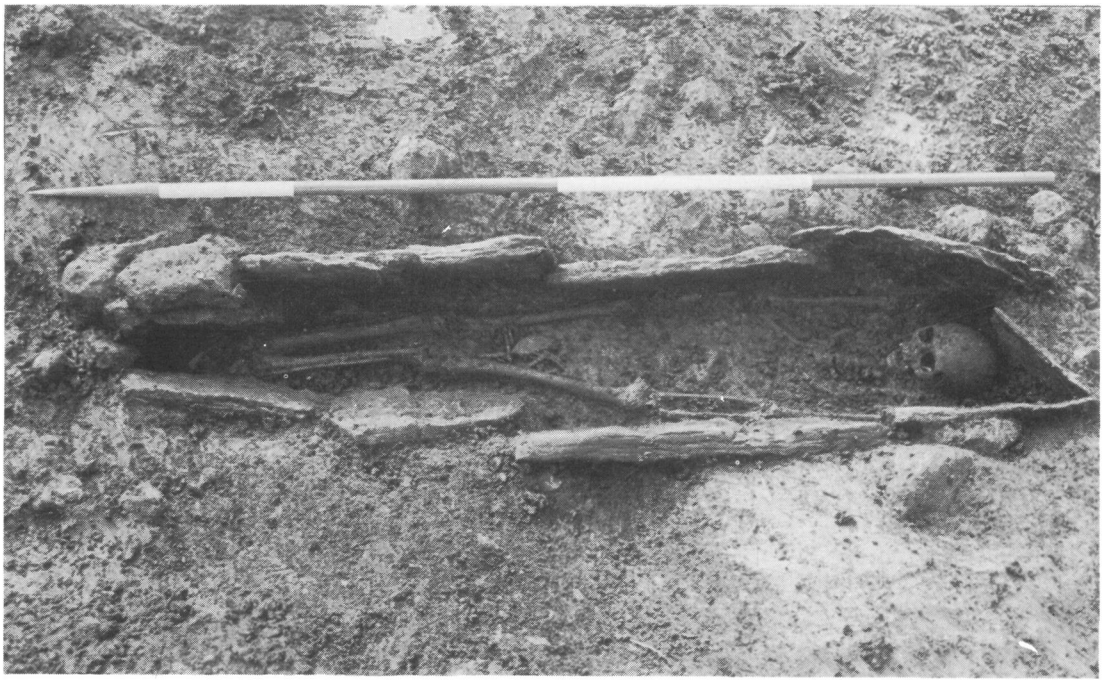


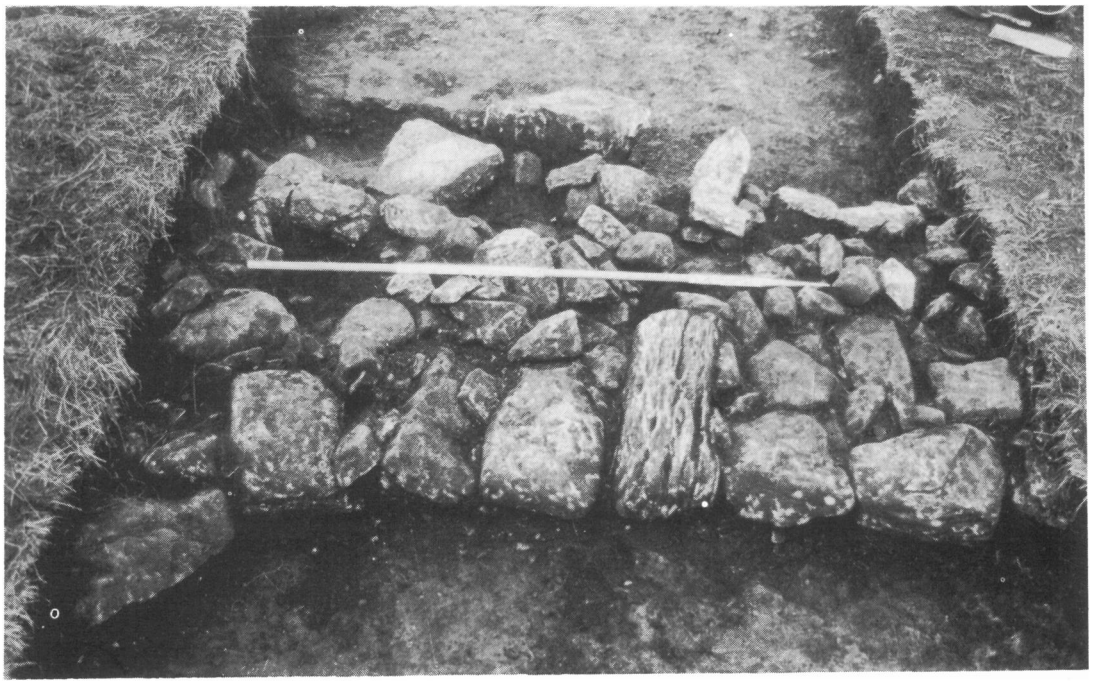

FIG. 4—Details of cutting 1: (A) the early features; (B) the later remains of a stone wall.

To the south of F3 and F5 was a trench (F2) running east–west across the cutting. This measured 0·40m in width and was cut to a depth of 0·20m into the natural clay. The fill was dark and contained stones, charcoal flecks and some animal bone.

Further south was another pit (F4), which at its deepest point was tightly packed with stones. The nature of this feature was not clear because the bulk of it lay outside the cutting and it was too far from F1 to determine the relative stratification. Also difficult to associate with the other features was pit F18, 0·45m in diameter and 0·40m deep, which lay to the north of F3 (Fig. 4).



a.



b.

PL. IV—a. The lintel grave (burial XIV) after removal of lintels and exposure of skeleton.
b. Base of wall F1 in cutting 2 from the north.

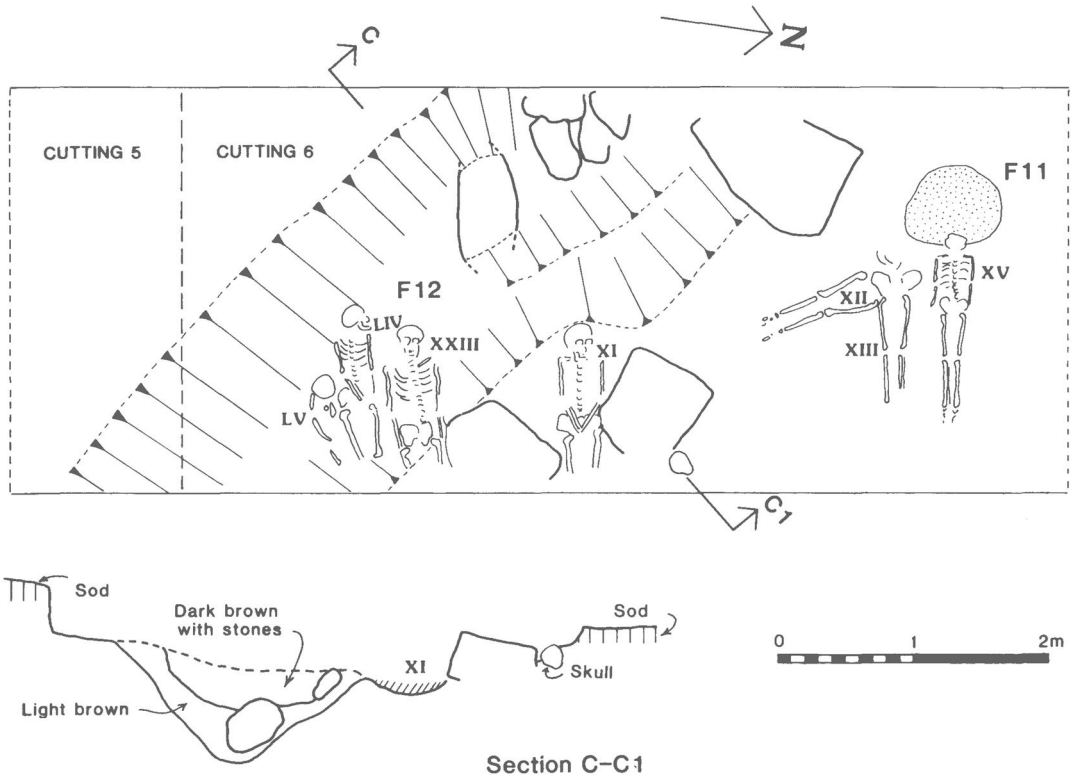



FIG. 5—Plan and section of F12 with later burials.

*Cuttings 5 and 6* (Fig. 5)

A ditch here (F12), which runs diagonally across the line of these cuttings, produced a large amount of animal bone, some iron slag (including bits of furnace bottoms) and finds of the Early Christian period. The ditch varied from 1·90m to 2·30m in width at the top and extended beyond the edge of the cutting at each side. It was V-shaped in section and was cut to a depth of 0·90m into the natural clay or 1·15m below the present surface. The fill was in two layers: light brown clay below, overlain by darker soil above. Small finds, animal bones (see Appendix I) and bird bones (see Appendix II) came from the upper layer only. There were also some large stones in both layers. Burials XI, XXIII, LIV and LV were all clearly later than the ditch and some of the finds were from soil disturbed by these burials.

*The lintel grave* (Fig. 6; Pl. IVa)

This burial, from its form alone, can be accepted as belonging to the Early Christian period (see discussion, p. 58). It was not related to any other excavated burial or feature and was found in cutting 9 to the south of the present burial area. It was 1·84m–1·90m long and about 0·45m in maximum width. The lintels were level with the top of the undisturbed clay about 0·45m–0·50m below the present ground surface. The grave was considerably narrower at the east end than at the

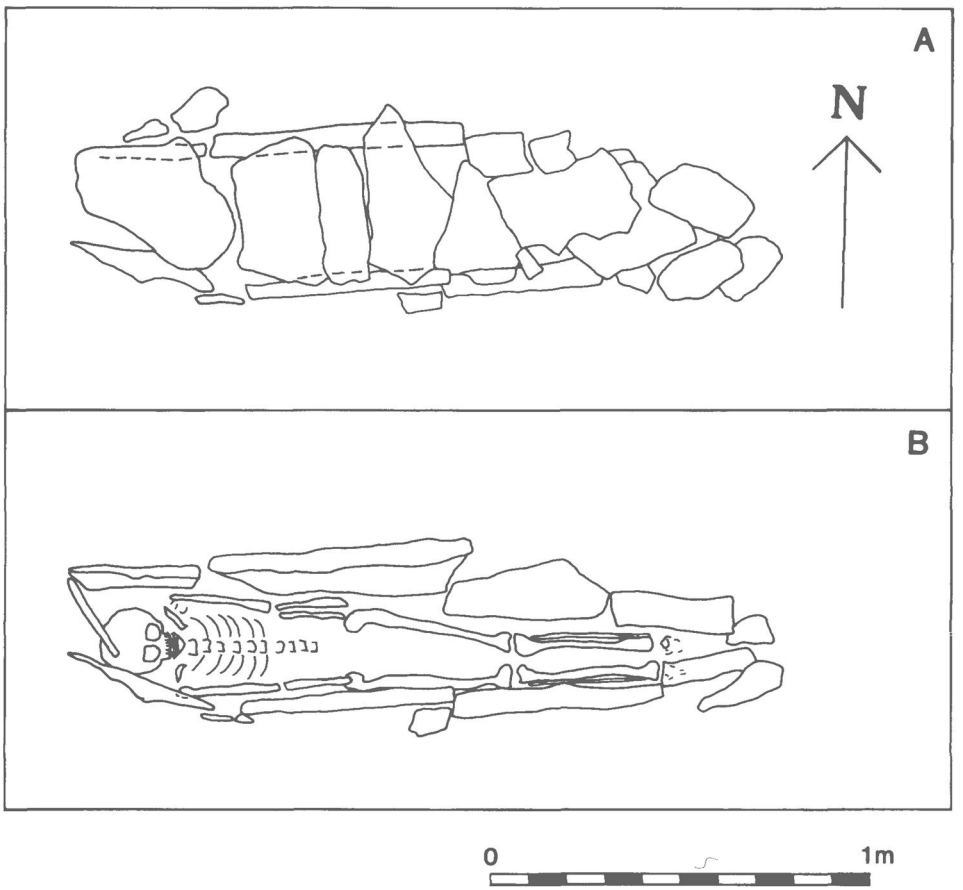



FIG. 6—The lintel grave: (A) with lintels in position; (B) with lintels removed and skeleton exposed.

position of the shoulders. The alignment was almost exactly east–west and the head was at the west end. Each side was formed of four long flags set on edge up to 0·30m high, with another set on edge at the head. All the side-stones were sloping to the south and there were eight main lintels, some partly overlapping others. All were of limestone and varied from 0·03m to 0·06m in thickness.

The burial was found undisturbed and fully extended (Fig. 6B), the hands lying on either side of the hips. The bones have been identified as those of a subadult of about fifteen years (see Appendix III). A sample of the bones has given a radiocarbon date of 1090 ± 85 R.B.P. (see Appendix IV).

### FEATURES OF INDETERMINATE DATE

Some of the features may date from anywhere between Early Christian and post-medieval times. In cutting 5 to the south of the ditch (F12) the undisturbed boulder clay came close to the present ground surface and a number of boulders were found protruding through it. Three features of uncertain date were excavated here (Fig. 3).

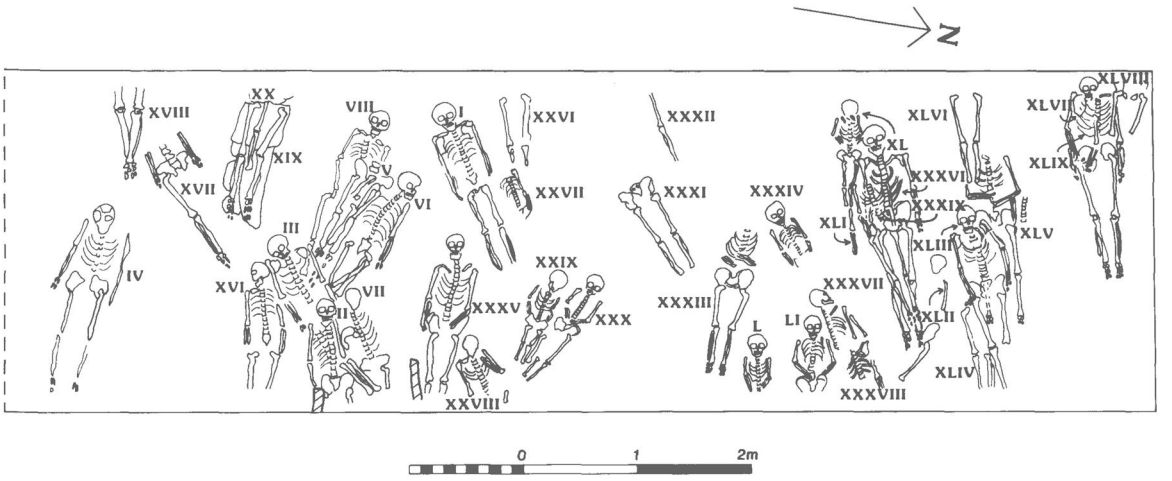



FIG. 7—Plan of burials in cutting 2.

F6 was a hearth situated against a natural boulder; it measured 0·80m by 0·60m and consisted of a 0·05m thick layer of charcoal and ash overlying reddened boulder clay. F7 was a pit measuring 0·60m by 0·70m and 0·18m deep, containing soft black soil and ash. The sides and base of the pit were reddened, as was a thin skin of redeposited boulder clay which overlay the fill. F14 was a post-hole 0·30m in diameter and 0·15m deep, with packing-stones on the east side.

In cutting 6 to the north of the ditch (F12) only two features were found apart from burials (Fig. 5). F11 was a simple hearth site measuring 0·70m by 0·60m (Fig. 5) and consisting of a thin layer of charcoal overlying reddened boulder clay. This feature post-dated burial XV (see Appendix III), the skull of which was partly removed and partly burnt as a result of the fire being placed here. Burial XIII was also earlier than the hearth and the upper part was badly damaged by this activity. Burial XIII itself was later than burial XII which was aligned almost north–south. F16, in cutting 6, was a wide shallow pit, 1·40m in diameter and 0·10m deep, which contained soft black soil. The edge of this feature overlay the skull of burial LIX.

Further to the north in cutting 2 a considerable number of burials were uncovered (Fig. 7). Many of these were fragmentary because of disturbance by later burials, and others extended in part beyond the east or west sides of the cutting. The depth of the burials varied from 0·35m to 0·80m below the present ground surface. No dating evidence was found for these burials, and though their alignments varied considerably this did not appear to have any chronological significance. All were simple pit burials apart from XIX, which was lying on a setting of flagstones (Fig. 7) on the boulder clay. Only the legs of this burial were excavated as the remainder lay beyond the edge of the cutting. Part of a disturbed later burial (XX) lay above it. Adults and children were represented among these burials and one group (II, III, V, VI and VIII) was buried at one time in a mass grave. This collective burial partly disturbed burials VII and XVI which were earlier. The upper part of burial XLV was

disturbed by burial XLVI. The leg bones of burial XLV lay parallel in the ground and exhibited evidence of what appeared to be pathological abnormalities (see Appendix II).

Apart from the burials on the east side of the graveyard there were others of indeterminate date between cuttings 9 and 7 along the south side (see Fig. 3). There were two unprotected burials in cutting 9: LXI, which was parallel with the lintel grave, and LII to the south-west. Both were very badly preserved, probably because the natural soil at this point was a gley. Their date is uncertain. Burials found in cuttings 4, 10 and 11 are likely to be quite modern. Burial XXIV was later than F15 and burial XXV had coffin nails associated with it.

Some features on the south-west side of the graveyard are probably early but stratigraphic evidence and finds were lacking. F17 (Fig. 3, cutting 7) consisted of two shallow parallel trenches about 0·60m wide and dug to a depth of 0·12–0·18m into the boulder clay. They joined together at the south end and may have acted as drainage trenches or gullies.

F15 was a ditch, 1·30m wide, 0·60m deep below the level of the boulder clay and 0·95m below the present ground surface, situated on the junction between cuttings 4 and 11. It contained light brown clay with some stones and animal bone but no small finds. Similarly aligned but of later date was F15a (Figs 3 and 8), a wide, shallow, flat-bottomed feature. This was 4m wide and like F15 extended beyond the cutting to the north and south. It was dug to a depth of 0·2–0·4m into the boulder clay and its fill was a rich dark soil containing no finds. At each side some large stones lay on the sloping edges. F15B was the base of a round pit that had been cut by F15A. It contained a brown clay fill but no finds.

Immediately east of the shallow ditch (F15A) and parallel with it was one of the radial banks visible on the surface (Pl. I; Figs 3 and 8). No trace of a wall or clearly-defined redeposited material was found in this bank and its relationship to the shallow ditch feature (F15A) is uncertain. It may have contained the stones of a collapsed wall like F1 (Fig. 4) and F9 (Fig. 3, cutting 8) which may have been robbed or removed at this point. Alternatively the bank here could have been formed with material dug from F15A.

In cutting 8 a small spread of occupation deposit was found beneath the remains of the late radial wall (Fig. 3, F9). A broken tanged iron knife (Fig. 9: 20) was found on the surface of this layer and close by was a pit (F19) with a fill of dark soil. It measured 0·42m in diameter and was 0·18m deep.

### LATE FEATURES

Three of the radial divisions visible on the surface of the enclosure were cut through by the excavation. Two of these, F1 in cutting 1 and F9 in cutting 8 (Fig. 3), were found to consist of the remains of stone walls, only the bottom courses of which survived just beneath the sod. In each case they overlay and bore no relationship to the probable Early Christian period features. The nature of the other radial bank (F8) is uncertain and it could have been associated with a ditch.

F1 (Fig. 4; Pl. IVb) comprised a closely-set spread of stones running east–west across cutting 1. It had a reasonably well constructed face on the north side formed of large flat stones laid side by side but had no corresponding face on the south side.

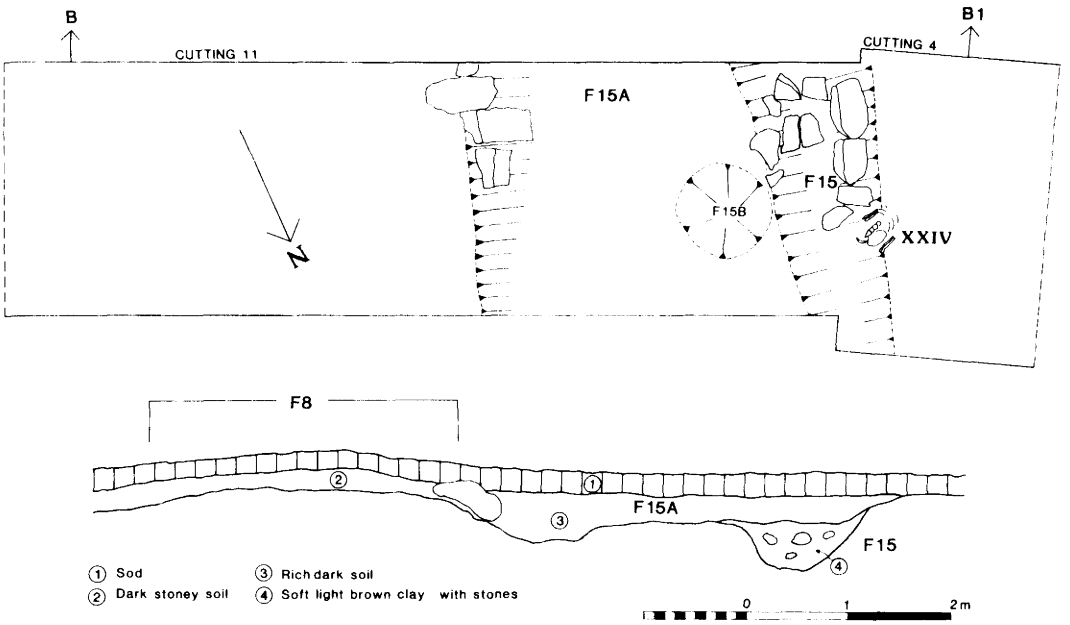



FIG. 8—Plan and section of F15 and F15A.

The spread of stones was 1·8–2·2m wide. F9 in cutting 8 was similar to F1 and again had the remains of only one good face, in this case on the west side (Fig. 3). The remains of the wall here were up to 1·40m wide but no trace at all survived on the north side of the cutting.

Relatively modern features include some of the burials, especially burial XXV and probably others in that area (Fig. 3, cuttings 11, 4 and 10). F13, a stone-built drain at the north-east end of cutting 8, was dug about seventy years ago (information from John Joe Keville) to drain off water from the Ward-Phew burial vault (Figs 2 and 3). This continues into the field beyond the enclosure wall (Fig. 2), which was broken at this point so that the drain could be dug and was subsequently rebuilt.

## The finds

The finds are described here under the materials of which they were made. The original catalogue numbers are used without the National Museum prefix for the site, E 250.

*Bronze*

A dished, almost circular, piece of sheet bronze (Fig. 9: 13) was found in cutting 6 in a disturbed layer above ditch F12. It measures 66mm by 79mm and there is a slight lobe or projection 30mm wide and 9mm long on one side.

*Iron*

*Pruning hook* (Fig. 9: 10). 100mm long and 25mm wide across the socket. Found in two pieces in the fill of pit F5, cutting 1. There is a rivet hole in the socket opposite

the open side. Similar to examples from Clontuskert Priory (Fanning 1976, 138) and Church Island, Valencia, Co. Kerry (O'Kelly 1958, 111), though lacking the angle in the blade found on those two examples.

*Shears* (Fig. 9: 22). Only one side and the loop survive. It is 170mm long and the missing side was broken off in antiquity. The blade is 70mm long and 17mm in maximum width. Found in upper fill of ditch F12, cutting 6.

*Disc-headed pin* (Fig. 9: 23). 130mm long; the head is 23mm in diameter and 2mm thick. Found in upper fill of ditch F12, cutting 6. Disc-headed pins more usually occur in bronze and some examples have or had rings beneath the head (Wilde 1863, 559-60).

*Knives* (Fig. 9). No. 11 is a large tanged knife, 136mm long, found just below the sod above ditch F12 in cutting 6. No. 12 is a tiny tanged knife, present length 67mm, from the same context as no. 11; the tang is broken. No. 18 is a small, well-preserved, tanged knife, 85mm long, from the upper fill of ditch F3 in cutting 1. No. 20 is a broken tanged knife, present length 55mm, with most of the blade missing. Found below the stones of the late wall F9 in cutting 8. The knives are typical of those found elsewhere in Early Christian period contexts such as Lagore (Hencken 1950, 110-12), Cahercommaun (Hencken 1938, 44–6) and many other sites.

*Lock-spring* (Fig. 9: 26). A broken rod of iron, present length 125mm, with a marked taper. At the wider end, which is broken, a complete spring on one side ends in a slight outward turn to act as a stop of the key. The end of the spring is broken on the other side. Found in the upper fill of ditch F12, cutting 6. Parts of barrel padlocks and keys have been found on Early Christian period sites such as Lagore (Hencken 1950, 118–19) and Cahercommaun (Hencken 1938, 46), and in tenth- to twelfth-century levels in the Dublin excavations.[1]

*Awls and punches* (Fig. 9). No. 25 is a short punch-like object, 50mm long and tapering from 10mm in diameter at the wide end to 7mm at the narrow end. From upper fill of ditch F12. No. 30 is a small awl-like object, 54mm long and rounded in section. It tapers almost to a point at one end but whether this is the business end or the tang for a handle is difficult to say. From upper fill of ditch F12.

*Nail* (Fig. 9: 9). Originally 50mm long but now bent into an L-shape. It has a gradually expanded head. From cutting 1 in the upper fill of F3.

No. 39 (Fig. 9) is a small iron object with a bent-back projection at one end. Present length 46mm. It may have had a similar feature at the other end. Upper fill of F12. Possibly a harness or belt fitting.

A few pieces of iron rod (not illustrated) were found, the largest being no. 27 which is 225mm long and 5mm in diameter. Two other pieces (nos 36 and 42) were 32mm and 43mm long respectively, while a square-sectioned piece (no. 35) was 6mm thick and 90mm long. All were from the upper fill of ditch F12.

*Bone and antler* (Fig. 10)

*Points and pins.* No. 47, a tapered sliver of bone 112mm long, is either a roughly made point or an unfinished pin. Found among animal bone from upper fill of ditch F12. No. 34, a better finished pin than no. 47 with a certain amount of polish on the shaft, is 108mm long and has a gradually expanded head exhibiting some

[1] Information from Patrick Wallace, National Museum of Ireland.

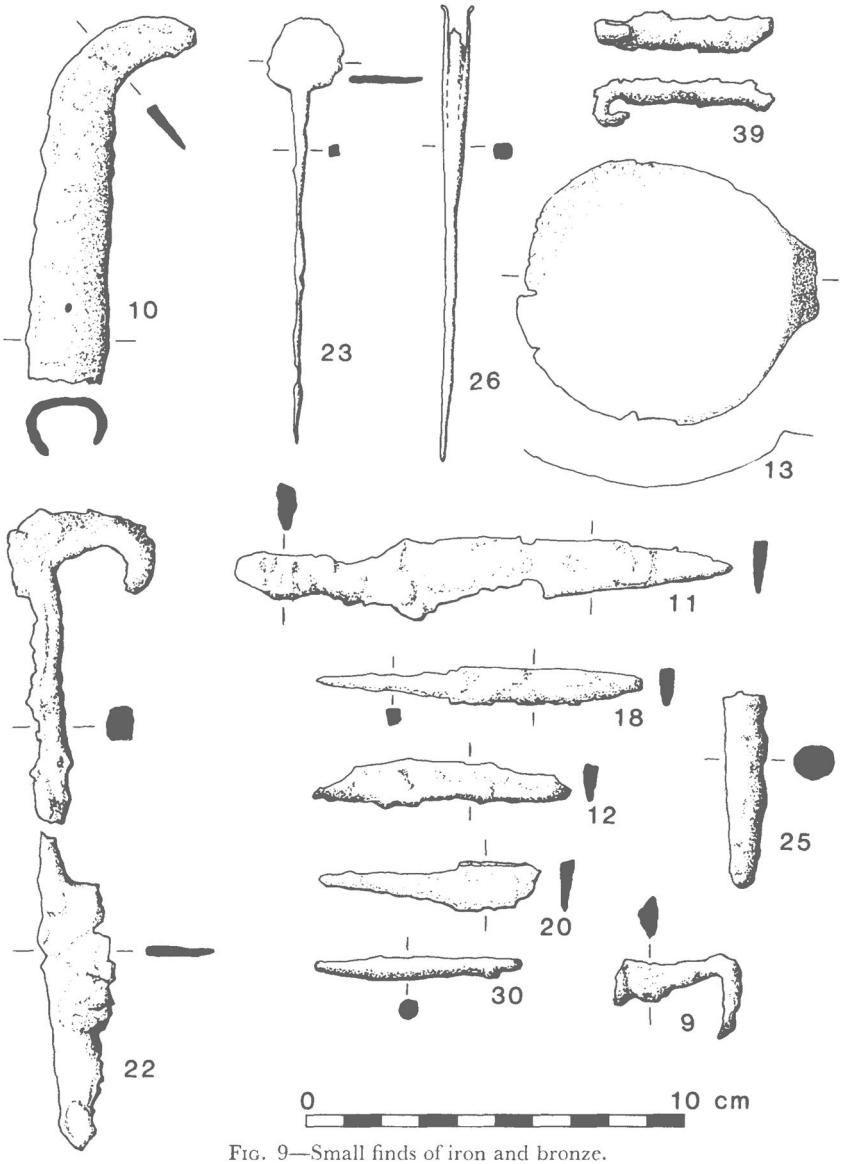



FIG. 9—Small finds of iron and bronze.

natural features of the bone. From upper fill of ditch F12. No. 33, a pin with a broken trapezoidal head, is 102mm long and the lower end of the shaft has a slight swelling above the point. From upper fill of ditch F12. No. 40 is a point and head, probably from the same pin. The expanded head in this case is perforated. The present combined length of the two bits is 73mm. From upper fill of ditch F12. No. 48 is an antler tine sharpened to a point. The wider end is broken. Present length 125mm. Found among animal bone in upper fill of ditch F12.

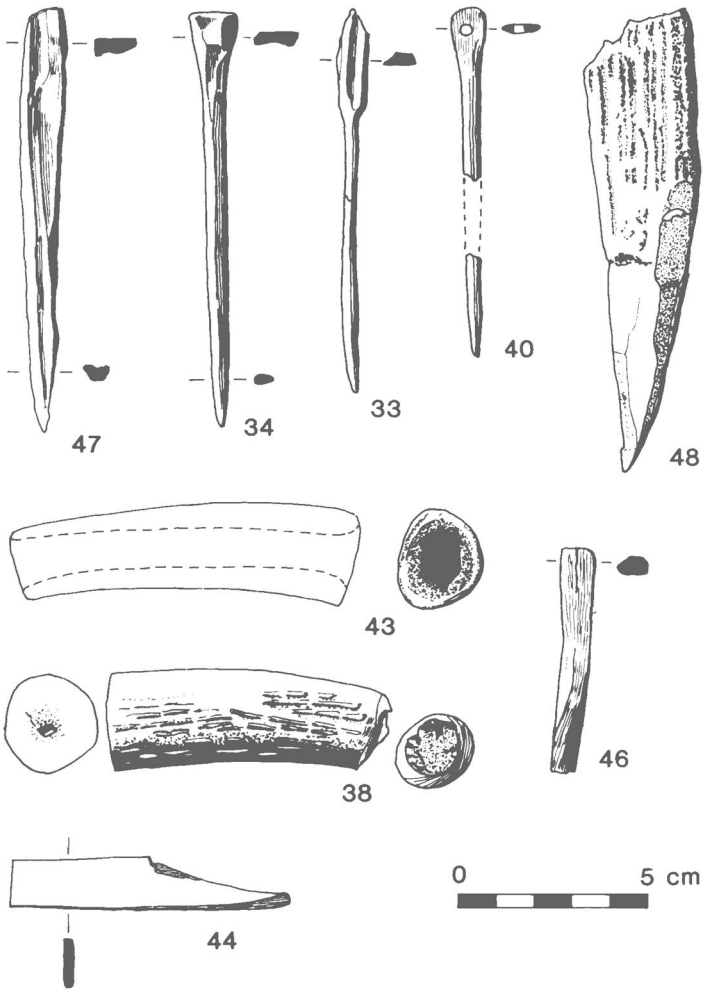



FIG. 10—Small finds of bone and antler.

*Handles.* No. 43 is a tubular piece of antler, the soft centre of which has been hollowed out right through. It may have been the hand grip of a bucket handle of iron or rope and it has a surface polish consistent with such use. It is 94mm long and 25mm in maximum width. From upper fill of ditch F12. No. 38 is a short length of antler sawn across at the wider end but more roughly cut at the narrow end. It is 70mm long and may have been a knife handle in the making. From the upper fill of ditch F12.

*Miscellaneous.* No. 46 is a small, roughly cut piece of antler or bone, 60mm long and 8mm in maximum width. It appears to be unfinished. Found among animal bone in upper fill of ditch F12. No. 44 is a broken but finely sawn piece of antler 73mm long, 13mm in maximum width and 3mm thick. It was probably being fashioned as the side plate for a comb when it broke and was discarded. From upper fill of ditch F3, cutting 1.

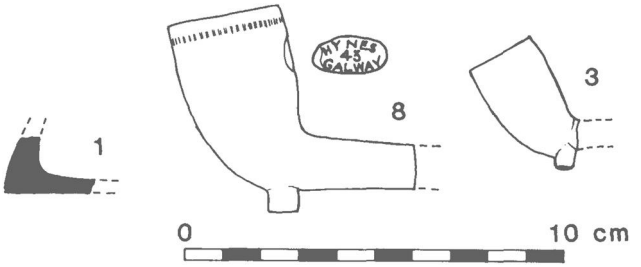



FIG. 11—Clay pipes and pottery.

*Clay pipes* (Fig. 11)

No. 3 is a small, thin-walled, spurred bowl, only 35mm high including the spur and 17·5mm in maximum diameter. From the humus layer in cutting 3. Two portions of similar bowls as well as eight narrow stem fragments were found just below the sod in other parts of the site.

These small-bowled pipes may have been made somewhere in Connacht as similar examples were found at Abbeyknockmoy, Co. Galway.[2] They are likely to date from the first half of the nineteenth century and were probably deposited on the site in connection with funerals. At Knockcrockery, Co. Roscommon, where clay pipe making was an important industry, this type of small pipe was known as a ' Lord-have-mercy ' and was produced specially for the wake and funeral trade.[3]

No. 8 is a very large pipe bowl with a stamp which reads ' Hynes 43 Galway ' and dates from around the turn of this century.

*Pottery* (Fig. 11)

Only one sherd of pottery (no. 1) was found, just beneath the sod in cutting 1. It is a base angle sherd with part of an in-curving wall and wheel marks on the interior. It is unglazed and the fabric is a pink–buff colour with tiny grog, quartz and mica inclusions. The base is flat and featureless. The dating and identification of this sherd are at present uncertain. It could be post-medieval.

## Discussion

The Moyne site is a fine example of an ecclesiastical enclosure of the Early Christian period. Such enclosures are of widespread occurrence in Ireland and vary in diameter from as little as 30m to over 400m (Swan 1983, 270; Hurley 1982). The enclosing element can be either a bank and ditch or a stone wall, the latter being most common generally in the west of the country where examples such as Kiltiernan, Co. Galway (Duignan 1951), and Canons Island, Co. Clare, are found (Norman and St Joseph 1969, 102-4). A feature of many of these sites is their internal dividing walls, variously arranged but sometimes radiating from a smaller enclosure at the centre as at Kiltiernan.

[2] I am grateful to David Sweetman for permission to refer to these in advance of the publication of his report on excavations at Abbeyknockmoy.

[3] I am indebted to Joe Norton, O.P.W., for this information.

At Moyne, while there are some radial banks, the earthworks are complex and difficult to disentangle (Pl. I), and probably relate to different periods. The better-preserved banks are probably the most recent in date but there are many more shadowy features visible in Pl. I, the period and function of which are uncertain. It is tempting to interpret a faint circle (about 40m in diameter) in the northern half of the enclosure (Pl. I) as an earlier ringfort superseded, as at Millockstown, Co. Louth (Manning 1986), by the ecclesiastical enclosure. The linear feature on the east side of the enclosure appears to line up with a bank and ditch feature outside in a way that suggests that these features are earlier than the enclosure. The elucidation of these and other problems regarding the site would, however, require extensive excavation.

Three of the internal banks were sectioned in the excavated cuttings; two of these (F1 and F9) were demonstrably late in the sequence of events on the site and had the appearance of ruined stone field fences for which a medieval or post-medieval date could be suggested. Parts of two ditches of Early Christian date (F3 and F12) were excavated and these may have formed part of an original system of subdivisions which are largely unrelated to those now visible, or may even pre-date the enclosing wall. Further excavation would be required to establish clearly the nature of the other bank (F8) and the relationship between it and the adjacent shallow ditch (F15).

Little can be said about the early features on the site because of the limited nature of the excavation. The finds from ditches F12 and F3 and from pit F5, while not very diagnostic, are typical of finds from Early Christian period sites in Ireland. These features were largely filled with habitation refuse, including animal bones (see Appendix I), and suggest that there were habitations near by and within the enclosure.

The only burial assigned with certainty to this period is the lintel grave (burial XIV). Cemeteries of these graves have been found elsewhere in Ireland at sites such as Reask, Co. Kerry (Fanning 1981, 79-84), Boolies Little, Co. Meath (Sweetman 1982-3), and Millockstown, Co. Louth (Manning 1986, 144-7), and while some may be of earlier date they are now thought to belong mainly to the Early Christian period. A sample of bone from the Moyne burial has given a $^{14}C$ date of 1090 $\pm$ 85 R.B.P. When calibrated (see Appendix IV) to one standard deviation this would have a range of A.D. 860-1020. Unfortunately this burial was isolated and does not assist in the dating of the other burials, none of which was a lintel grave. The majority of the burials found were in cuttings 2, 6 and 5 on the east side of the graveyard. Some were later than the Early Christian period ditch (F12) but others were earlier than habitation features F15 and F16 which are of unknown date. There was no dating evidence at all for the large concentration of burials in cutting 2. All of these burials in the eastern cuttings were outside the clearly defined edge of the modern graveyard on this side, which is a continuation of the radial bank F9, but whether they pre-date or post-date this boundary is not known. The orientations of these graves do not fall into definite patterns dividing earlier burials from later ones, and the cuttings were too far from the church to establish any relationship with it.

It has already been suggested that the church could date to the twelfth century with the south doorway added at a later date. It was still a parish church in the fourteenth century, but by the time it was granted to the wardenship of Galway the

parish had apparently already been united with Shrule. There is no record of when the church went out of use but it may well have happened by the seventeenth century.

The excavation, because of its restricted nature, has of course left many questions unanswered, but it has shown evidence for Early Christian period occupation and burial activity within the enclosure. The discovery that some of the more clearly visible internal earthworks were secondary features is of importance and should serve as a caution to those who might assume that the present visible subdivisions of these sites necessarily reflect the original layout.

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ABBREVIATIONS

| | |
|---|---|
| *J.G.A.H.S.* | *Journal of the Galway Archæological and Historical Society* |
| *J.R.S.A.I.* | *Journal of the Royal Society of Antiquaries of Ireland* |
| *P.R.I.A.* | *Proceedings of the Royal Irish Academy* |

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## Appendix I

### The animal bones

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*Introduction*

The limited excavations at Moyne produced a relatively small assemblage of animal bones from six distinct contexts; the largest group consisted of less than 400 bones. (The bones from the individual samples are listed in Tables 1-5.) The minimum number of individuals (MNI) was calculated using the method outlined by Chaplin (1971), which takes into account not only the most frequently recurring bone element present but also the size and age development stage of the bones. The bone measurements recorded are those outlined by von den Driesch (1976) and are listed in Table 7. Only one of the caprovine bones, a ram's horn core, could be definitely identified at species level. Goat bones are very rarely encountered on Early Christian period sites so it is therefore assumed that all the caprovine bones present are of sheep.

The largest bone sample came from the upper levels of ditch F12 in cutting 5/6 (Table 1) and contained not only the bones of the usual domesticates but also those of wild species such as otter and red deer. The bones of the latter were present in unusually large numbers. This sample also contained a human ulna fragment which probably reflects the presence of a burial area within the enclosure. A similar occurrence of human with animal bone has been noted at the monastery at Iona (McCormick 1981, 314).

The second-largest group came from the ditch terminal F3 in cutting 1. The bones were stratigraphically divided into two groups, the smaller coming from the primary ditch fill and the larger from the upper levels of the ditch fill (Table 2). The ditch terminal may be part of the ditch noted in cutting 5/6 but there is no direct archæological evidence for this. It is interesting to note, however, that the bone samples from F12 and from the upper levels of F3 are quite different. In F12 cattle are the dominant species present, accounting for 56 % of the total, while sheep bones

TABLE 1—Sample 15: animal bones from ditch section (F12). Asterisk denotes bones on which the MNI was calculated.

| | *Cattle* | *Red deer* | *Pig* | *Sheep/goat* | *Horse* | *Otter* | *Cat* | *Dog* | *Man* |
|---|---|---|---|---|---|---|---|---|---|
| Horn/Antler | 6 | 14 | – | 1 | – | – | – | – | – |
| Skull | 21 | 2 | 32 | – | – | – | – | – | – |
| Mandible | 37* | – | 31* | – | – | – | – | – | – |
| Teeth | 27 | 3 | 22 | – | 1 | – | – | – | – |
| Atlas | 2 | 1 | – | – | – | – | – | – | – |
| Axis | 2 | 2 | – | – | – | – | – | – | – |
| Cervical v. | 6 | 1 | – | – | – | – | – | – | – |
| Thoracic v. | 10 | – | 1 | – | – | – | – | – | – |
| Lumbar v. | 6 | – | 1 | – | – | – | – | – | – |
| Sternum | –1– | | – | – | – | – | – | – | – |
| Rib | 151 large | | 26 small | | | | | | |
| Scapula | 18 | 3* | 1 | 2* | – | – | 1 | – | – |
| Humerus | 8 | 1 | 1 | – | 1 | 1 | – | – | – |
| Radius | 9 | 3* | 1 | – | – | – | – | – | – |
| Ulna | 6 | 1 | 1 | – | – | – | – | – | – |
| Metacarpal | 2 | – | – | – | – | – | – | – | – |
| Pelvis | 17 | 2 | 2 | – | – | – | – | – | – |
| Femur | 4 | 1 | 2 | 2 | – | – | – | 1 | – |
| Patella | 1 | – | – | – | – | – | – | – | – |
| Tibia | 16 | – | 2 | 2 | – | – | – | – | – |
| Fibula | – | – | 3 | – | – | – | – | – | 1? |
| Calcaneus | 4 | – | 1 | – | – | – | – | – | – |
| Astragalus | 3 | 3* | – | – | – | – | – | – | – |
| Metatarsal | 5 | – | – | – | – | – | – | – | – |
| Metapodial | – | – | 2 | – | – | – | – | – | – |
| Phalanx I | 1 | – | 1 | – | – | – | – | – | – |
| Phalanx II | 1 | – | – | – | – | – | – | – | – |
| Phalanx III | 1 | – | – | – | – | – | – | – | – |
| TOTAL (less vert. and ribs) | 191 | 36 | 102 | 7 | 2 | 1 | 1 | 1 | 1 |
| % Total | 55·8 | 10·1 | 29·8 | 2·0 | 0·6 | 0·3 | 0·3 | 0·3 | 0·3 |
| MNI | 7 | 2 | 6 | 2 | 1 | 1 | 1 | 1 | 1 |

TABLE 2—Sample 3: animal bone from upper fill of ditch terminal (F3). The primary fill of the same ditch section contained a cattle horn, sacrum, femur and astragalus

| | *Cattle* | *Pig* | *Sheep/goat* |
|---|---|---|---|
| Horn | 1 | – | – |
| Skull | 3 | 1 | – |
| Mandible | 3* | 3* | 3 |
| Teeth | 7 | 9 | 19* |
| Rib | 14 large | | 6 small |
| Scapula | – | 2 | 1 |
| Humerus | 2 | – | 4 |
| Radius | – | – | 1 |
| Ulna | 1 | – | – |
| Metacarpal | 2* | – | – |
| Pelvis | 3 | – | – |
| Tibia | 1 | 1 | 2 |
| Metatarsal | – | – | 1 |
| Metapodial | 1 | 1 | – |
| Phalanx I | 2 | – | – |
| TOTAL (less vert. and ribs) | 26 | 17 | 31 |
| % Total | 35·1 | 23·0 | 42·0 |
| MNI | 2 | 2 | 3 |

account for only 2 %. The situation is reversed, however, in the upper levels of F3 as sheep are the dominant species present both in terms of MNI and fragments total. The primary fill of F3 produced only four bones, all of which were cattle. The samples from the upper fills of the two ditch sections do not reflect the same dietary practices, which might suggest that they are not parts of the same ditch.

The remaining samples came from a pit (F5: Table 3), a gully (F2: Table 4) and a shallow ditch (F15: Table 5). The latter contained no archæological artifacts so the date of the material is uncertain. It contained only seven bones, all of which were cattle. F5 contained the bones of cattle, pig, sheep, horse and possibly red deer, while F2 contained only those of cattle, sheep and pig.

*Cattle*

It has already been noted that while cattle were the dominant species present in F12 they were less numerous than sheep in the upper levels of F3. Even in the latter context, however, cattle would still have provided most of the actual meat represented by the sample.

The state of fusion of the longbones from F12 is shown in Table 6. The sample is too small to allow detailed analysis of the age/slaughter pattern but it suggests that calves were rarely killed. The slaughtered animals were usually either semi-mature or mature animals. The small number of mandibulæ supports this observation, but also shows that calves were at least occasionally slaughtered. Two mandibulæ in the same sample were of cattle of approx. 24–30 months of age, while a third

TABLE 3—Animal bones from pit F5

| | |
|---|---|
| *Cattle:* | 1 skull, 3 mandibles, 2 cervical vert. (MNI 1) |
| *Red deer?:* | 1 very worn astragalus |
| *Horse:* | 2 tarsals (MNI 1) |
| *Pig:* | 2 skull fragments (MNI 1) |
| *Sheep/goat:* | 1 femur |

TABLE 4—Animal bones from gully F2

| | |
|---|---|
| *Cattle:* | 3 teeth |
| *Pig:* | 1 tooth |
| *Sheep/goat:* | 1 radius |

TABLE 5—Animal bones from ditch F15

| | |
|---|---|
| *Cattle:* | 1 skull, 1 radius, 2 pelves, 1 tibia, 1 phalanx I, 1 phalanx III (MNI 1) |

TABLE 6—State of fusion of longbones of cattle from F12 (after Silver 1969)

| *Bone* | *Approx. age (in months)* | *Fused* | *Unfused* |
|---|---|---|---|
| Scapula, Pelvis | 7-10 | 10 | – |
| Radius P, Humerus D | 12-18 | 8 | – |
| Metacarpal D, Tibia D | 24-30 | 3 | 2 |
| Metatarsal D | 27-36 | 0 | 2 |
| Femur, Calcaneus | 36-42 | 3 | 1 |
| Radius D, Tibia P | 42-48 | 1 | 2 |

was approx. 32–3 months at time of death (after Higham 1967). A mandible from the upper fill of F3 was, however, of an animal of approx. 5–6 months of age at time of death.

Most of the bones were deliberately smashed, presumably for the extraction of marrow. In a few instances, i.e. an ulna and pelvis, chop marks were present. A single horn core had also been chopped at its base (Pl. Va) in order to facilitate the removal of the sheath for industrial usage.

Only two complete longbones, a metatarsal and a metacarpal, were present. The latter had a GL of 192mm, which falls within the range of those noted on other Early Christian period sites (McCormick 1983, 262). The two complete bones provided estimated withers heights of 106·2cm and 117·5cm using the mean male and female multiplication factors of Fock (in von den Driesch and Boessneck 1974). The only diseased cattle bone present was a thoracic vertebra which displayed evidence of spondylosis (Pl. VIa).

*Pig*

The MNI of pig was only slightly less than cattle in the sample from F12 and was equal to cattle in the sample from the upper fill of F3. It is interesting to note that the great majority (83 %) of the pig bones in the F12 sample consisted of skull or mandible fragments. This imbalance is also reflected in the MNI, as the MNI value for the cranial area is six compared with one in the case of the post-cranial skeleton. This contrasts sharply with the distribution in the cattle skeleton where the MNI for the cranial area is seven while the post-cranial area is only slightly less at six. The imbalance between the skull and post-cranial skeleton is difficult to interpret. The pig skull is quite edible so the sample cannot be regarded as waste from a butchering area. The occupants of the site probably bred their own pigs as the *Hisperica Famina* clearly shows that the early monasteries were farming communities (Herren 1974). All parts of the skeleton should therefore be present, but the evidence suggests that most of the carcass was being exported or, alternatively, that pigs' heads were being imported on to the site. A different explanation may, however, account for the phenomenon. The skull is one of the few parts of the pig's carcass which is not cured. It is possible that these bones were being deposited in the ditch at the time of year when most of the carcass was being cured and when the pigs' heads were being eaten in a fresh state. A similar imbalance between cranial and post-cranial pig bones was noted in a medieval context at Kells Priory, Co. Kilkenny (McCormick forthcoming).

Four pig mandibulæ provided ageing data. Three were of pigs aged approx. 17–27 months while the fourth was of an animal of approx. 4–7 weeks of age (after Higham 1967, 105). The latter may have died of natural causes as this is an uneconomic age at which to slaughter pigs.

*Sheep*

A single ram's horn displayed chop marks at its base, indicating that the horn sheath was being used for industrial purposes (Pl. Vb). The horn core displays a pathological anomaly known as ' thumbprint ' indentation. These depressions have been noted elsewhere on sheep horn cores but their exact cause is a matter of some

TABLE 7—Animal bone measurements (in mm) (after von den Driesch 1976)

| | | | | |
|---|---|---|---|---|
| CATTLE | | | | |
| *Horn* | Length along outer edge | Basal circ. | Max. basal diameter | Min. basal diameter |
| | 151 | 156 | 61·2 | 43·0 |
| | — | 205 | 72·1 | 55·1 |
| | — | 181 | 63·6 | 49·2 |
| | 155± | 143 | 51·9 | 37·1 |
| | 130± | 123 | 43·2 | 35·0 |

| | | | |
|---|---|---|---|
| *Scapula* | Glp | LG | SLC |
| | 66·1 | 55·1 | 51·2 |
| | 71·1 | 60·3 | 48·5 |
| | 62·8 | — | 48·9 |

| | | |
|---|---|---|
| *Humerus* | Bd | Bt |
| | 75·3 | 66·4 |
| | — | 79·1 |
| | — | 71·8 |

*Radius* Bp: 73·5, 88·5

| | | | | |
|---|---|---|---|---|
| *Metacarpal* | GL | Bp | Bd | Sd |
| | 192 | 54·0 | 52·0 | 23·9 |
| | | 59·4 | | |

| | | | | |
|---|---|---|---|---|
| *Metatarsal* | 195 | 41·0 | — | 24·3 |

*Calcaneus* GL: 132·3

| | | |
|---|---|---|
| *Astragalus* | GLl | Bd |
| | 60·9 | 38·1 |
| | 59·5 | 37·3 |
| | 56·6 | 36·4 |

| | | | |
|---|---|---|---|
| RED DEER | | | |
| *Antler* | Circ. of burr | Max. burr width | Min. burr width |
| | 145 | 50·1 | 43·2 |
| | 130 | 44·5 | 33·1 |

| | | | |
|---|---|---|---|
| *Scapula* | Glp | LG | SLC |
| | 53·3 | 40·9 | 31·9 |
| | 58·7 | 45·5 | 36·6 |

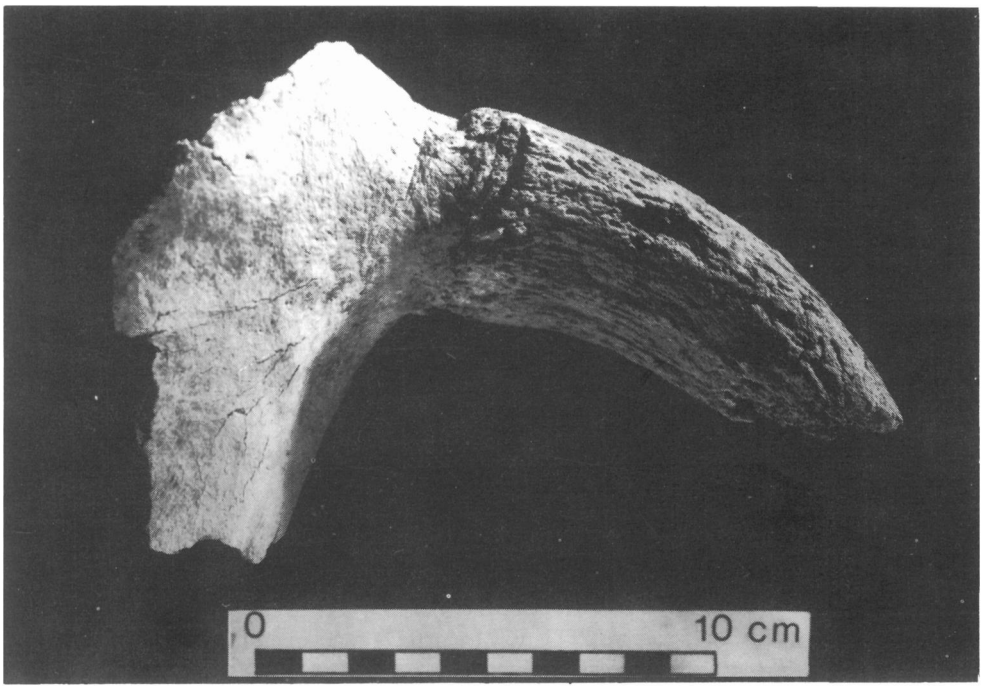
*Radius* Bd:45·0, 47·5

| | | |
|---|---|---|
| *Astragalus* | GLl | Bd |
| | 51·0 | 32·3 |
| | 53·3 | 33·1 |
| | 47·6 | 32·3 |

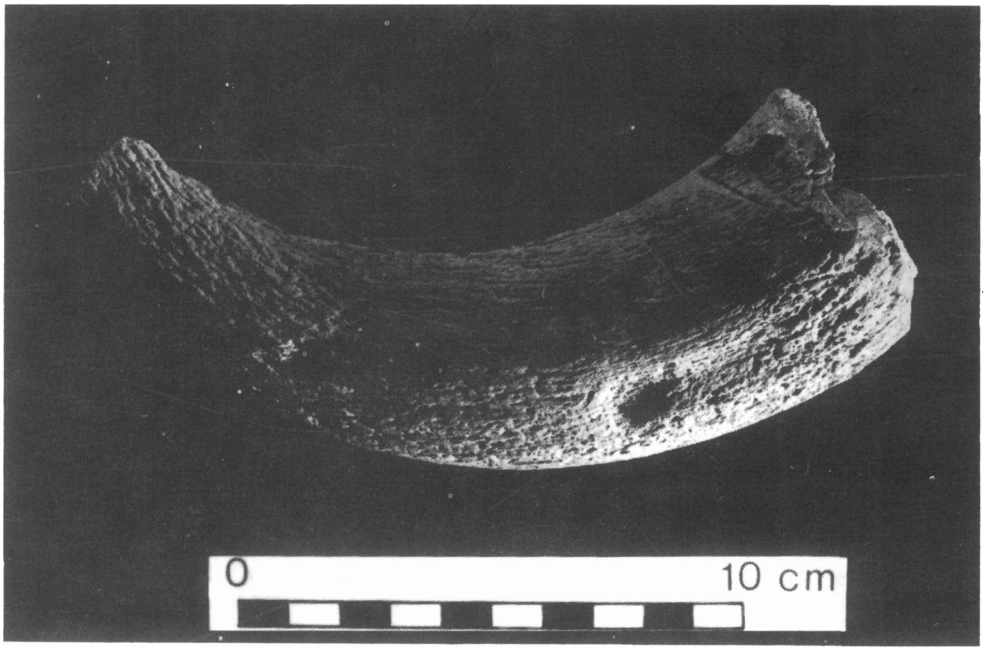
PIG Basal length of lower M3: 34·0; tibia Bd: 30·9; humerus Bt: 31·1

OTTER Humerus Bd: 28·8

debate. The high incidence of the indentations on rams' horn cores has led some to speculate that they are caused by castration, but others suggest that they are either due to periods of malnutrition or simply to injuries on the horn (Siegal 1976, 262–3). The sheep bones were too fragmentary to allow analysis of the age/slaughter pattern. All that can be concluded is that the bones of young, semi-mature and mature animals were present.

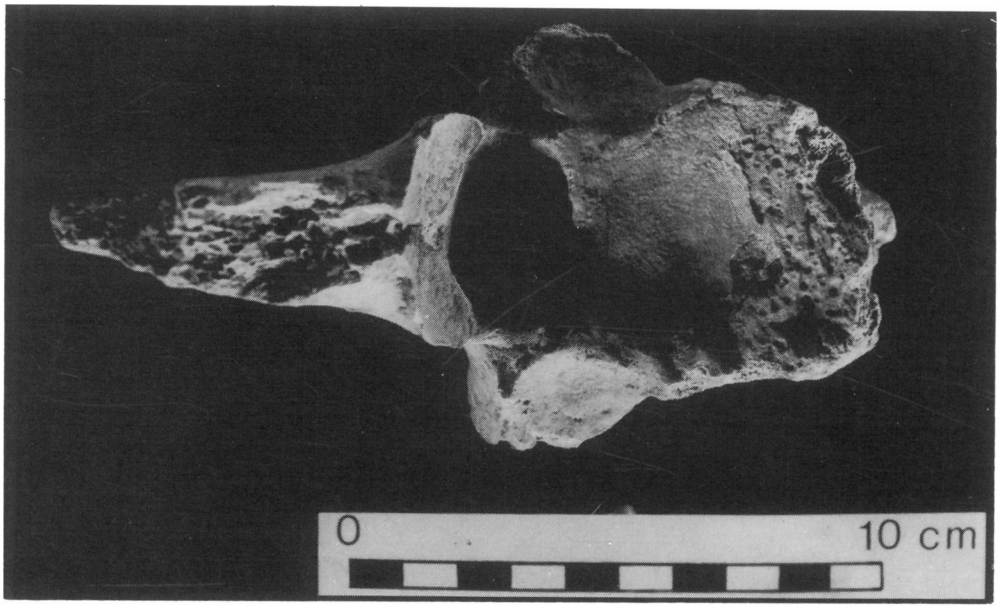



a.




b.

PL. V—a. Cattle horn core with chop marks at base resulting from the removal of the horn sheath.
b. A ram's horn displaying chop marks at the base and 'thumbprint' indentation.




a.


b.

PL. VI—a. Cattle thoracic vertebra displaying evidence of spondylosis.
b. Red deer pelvis fragment with probable healed injury.

*Horse*

Only a few horse bones were present, consisting of a tooth and humerus from F12 and two tarsals from pit F5. The former bones may be from the same animal. The tooth was a deciduous premolar from an animal of less than three and a half years of age, while the fused distal humerus fragment was of an animal of more than 15–18 months (after Silver 1969, 238, 285). The shaft of the humerus had been smashed, presumably for marrow extraction, and the articular area had been heavily gnawed by a carnivore. The two tarsals show primary symptoms of spavin, possibly owing to old age or overworking of the animal.

Since early Irish church laws forbade the consumption of horseflesh (see Binchy 1975, 259) the presence of horse bones at Moyne may seem unusual, but their occurrence has also been noted at other monastic sites such as Church Island, Co. Kerry, and the island of Iona, off the coast of western Scotland (McCormick 1981 315; Roche 1958, 133).

*Wild animals*

The bones of both red deer and otter were recovered during excavation. The skin of the otter was highly regarded during the Early Christian period and the documentary evidence shows that it was used for such diverse purposes as the manufacture of gloves and harp-bags (Carney 1979, 4; Plummer 1922, 145). The incidence of red deer bone fragments in the sample from F12 (11 %) is much higher than has been noted on other secular sites of the same period. The early documentary sources show that it was permissible to eat certain types of flesh during Lent and other periods of fasting, and at the monastery at Tallaght venison is specified as such a food (Gwynn and Purton 1911). This may account for the unusually high incidence of deer bone at Moyne.

One of the red deer pelvis fragments displays a pathological anomaly (Pl. VIb) which probably represents a healed injury from a projectile used during the hunting of the animal. A healed injury of this nature was also noted on a red deer scapula at Lagore crannog (van Wijngaarden-Bakker 1981, 79–80).

The presence of large numbers of sawn antler fragments indicates that the material was used for industrial purposes. One of the burrs was from a shed antler, while a second was still attached to part of the skull. The fact that the worked antler was found together with evidence for hornworking suggests that both activities were located in the same area and possibly undertaken by the same person.

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## Appendix II

The bird bones: part of sample 15 from upper layer of F12

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Universiteit van Amsterdam

| | |
|---|---|
| Chicken, *Gallus gallus:* | 1 furcula |
| | 1 ulna, left |
| | 2 tibiæ, left |
| | 1 tibia, right |
| | 1 oscoxa, left |
| | 1 rib |
| Raven, *Corvus corax:* | 1 ulna, left |
| Goose, *Anser spec.:* | 1 humerus, left |
| Unidentifiable birds: | 1 radius |
| | 1 tibiotarsus |

## Appendix III

The human remains

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*Introduction*

The remains of three individuals, comprising two subadults aged 15 and 17–18 years and one adult, were submitted for analysis. Only one of the skeletons—that of the younger adolescent—is complete. Only a few fragments of the skull of the second subadult were recovered, though the post-cranial skeleton is mostly complete. Only the legs of the adult were kept. All of the bones are in a good condition.

*Burial XIV* (from the lintel grave)

This skeleton is complete. The remains are those of a subadult aged about 15 years. This age estimate is suggested by the state of development of the dentition and by the state of fusion of the longbone epiphyses (Brothwell 1981). It is not possible to establish the sex of this individual.

The only abnormalities observed in this skeleton were in the dentition. There was slight overcrowding of the mandibular teeth which resulted in the canines being pushed forward a little. The upper second molars are rectangular in shape, the long axis being mesio-lateral. This is not due to any pathological condition.

*Burial XV*

The post-cranial skeleton of this individual is mostly complete. Only five fragments of the skull and one of the cervical vertebræ were recovered. The remains are probably those of a male who was 17–18 years old at the time of death. This age estimate was arrived at by examination of the state of development of the dentition, the fusion of the longbone epiphyses and of the morphology of the pubic symphysis (McKern and Stewart 1957; Brothwell 1981).

Septal apertures occur in both humeri. No other anomalies or pathological changes were observed.

The left clavicle, second cervical vertebra and the five fragments of the right side of the skull are scorched. The burnt bones are orange-black in colour and there has been little or no distortion of the bone. These changes are characteristic of burning dry or defleshed bone (Binford 1972). The excavator informs me that a hearth was found in the area where the skull of burial xv was recovered. The hearth was later than the burials and its occurrence accounts for the interesting post-depositional changes that were encountered.

*Burial XLV*

Only the longbones of the legs and the calcanei of this individual were kept. The general size of the bones suggests that they belong to an adult male.

The left fibula has a healed fracture at the junction of the proximal thirds of the bone. There is slight displacement but the bone healed well and there are no signs of infection. The shaft of the fibula is seldom fractured without the tibia, or without a simultaneous injury at the ankle (Adams 1983). In this instance, the tibia was not affected and because of the absence of the talus and most of the bones of the foot it was not possible to assess the extent of injury to the ankle. A fracture of the fibula alone is usually caused by a direct blow over the bone (Adams 1983). There is no evidence for any medical intervention. In a fracture such as this one, the intact tibia would act as a splint and healing could be expected to occur naturally with minimal deformity.

These remains have also undergone post-depositional changes which present an interesting pseudo-pathology. Firstly, deep channels have been etched out of the shafts of both femora and of the right tibia, presumably by root action. Secondly, thin plaques of bone have been removed from the surfaces of the distal ends of the femora and at the proximal ends of the tibiæ. The resulting eroded bone has an appearance not unlike periostitis.

*Summary*

The remains of three individuals were examined. Of these, two were subadults and one was an adult male. One of the subadults was also probably a male. The adult has a healed fracture of the left fibula. Some of the bones of the adult and of one of the adolescents have undergone interesting post-depositional changes.

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## Appendix IV

The $^{14}C$ date

A sample of bone from the lintel grave (burial XIV) was submitted to Dr Gordon Cook of the Chemistry Department, Glasgow University, and gave the following result:

1090 ± 85 R.B.P. (GU–1783)

The outer ranges of this date when calibrated are as follows:

| | Mean | ± 1sd range | ± 2sd range | ± 3sd range |
|---|---|---|---|---|
| (S = 88) | (A.D. 970–990) | A.D. 860–1020 | A.D. 680–1160 | A.D. 670–1230 |

The calibration was done by Richard Warner of the Ulster Museum based on the latest calibration curve from Belfast published in *Radiocarbon* **25,** no. 2 (1983), 187–96.