

Excavations at Lismahon, Co. Down

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SUMMARY

LISMAHON is a dark-age occupation-site which was heightened in the manner of a motte castle after the English conquest of Down in 1177 and continued in use until the fourteenth century. The extent and nature of the original settlement, commencing in the latter half of the first millennium A.D., is uncertain. A timber-revetted platform was in time raised on the site and remained in occupation, with a refurbishing of the defences, until the end of the twelfth century, when it was heightened to form a castle-mound. The summit of the mound was enclosed by a palisade, with which was associated a defensive weapon-pit, and contained a residential building, with attached tower adjacent to the palisade, and a second building probably used as a workshop. The palisade was subsequently rebuilt and in the later thirteenth century the house was enlarged, part of the workshop being demolished in the process.

INTRODUCTION

During the course of field-work in Co. Down, it has been difficult at times to distinguish superficially between raised earthworks of rath or ring-fort type presumably of dark-age date, and low mottes or castle-mounds of the later twelfth and thirteen centuries. The matter is discussed in the forthcoming Co. Down volume of the Archaeological Survey of Northern Ireland, and is mentioned here as the *raison d'être* for an excavation which was expressly directed towards clarifying the problems involved.

The earthwork known as Lismahon is situated (FIG. 51) in the townland of Ballykinler Lower (O.S. 6 in. Down sheet 44; grid ref. 429389) at a height of about 100 ft. O.D. on ground sloping gently to the NW., where the Blackstaff River enters the N. arm of Dundrum inner bay. From the site the castle-mound at Clough is visible, $1\frac{1}{2}$ miles to the NW., and at a distance of two miles to the SW., the great circular keep of Dundrum Castle can be seen rising above the trees which cloak the lower slopes of the hill, the summit of which is occupied by the late-twelfth to early-thirteenth-century masonry castle. The name Lismahon, which is at least as old as c. 1200, is given to a mound (FIG. 52), somewhat pear-shaped on plan, which rises on the SE. 10 ft., and on the NW. 18 ft., in height from ground level to a flat top, 73 by 63 ft. over the main diameters. Enclosing the mound, round the E. half of the circumference, is a flat-bottomed ditch, averaging 20 ft. in width and 7 ft. in depth, and into this on the SE. debouches the hollow-way, probably, of an old road, which is perhaps an eighteenth- or nineteenth-century feature associated with a long-established track which passes close to the mound on the east. It is, however, just possible that the hollow-way represents the surviving fragment of the ditch of an enclosure associated with the

mound; but the floor of the hollow rises gradually to the level of the track and no continuation of the feature can now be traced. The ditch, at least superficially, is absent on the W., and on this side the slope of the mound, elsewhere of even gradient, is broken by a slight berm at about half the height of the earthwork.

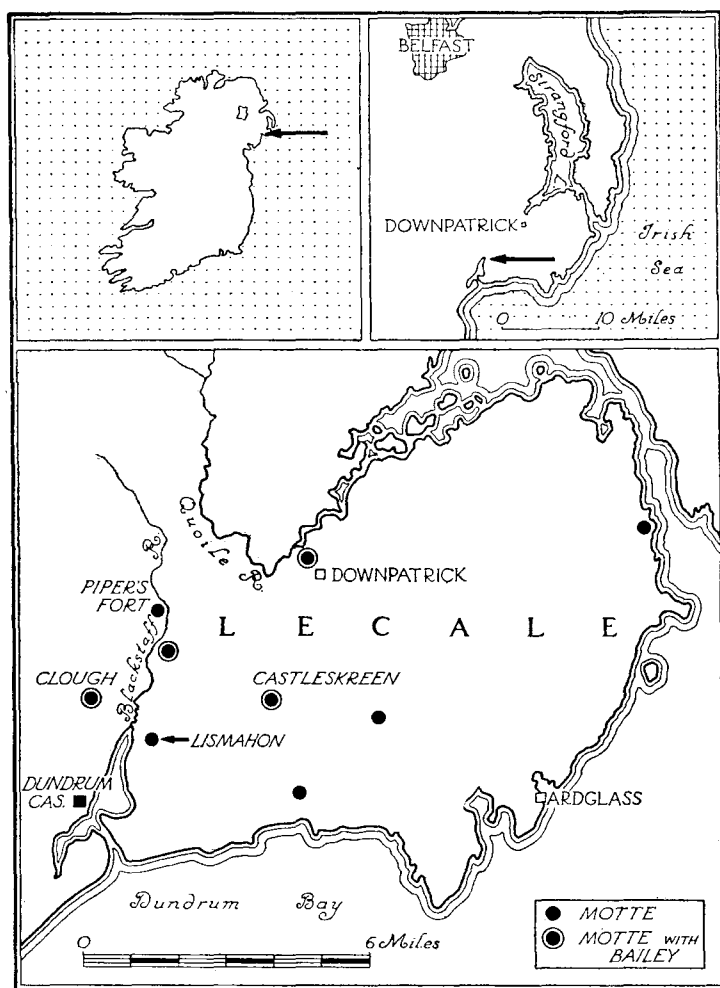


FIG. 51

Map showing the site of the mound at Lismahon, Co. Down (p. 139)

Before excavation, the outline of a building, indicated by a low bank enclosing three sides of a square open to the W. and with a gap at the NE. corner, could be observed on the summit of the mound in the NE. quadrant. To the W. of this structure was a shallow depression extending from N. to S., where it terminated in a large irregular crater; this crater was found to mark an area of modern disturbance.

In view of the problem involved, it was necessary to obtain by excavation unequivocal evidence for the dating of the Lismahon mound, and the situation of the earthwork in an area where English-style medieval pottery was current helped to determine the choice of the site for examination. Such pottery, introduced at the English invasion of 1177, is readily recognizable and, moreover, has been studied in some detail in the area, so that its presence provides a convenient limit for dating purposes. A further reason for the choice of site was that local labour with experience of archaeological excavation was available. The work was carried out for six weeks during the exceedingly wet months of June and July, 1958, when constant rain impeded progress and made the task of excavation, already complicated by varying soil conditions, extremely difficult. That the record has suffered accordingly there can be little doubt; that it has not suffered disastrously is due largely to the skill and patience of the two senior workmen employed, Mr. W. McCavery and Mr. E. Connor, of Dundrum, and to the perspicience of my friend, Mr. A. J. Pollock, who, practically single-handed, was responsible for the recovery of the evidence relating to the dark-age occupation of the site.

THE EXCAVATION

The summit of the mound was first investigated, commencing with the excavation of the building outlined on the surface in the NE. quadrant and extending where necessary to explore other features exposed. During this work a test-pit, sunk into the NE. slope of the earthwork to explore the nature of the make-up, exposed an occupation-layer well below the level of the present summit, thereby directing attention to the berm-like feature on the W.-facing slope of the mound. It appeared probable that this berm marked an intermediate stage in the heightening of the mound and confirmation was accordingly sought by excavation. In all, three main phases in the history of the site were demonstrated, phases I and II relating to a dark-age occupation and phase III to the use of the mound as a motte castle in the thirteenth and fourteenth centuries. The evidence relating to the dark-age occupation was recovered almost entirely from the cutting into the face of the earthwork on the W. and will be first described (FIG. 53).

PHASE I

The natural soil at the base of the mound consisted of consolidated sandy boulder clay with stones, above which lay about a foot of looser, but generally similar material, layer (1).^{*} The top of this upper deposit contained occasional flecks of charcoal and was noticeably dark in colour; it was found on analysis (Appendix 1, p. 171) to be relatively rich in humus and Dr. Proudfoot has accordingly identified it as soil underlying the mound which, incidentally, betrayed no indications of cultivation.

The surface of layer (1) was irregular, owing largely to subsequent dark-age disturbance, but where the original profile was preserved, three small post-holes,

^{*} A layer number within parentheses corresponds to a similar number in a circle on the sectional drawings.

7-10 in. in diameter and 6-8 in. deep, were found in line at right angles to the axis of the cutting. To the SE. of these sockets the surface was hollowed and here littered with many shells of the edible oyster, *Ostrea edulis* Linné. Overlying layer

LISMAHON

Co. DOWN

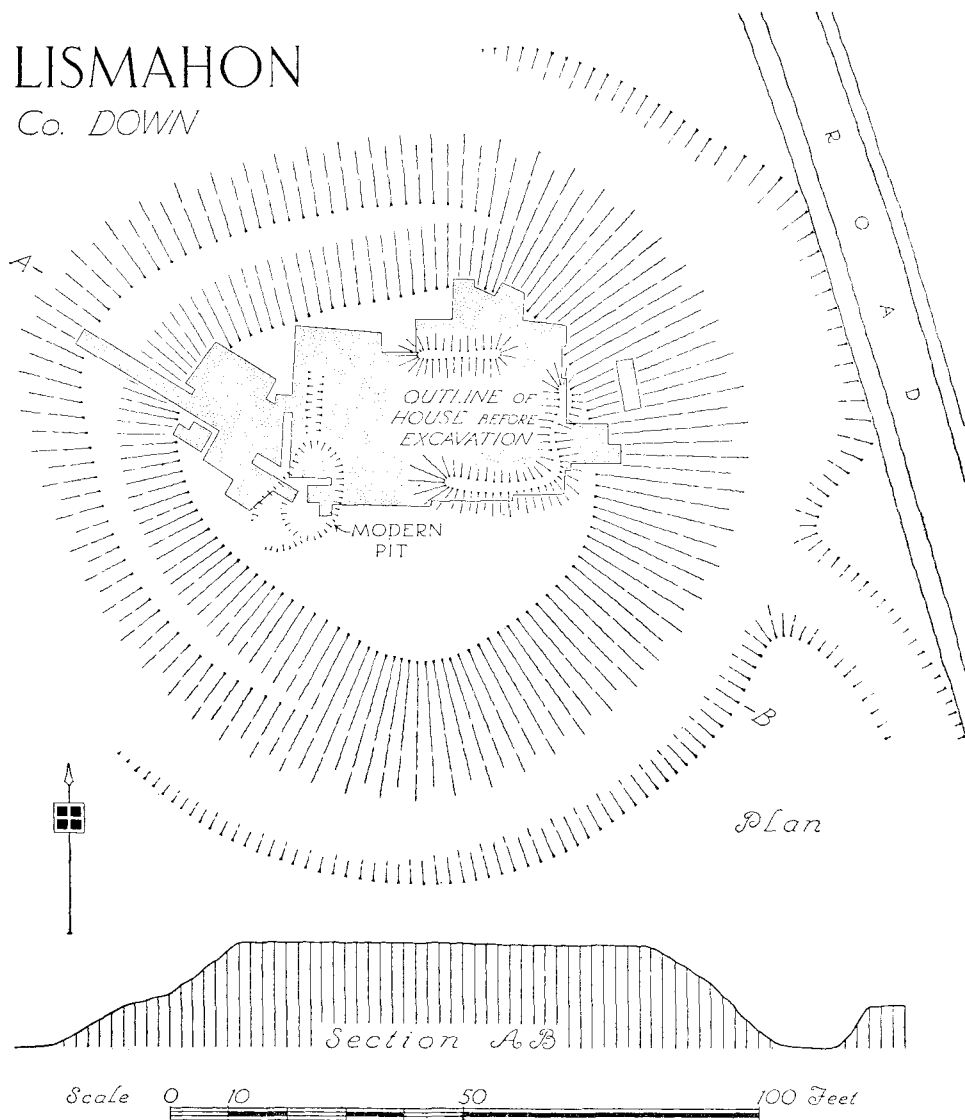


FIG. 52

Plan and section of the mound, showing site of excavations (p. 139)

(1), to a maximum depth of 18 in., appeared a clayey occupation-soil, layer (2), dark in colour and relatively stone-free, which was heavily impregnated with charcoal. From this material were recovered several sherds of a bowl of souterrain-type pottery (FIG. 58, no. 1), an amorphous piece of iron and a corroded fragment

of bronze, the last almost certainly the stem, recurved at the broader end, of a pin of ring-headed type.

On the evidence of these few finds, the deposits described must represent a dark-age occupation of the site, the extent and character of which yet remain undefined.

PHASE II A

This phase was distinguished by the erection of a vertical timber revetment, braced at the rear and probably on the outside as well, which served to retain the make-up of a platform rising to a height of about 5 ft. above the surface of the deposits of phase 1. The sockets of two of the main uprights of the revetment

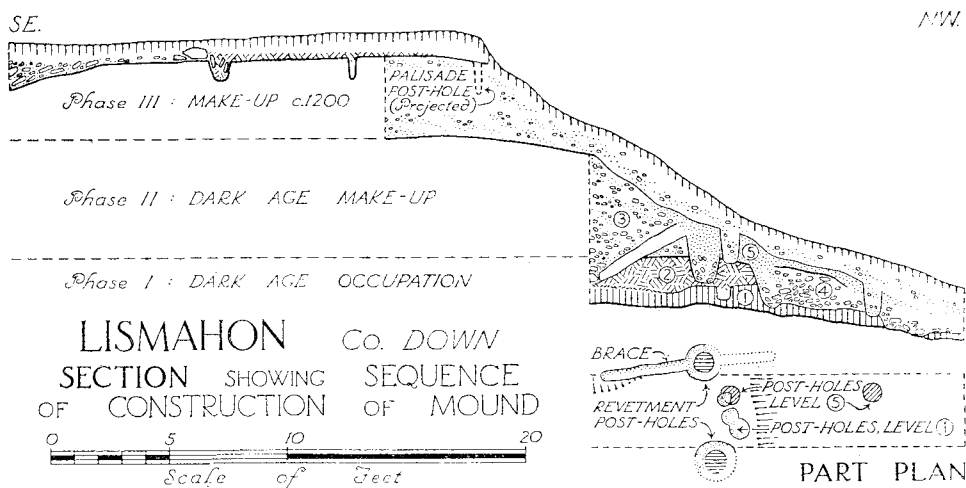


FIG. 53 (p. 141)

were by a fortunate chance exposed in section, one in each face of the cutting; the posts themselves had been spaced 4 ft. 3 in. apart, centre to centre, and were 18 and 21 in. in diameter, with bluntly-rounded butts which penetrated nearly to the base of level (2). Behind the post-hole on the SW., and at right angles to the line of the revetment, a narrow slot had been cut at an angle into layer (2), within which a timber brace, packed with stones at the foot, had been set. The impression of the timber itself, circular in cross section and about 6-7 in. in diameter, was preserved as a void within the consolidated material of the platform and was traceable to a point, 10 in. above the surface of layer (2), where it impinged on the socket of the vertical post. At a distance of 16 in., outside and parallel to the revetment, layer (2) terminated in an abrupt scarp which descended to a depth of 2 feet. Below the scarp lay a concentration of stones, layer (4), tightly packed adjacent to the sides of the cutting, mixed with sandy boulder clay which, with diminishing stone content, extended to the NW. end of the excavation. The surface of this deposit, above the main packing, was sealed by a thin line of charcoal which occurred at a level corresponding to the surface of layer (2), but

ceased about a foot short of the upper edge of the scarp. The scarp was quite clearly a deliberate feature, purposefully cut, and was probably designed to accommodate external timber braces, stone-packed at the base. The slope of the scarp was fairly consistent and suggests raking supports rising to engage the main uprights at a height of about 3 ft. above the surface of layer (2), that is, rather above the height of the surface of the platform itself. The behaviour of the charcoal

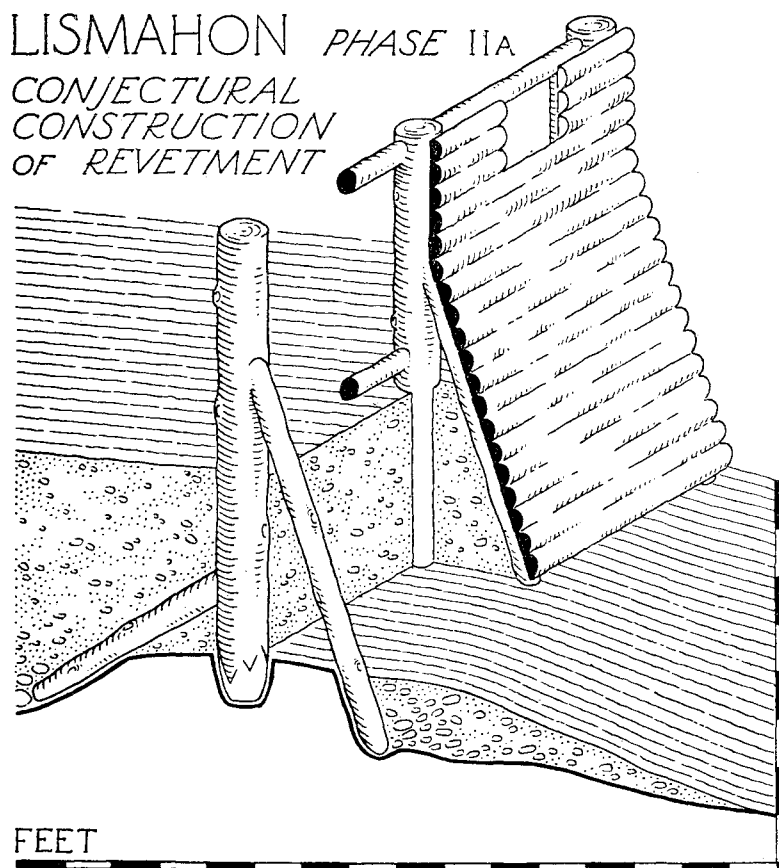


FIG. 54 (p. 144)

deposit was also instructive. This layer had accumulated over the external ground surface, following completion of work on the revetment, and its termination on the line of the outer supports suggests that these braces were faced, perhaps by timber-sheathing or by wattle, to form an external glacis, or batter. A conjectural restoration of the revetment is shown in FIG. 54.

The material of the platform, layer (3), was composed of sandy boulder clay with numerous rock fragments and included occasional lenses of dirty clay, evidently redeposited occupation-soil derived from deposits of phase 1. This make-up was well consolidated and extremely tough to dig, so that its upper

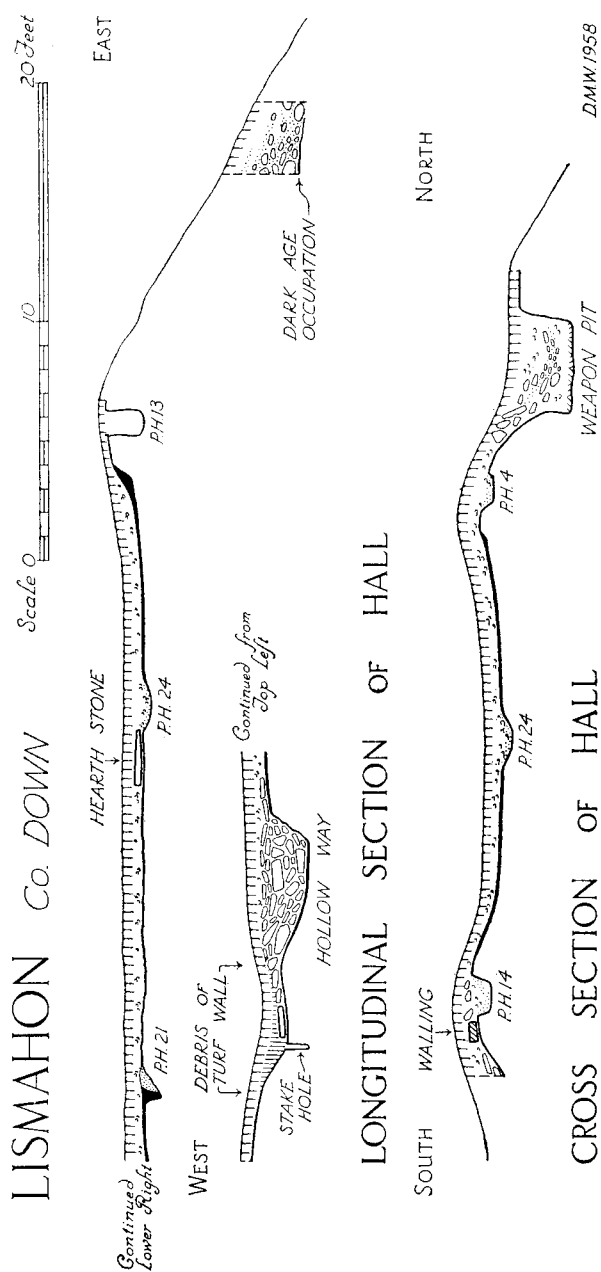


FIG. 55 (pp. 141 ft.)

surface, which was quite clean, was easily recognizable beneath the overlying material of phase III. On the NE. face of the mound a small trial-pit exposed the surface of the platform, here covered by an inch or so of dark soil containing charcoal and splinters of animal bone, at a depth of 8 ft. below the present summit of the earthwork (FIG. 55, longitudinal section); this implies a fall in the surface of the platform of about 3 ft. from W. to E. On the W. this surface was broken some 5 ft. back from the line of the revetment; on the E. however, it extended nearly to the present face of the mound, which suggests that, on this side at least, the edge of the platform was cut back, presumably during the heightening of the earthwork in phase III.

The presence of an enclosing ditch during phase I, or more particularly during phase II, when such a feature would have provided a ready source for the material of the platform, was not sought by excavation. It was considered that the heightening of the mound in phase III had involved the deepening or widening of an existing ditch, so that the ditch in its present form was unlikely to be earlier than c. 1200.

PHASE II B

How long the revetment of the platform continued to function effectively is uncertain, but the considerable thrust exerted by the backing material must have become insupportable as soon as the timberwork itself commenced to deteriorate. That the revetment did, in time, succumb, in all probability to the normal processes of decay, is quite evident. With the collapse of the main uprights, the upper material of the platform, for a distance of 5 ft. behind the revetment, had cascaded forward to bury the surviving stumps of the posts. The debris, layer (5), contained a couple of sherds of souterrain-type pottery.

In its original form, the revetment was not rebuilt. A reparation of the defences of the platform was undertaken, however, since a pair of post-holes, 9 in. in diameter and 18 in. deep, was found inserted, 6 ft. apart, into the spill of debris. Some form of timber construction is suggested by the remains, but the evidence was hardly sufficient to indicate positively the nature of the reconditioning work.

PHASE III A

This phase was initiated by the transformation of the site into a castle-mound, a process which involved piling boulder clay to a thickness of 3-4 ft. above the platform of phase II. The heightening material was very mixed, and generally ill-consolidated, being firm enough in places but exceedingly loose elsewhere, with piled rock-debris breaking here and there through the softer make-up on the flat summit of the mound. Such varying soil conditions made excavation, especially in adverse weather, a matter of some difficulty.

The structures erected on the motte will be described in turn; for plans, see FIG. 57; for sections, FIG. 55.

The Defences. The initial defence enclosing the summit consisted of a palisade of light timber uprights, the sockets for which, $2\frac{1}{2}$ - $3\frac{1}{2}$ in. in diameter and 10-15

in. deep, were located only on the NW. margin of the mound. The positions of six contiguous stakes were found, about 2 ft. apart centre to centre, but in one instance the normal interval was halved by the insertion of an intermediate upright. Where the perimeter of the mound was investigated elsewhere, no trace of the palisade was recoverable, but this is probably to be attributed to the unstable nature of the make-up which, at the edge, was demonstrably liable to slip.

A feature which must be regarded as an integral part of the defences of the motte was a large double pit, approximately a figure-of-eight on plan, situated close to the edge of the mound in the NE. quadrant. It is here called for convenience a weapon-pit, on analogy with rather similar excavations at Clough which have been identified as emplacements for archers or, perhaps in one instance, for a small war machine. On first inspection of the plan, FIG. 57*a*, the outline of the excavation is suggestive of two overlapping and conceivably successive pits, and this interpretation may well be correct; but by whatever stages the excavation attained its final form, it is nevertheless quite clear that the whole feature was open at the same time and must be considered as a single unit (PL. IX, A). The E. bay was roughly circular and 5-6 ft. in diameter, with vertical or near-vertical walls descending to a flat bottom, 2-3 ft. deep below the surface of the mound; the W. bay on plan was approximately rectangular, with rounded corners, $6\frac{1}{2}$ and $3\frac{1}{2}$ ft. in length and width, with a narrow, even floor which sloped slightly to a maximum depth on the S. of $3\frac{1}{2}$ ft.; the junction of the two bays was marked by a step, $1\frac{1}{2}$ ft. high, equivalent to the difference in their depths. The E. bay closely approached the edge of the mound on the N. and a slot, 1 ft. 9 in. wide, had been cut through the intervening ridge to within a few inches of the floor of the pit; the cheeks of this opening were vertical, becoming widely splayed on the outer face of the mound, which had been deliberately pared away on either side (PL. IX, B). This arrangement was clearly designed to improve the field of vision from within the pit and the opening itself may be identified as a defensive loop, presumably for the discharge of arrows. The firing bay was too shallow to provide adequate protection for an archer and some form of breastwork on the exposed side was necessary. This screen cannot have been provided by the palisade, which was not found adjacent to the pit, but on the slope of the mound below the loop was a quantity of loose stone, which in appearance was suggestive of collapsed walling. A stone-built parapet, possibly broken to increase the height of the earth-cut loop, may therefore have been provided.

Overlying the floor of the E. bay, clinging to the intervening step and in part covering the bottom of the W. bay, was a thin layer of heavily-burnt soil, the behaviour of which demonstrated the contemporaneous use of the whole excavation. From this deposit, which must have accumulated during the effective life of the weapon-pit, was recovered a halfpenny of John de Courcy (p. 156); this coin is the earliest datable object which can be related to the initial occupation of the motte.

In view of the extremely unstable material into which the weapon-pit was

excavated a close watch was kept for indications of a revetment, but without result. It is conceivable that small stake-holes may have escaped detection; otherwise it can only be assumed that the pit was kept covered when not in use, thereby mitigating the worst effects of weathering.¹

The House. This building, the outline of which was apparent on the surface before excavation, occupied the NE. quadrant, extending to the edge of the mound on the E. but set back on the N. to accommodate the weapon-pit. It was rectangular, nearly square on plan, measuring 17 ft. N. to S. and approximately 21 ft. E. to W. within an enclosing bank rounded at the corners. The bank was 5-8 ft. wide but nowhere more than 18 in. high above the interior; it was of one build with, and of material indistinguishable from, the underlying make-up, indicating that the construction of the house was put in hand immediately after the heightening of the mound. The house was of timber-framed construction. The roof was apparently of two bays, with a ridge, aligned on the E-W. axis, supported on a pair of trusses of unequal span, one of which, at least, was reinforced by a central post; there was probably an end-truss, forming a gable on the W., but on the E. the roof was perhaps hipped and carried on a half-truss axial to the ridge.² The main trusses were supported by uprights, set into the flattened top of the bank, represented by post-holes 3, 4, 14, 15; these sockets were rather shallow, however, and no. 14 could not be defined with complete confidence.³ The line of the ridge was marked by post-holes 20 and 24, the second situated at the meeting of the E. truss with a half truss bearing on a post in socket 13.⁴ No socket indicating an upright at the mid-point of the truss on the line of post-holes 3 and 15 was recovered; but the make-up of the mound at this point was composed of broken rock, in which the impression of a loosely anchored timber would hardly have appeared. The axial post-hole, no. 24, was cut only 4 in. into the floor of the house, but here the impression of a timber was quite clearly preserved.

The bank on the S. terminated abruptly a foot or so to the W. of post-hole 15 and on the N. tailed off a similar distance beyond the complementary socket, no. 3. The limit of the house on the W., therefore, was not defined by the bank, but the former course of the earthwork was indicated by a series of shallow depressions, nos. 1, 2, 16-20, which occurred where the surface of the mound was noticeably irregular (PL. x, A). These depressions may be interpreted as the bases of deep post-holes, which were truncated by the removal of the bank, and the broad belt of broken ground presumably coincides with the extent of the bank itself, as restored in FIG. 57a. At the W. end of the house, then, the enclosing bank supported a number of timber uprights; since this expedient is not reflected on the E., it must be assumed that the construction of the W. wall was afforded

¹ The covering of medieval pits is discussed, *Antiq. J.*, xxxviii (1958), 207.

² In reconstructing the medieval hall at Huttons Ambo, Yorkshire, it has been suggested that a hipped termination is possible at the upper end of the building, combined with a gable at the lower end. *Archaeol. J.*, cxiv (1957), 91.

³ This was owing to an area of disturbance, caused by the burial of an O.S. trigonometrical station marker.

⁴ This post-hole was deeper than the other sockets on the bank. It may, therefore, have supported the ridge, so that the existence of an E. gable cannot be discounted.

exceptional treatment. It seems probable, in fact, that the house terminated here in a gable truss, supported on angle-posts in sockets 1 and 17, with a central upright, no. 20, at the extremity of the ridge and intermediate posts, which probably functioned as the main elements of a half-timbered infilling. To the N. of the mid-point of the gable wall the belt of broken ground, marking the original course of the bank, terminated at a small post-hole, no. 21, and did not reappear for a distance of about 4 feet. Within this gap, the surface of the mound was well trampled and covered by a thin deposit of occupation-soil which extended, and thickened, towards the W. and also comprised the filling of the post-hole, which survived to its full depth of 10 inches. This break in the line of the bank must mark the site of the entrance to the house and the post-hole itself represents the hanging-post of the door.

At the SE. corner of the house a pit (pit 1) was found with a flat bottom which sloped to a circular sinking, 8 in. in diameter, at the W. end. This sinking occurs almost exactly mid-way between post-holes 13 and 14 and may have held a timber upright in a suitable position to support a hip-rafter and, if purlins were used in roof-construction, the extremities of these members on the S. and E. sides. Since the common rafters may have been at least 16 ft. in length, purlins probably were introduced to economize in their scantling. Inside the house were a few post-holes (nos. 22, 23, 26, 27) which cannot be explained as essential features of the primary construction; the first, on the axis of a truss, may have been introduced as a support at a later date. Post-hole 27, dug obliquely into the foot of the bank on the S., close to the SE. angle, does appear to have held a timber strut, presumably not original, which seemingly rose to meet the axial post, no. 24. Judging from the angle at which the strut had penetrated the ground the junction was effected at a height of about 10 ft. above floor level; this dimension may therefore be accepted as a minimum height at the ridge for the house.

Following the outer edge of the top of the bank on the S., close to post-hole 14, was uncovered a length of walling, laid dry when found but possibly originally set in clay mortar, which survived a single stone-course in height. The stones were selected boulders from the local drift and presented a fair face only towards the exterior. From the amount of loose stone found on the crest and outer slope of the bank, the distribution of which is shown in FIG. 57*b*, the walling must originally have enclosed the house on N., S. and E. and possibly on the W. as well, although here the evidence had been removed; it cannot have attained a height of more than a few courses and probably served, with or without a wall plate, to support the feet of the common rafters of the roof.

Within the house, a skin of sandy boulder clay had been spread over the coarser make-up of the mound; it was trodden hard through use and in places had worn away to expose the underlying material. A deposit of occupation-soil covered this floor, sporadically on the W. but thickly on the E. where it extended up to and over the inner slope of the bank, which at some points assumed a nearly vertical face. There was a hearth stone, a single large slab about 3 in. thick, cracked and discoloured by heat, at the approximate centre of the house immediately to the W. of post-hole 24.

The break in the bank, some 7 ft. in width, which had been observed superficially at the NE. angle of the house, was found to be an original feature. Within the gap were two exceptionally large post-holes, nos. 5 and 8, some 2 ft. deep and capable of receiving timbers up to about 1 ft. 9 in. and 2 ft. in diameter respectively. Clearance outside the house revealed two additional but smaller post-holes, one of which, no. 7, sited at the edge of the mound and eroded in consequence, contained at the base a flat stone which had been fractured by the weight of the superimposed post; the other, no. 6, consisted of two contiguous sockets, suggesting replacement of structural timber-work. These four post-holes, disposed to form the angles of a square with sides about 6 ft. in length, presumably held the legs of a small timber-framed tower or turret. Between post-holes 5 and 8 a smaller socket, no. 9, had contained a post, corresponding to that in pit 1, perhaps to accommodate the foot of a hip-rafter; this post would seem to prevent direct access to the turret from the house, and since the surface of the mound within the area of the turret was quite clean, it can be assumed that the lower stage of this feature was unenclosed.

From post-hole 5, marking the SW. angle of the turret, a series of smaller sockets, nos. 10-12 and 25, extended in line for a distance of 10 ft. into the interior of the house (PL. X, B). These post-holes may be explained, either as holding the supports of a stair, rising to the upper stage of the turret, or more probably as the framing of a partition, closing off the corner of the house for use perhaps as a closet or for sleeping. A fair quantity of burnt daub, scattered over the floor of the house to the W. of the line of post-holes, suggests a wattle infilling between the posts, which accords better with the second alternative. A small area of stone paving, lying to the S. of post-hole 25, indicates an entrance to the closet at this point.

On and around this stone paving were found two dozen rounded quartz pebbles which may have been a child's playthings, or perhaps counters used in a game. Elsewhere, the occupation-layer over the floor of the house produced glazed and coarse-ware potsherds, a few bronze and iron objects, and, to the N. of the hearth, a group of five stone spindle-whorls. Owing to the excessive acidity of the soil, only a few scraps of animal bone were recognizable. A quantity of charcoal, of hazel- and oak-wood, was recovered.⁵

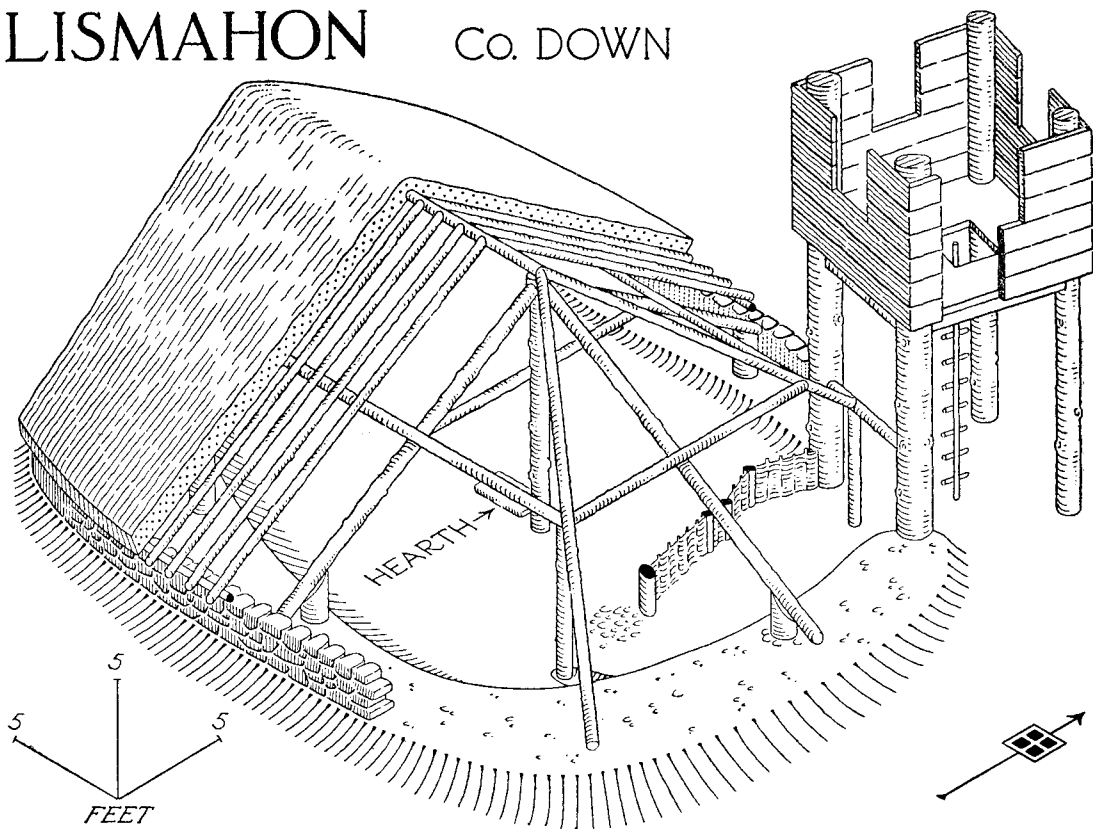
A conjectural restoration of the house and turret is shown in FIG. 56.

The Hollow-way. From the front of the house a broad hollow, averaging 2 ft. in depth, extended towards the S. with a flat bottom, about 3 ft. wide, which sloped gently in this direction. This feature presumably served as an approach to the house from a gate, in the peripheral palisade, which by inference must have been located on the SW. side of the mound. The hollow terminated opposite the entrance to the house and was here reduced in width by a platform, steeply scarped on S. and W., which projected for a distance of 6 ft. in front of the door of the building. The occupation-soil lying in the entrance, as noted above, continued across the platform and over the floor of the hollow below the scarp, and must represent the sweepings of the house floor.

⁵ The charcoals from the site have kindly been examined by Mrs. F. L. Balfour-Browne, of the Dept. of Botany, British Museum (Natural History).

Towards the southern limit of the excavated area the intrusion of a modern pit had caused widespread disturbance to the later archaeological levels, but only at the very limit of the cutting had all trace of the hollow-way been removed. It was thus possible to uncover a considerable area of burnt soil and debris which, commencing at a distance of 12 ft. from the entrance platform,

LISMAHON Co. DOWN



CONJECTURAL RESTORATION OF HOUSE AND TOWER
ISOMETRIC VIEW

FIG. 56 (p. 169)

covered the floor of the hollow to a depth of 2-3 inches. In this deposit was a quantity of carbonized hazel- and oak-wood, and fragments of two (probably lathe-turned) bowls (FIG. 58, nos. 10, 11); also numerous animal bones, some calcined; iron objects, mostly nails, fused and distorted by heat; and a few potsherds (FIG. 58, nos. 2, 3). These finds, together with the coin from the weapon-pit, comprised the only material which could be equated, unequivocally, with the occupation of the motte during phase III A; the damage caused by modern

disturbance was therefore all the more regrettable in that it prevented further investigation of a sealed deposit of this period.

The Workshop. In the NW. quadrant, separated from the main residential building by the hollow-way, was a timber-framed structure which, from the evidence of iron-working found in and around it, has been identified as a workshop. This building appeared to have been rectangular on plan, and was 8 ft. in width, but its length was beyond recovery owing to later levelling which had necessitated a reduction in size and a reconstruction of the truncated W. end. The NW. and SW. angles of the surviving fragment were marked by pairs of post-holes, nos. 28 and 29, 31 and 32, the duplication of timbers here perhaps indicating this reconstruction. The line of the N. wall was indicated by a single post-hole, no. 30; on the W. a post-hole, no. 33, probably paired with the adjacent angle socket, no. 28, to frame an entrance 3 ft. in width, and a large stake-hole lay mid-way between this entrance and the SW. angle. Within the entrance was an area of carefully set and jointed stone paving, bedded on the clean surface of the make-up of the mound; but elsewhere inside the building this surface was lightly covered by dark, sooty soil which also spread over the paving and filled the interstices of the stones.

A heavier deposit of burnt soil lay outside the building to the W., extending as far as the palisade but terminating abruptly on the S. at a line of stake-holes which were about 3 in. in diameter and 9-12 in. deep. These stake-holes evidently represented a wind-break, linking the workshop with the palisade and screening a working-place to the N. where there were three small oval pits, 3-4 in. deep, in one of which (pit 2) the sides and floor were hardened and reddened by intense heat. A considerable quantity of iron slag, weighing 36 lb. at least, was scattered within the workshop but mostly outside in the area of the pits, around which was also lying much carbonized hazel-wood, mostly in the form of charcoal sticks.

It seems clear that iron-working, probably including smelting of the ore, was the main activity and pit 2 probably marks the site of a small furnace. This processing was being carried out during the initial phase of occupation on the motte; iron slag was found in the filling of the palisade-holes and the furnace pit itself was destroyed when a later post-and-wall perimeter defence replaced the original palisade.

PHASE III B

In course of time, the peripheral defence of the motte was reconstructed, the weapon-pit became obsolete and a tip for rubbish, and the house was enlarged by an addition on the W. which involved the filling of the hollow-way and the partial demolition of the workshop. Owing to the virtual absence of significant stratification on the site, it is not clear whether these modifications resulted from a single phase of rebuilding; for convenience, however, all these later features are shown collectively in FIG. 57*b*, without prejudice to their strict chronological relationship.

The Defences. The original palisade was replaced, at least on the W., by a post-and-wall construction behind the earlier feature. Its course was marked

by three post-holes, at $6\frac{1}{2}$ ft. centres, between which was a fair quantity of loose stone probably representing the surviving debris of an intervening wall. The central post-hole, smaller than the others, had been inserted through pit 2 and thus provided satisfactory evidence for the secondary nature of the inner line of defence. Clear indications of this later erection were not obtained elsewhere; there was a considerable scatter of stone at the edge of the mound on the E., but disturbance by rabbits made it uncertain whether this debris derived from the wall of the house above, from the perimeter defence, or from both.

The weapon-pit was filled to the surface with dark, charcoal-flecked soil which contained potsherds, iron objects and fragments of a rotary quern, as well as numerous animal bones; at the mid-height of the filling occurred a spill of stone debris, tipping into the pit from the S., which must have resulted from a collapse of the house wall (FIG. 55, cross section). The lower filling included pottery (FIG. 58, nos. 4, 8) which is datable to the late thirteenth or fourteenth century, by which time, therefore, the weapon-pit had fallen into disuse; from the very top of the filling was obtained an iron rowel-spur (FIG. 61, no. 7) which is the latest datable object found on the site.

The Hall. The original house was enlarged by an addition on the W. of about the same length and of equal width, to form a building which is here, for convenience, distinguished as the hall. The strict relevance of the term adopted is discussed below, p. 168.

In preparing the ground for the extension, the hollow-way was filled with stone rubble (FIG. 55, longitudinal section) and the surface of the mound to the W. was reduced by excavation, a levelling process that necessitated a partial demolition of the workshop. In the existing house the timber framing of the W. gable was removed, with the probable exception of the central support for the ridge-piece in post-hole 20, and the bank into which the upright timbers had here been set was demolished. The ragged termination of the bank on the S. and the truncated post-sockets can be seen in PL. X, A.

The hall was about 40 ft. in length internally and comprised two main communicating compartments, the larger unit, which incorporated the earlier house, having two external entrances placed nearly opposite each other at the W. end. The entrance in the S. wall gave access only to the larger chamber; the N. entrance, situated adjacent to the door in the internal division, was so placed as to be equally accessible from both apartments.

The W. wall of the hall was probably gabled, with a central timber upright, represented by post-hole 42, embedded in it to support an extension of the ridge of the original house. The line of the wall was actually to be observed on the surface before excavation as a slight hollow (see FIG. 52), which was found to follow an underlying belt of black loamy soil, rich in phosphate content and rather turf-like in appearance. A sample of this material was examined by Dr. Proudfoot, who reports (Appendix I, p. 173) that it probably derived from the decay of sods, of which the structure of the wall, at least in part, must have been composed; the phosphate enrichment suggests, moreover, that the turf may have been stripped from some convenient area on or near the mound itself.

Penetrating the surface of the mound at the base of this wall-collapse were numerous stake-holes, $1\frac{1}{2}$ -4 in., but mostly $2\frac{1}{2}$ in. or less, in diameter, and 5-18 in., but generally 6-7 in., in depth. Although assuming no regular pattern, two parallel series of these small sockets appear to line up and perhaps indicate the minimum thickness, 3 ft. in width, of the wall; to account for these stake-holes, it is suggested that light timbers were driven, skewer-like, vertically into the rising courses of sods, to stabilize the construction of the wall. It should be remarked that the stake-holes recorded in FIG. 57*b* represent a minimal number only; the small size of the sockets, inserted into a very mixed make-up of boulder clay, would have made detection difficult even in suitable conditions of excavation, and the rain-washed slurry that actually obscured the surface, despite constant cleaning, may have prevented the recovery of a larger total.

The internal party wall was built in a manner similar to that of the W. gable (although erosion had here largely removed the debris of sods) with a number of stout timber uprights embodied in the core of the structure. A central, stone-lined socket had evidently held a support for the ridge of the roof and two larger, but shallower post-holes, nos. 38, 39, were suitably positioned for uprights engaging the purlins, as it was no doubt considered that the turf superstructure was insufficient to bear alone the weight of the roof. The maximum width of the wall was only about 2 ft., as suggested by the distribution of stake-holes similar in size and character to those at the gable end. At two points flat stones had been grouped and placed on the surface of the mound at the base of the wall, but no continuous footing course had existed; a similar stone setting at the base of the W. gable may also be noted.

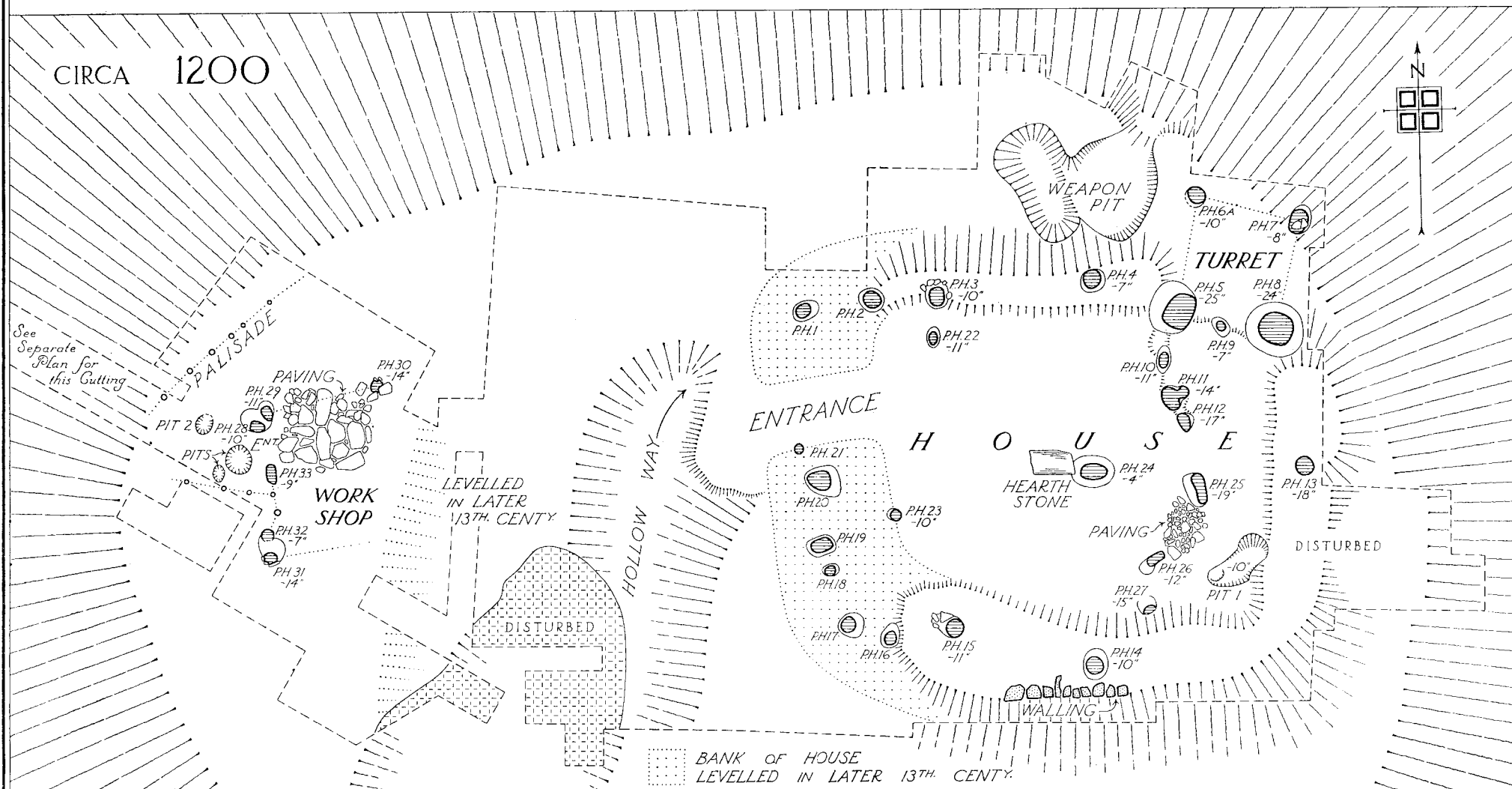
The wall terminated at post-hole 39, leaving to the N. an opening, 4 ft. in width, to permit communication between the two compartments of the hall. Contiguous with this internal opening was an external door in the N. wall, marked by a pair of post-holes (nos. 40, 41), 3 ft. apart centre to centre, fronted by an area, not completely investigated, of stone paving. At the S. end, the E. face of the party wall was edged by four post-sockets, 3-5 in. in diameter and about 9 in. deep, which formed the ingoing of an entrance to the E. chamber in the S. wall of the hall. On the opposite side of the entrance three larger post-holes, nos. 34-36 (PL. X, A, right foreground), perhaps indicated an internal partition, or spere, a feature which conceivably extended to the central post-hole, no. 20, although no trace of intermediate supports was recovered.⁶

Of the N. and S. walls of the W. compartment rather less can be said. That on the N. seems to have been of very light construction, its course shown by a few stake-holes, $2\frac{1}{2}$ -3 in. in diameter and 6-7 in. deep, extending in line from the door post, no. 41, and perhaps marking the main uprights of a wattle-and-daub superstructure. The junction of this wall with the gable end was not determined, for at the point of contact a mass of rock debris, in which no sockets were traceable, broke through the surface of the mound. The junction of the gable end with the

⁶ It is just possible that post-hole 18, although shown on the plan of the primary structure, fig. 57*a*, is a feature of phase III B. It differed little in character from the adjacent primary post-holes, but was somewhat deeper.

LISMAHON CO. DOWN SEQUENCE OF STRUCTURES ON MOTTE

CIRCA 1200



LATER THIRTEENTH CENTURY

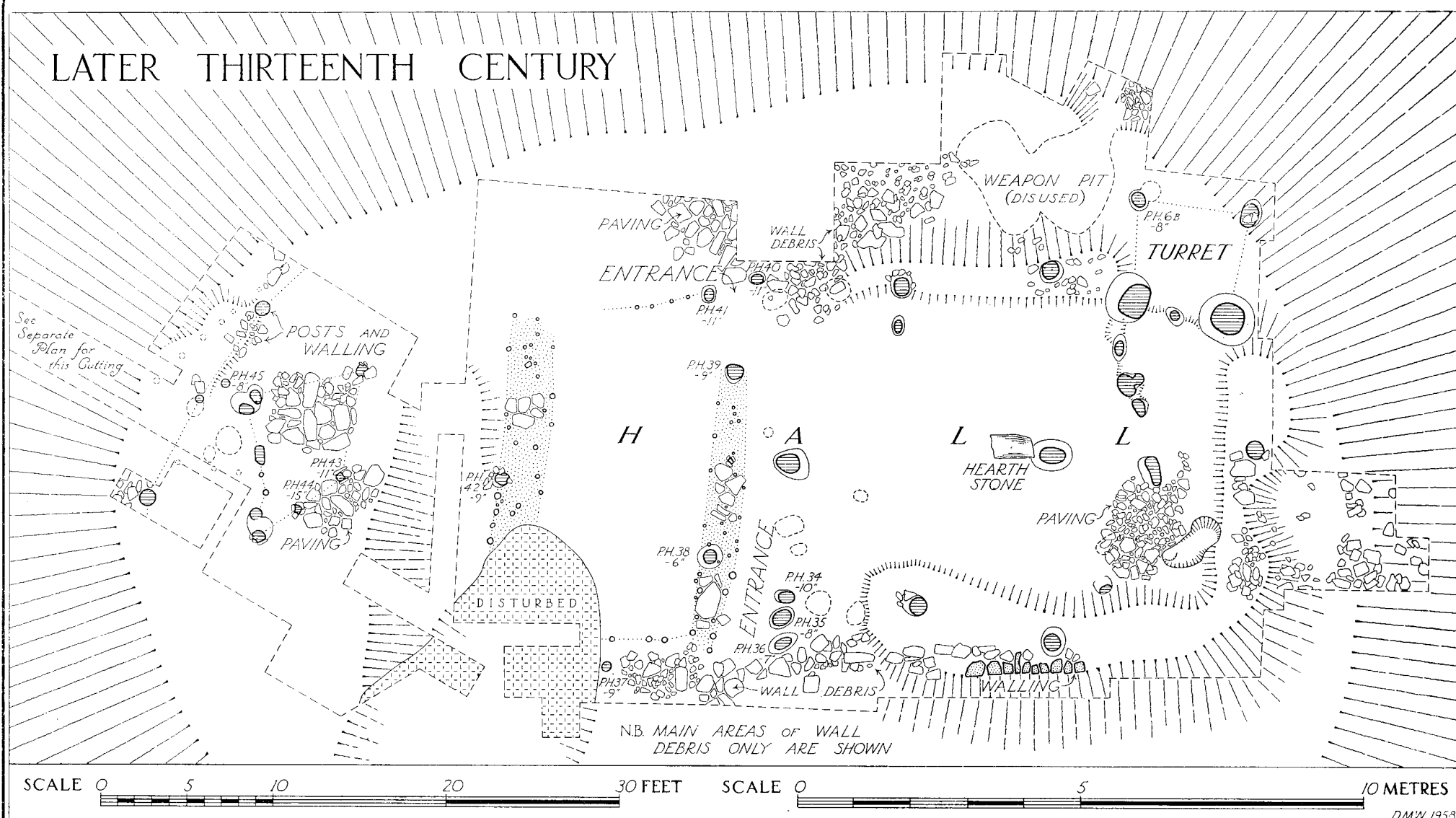


FIG. 57 *a* (top), *b* (bottom) (pp. 146-56)

S. wall was similarly irretrievable, in this case owing to destruction wrought by modern disturbance. The S. wall, however, appears to have been, at least in part, of clay construction, since a heap of quite clean, sandy boulder clay, mixed with stones, was found on its line. The inner face of the wall, at any rate, was clearly indicated by three small post-holes, 3-4 in. in diameter and 6-8 in. deep, with a fourth at the return of the party wall; furthermore, a local spread of occupation-soil on the floor of the building extended up to, and terminated sharply against, these sockets. An isolated post-hole, no. 37, remains to be considered. It is just possible that this was one of a pair framing a door, with a corresponding socket, destroyed during disturbance, on the inner face of the gable wall to provide an opening about 4 ft. in width.

The occupation-soil referred to was confined to the SE. corner of the W. compartment and only a few thin patches remained elsewhere. On the paving outside the N. entrance was found a jug rim (FIG. 58, no. 5), which can be attributed to the late thirteenth or early fourteenth century, and a sherd of the same, or of a similar vessel, was incorporated in the collapsed material of the S. wall. These were the only datable finds which could certainly be associated with the residential building in its final form; the material from within the original house, which remained in use throughout phase III, cannot be attributed to the initial or secondary occupation in the absence of stratification.

The roof over the extension, between the gable and the party wall, must have incorporated a ridge-piece and purlins, bearing on these walls or on the timber uprights incorporated in them; the pitch, however, need not necessarily have been the same as that of the original house. The feet of the common rafters presumably rested on a wall plate; on the S. this member was perhaps borne by the posts on the inner face of the wall and on the N. was possibly framed into the door-post. The height of the side walls cannot be determined; if low, the external entrances must have been provided with their own small gabled roofs.

The main structure of the early house, apart from the W. gable wall, appears to have been merged into the hall layout without significant modification. The gaps in the side walls, between the cut-back bank and the inserted entrances, however, must have been closed in some way, and the large amount of stone debris at these points suggests that they were built up in masonry, presumably extending the line of the original walling. Deterioration of the frame of the house is suggested, as already mentioned, by the presence of timber struts in post-hole 27 and perhaps 22, and a repair to the tower is indicated by the duplication of post-holes at the NW. angle of the structure. At some time, too, the SE. angle-post of the tower had been bodily removed, permitting an inrush of occupation-soil within the socket. Finally, a renewal of the stone paving at the entrance to the closet, at a higher level and over a wider area, may be noted; this resurfacing involved the disuse of a post in socket no. 26, the purpose of which is obscure.

The Workshop. Evidence for a reconstruction of this building, after partial demolition, is afforded by an area of stone paving, separated from the surface of the mound by a thin deposit of sooty earth, and two associated stone-lined post-holes, nos. 43, 44, at the NW. edge. In its final form the workshop thus appears

to have been reduced to a trapezoidal plan, $8\frac{1}{2}$ by 7 ft. in maximum length and width, and the stone paving may indicate the position of a door on the SE., replacing the original W. entrance. The destruction of the furnace-pit (pit 2) during rebuilding of the perimeter defence may have brought the operation of the bloomery to a close, and a direct opening from the building to the working-place would no longer be necessary.

THE FINDS

COIN

Mr. W. A. Seaby, Director of the Belfast Museum and Art Gallery, has examined the coin found in the weapon-pit and kindly reports as follows:

'The coin from the weapon-pit is of thin, brittle, impure silver, having a maximum diameter of $\frac{3}{4}$ in. (19 mm.) and weighs slightly under 8 grains. When found, it had a good deal of dirt and some corrosive salts adhering to the surface.

*Obv.*⁷ PATRICIVS (outer and inner beaded circles). In centre, representation of head of bishop's pastoral staff or crosier, probably symbolizing the saint; to left, a cross botonée.

Rev. IOHS: DE CVRCI (outer and inner beaded circles). Cross annuletty, each terminal circle and the central circle enclosing a pellet; a pellet in each angle. Possibly the head of a monumental or processional cross is intended.

The coin is large for a halfpenny but weighs considerably less than the halfpennies issued in Dublin and Waterford by Prince John, as Lord of Ireland, between c. 1185 and 1199 ($11\frac{1}{2}$ grains). It can therefore be assumed that the issuer used a large module to offset the lightness of the piece and that it passed for a halfpenny. So far as is known this coin is unique.

John de Courcy struck farthings for Downpatrick and Carrickfergus and others in his own name, GOAN D' QVRCI, and all these have been fully discussed by Aquilla Smith in describing the hoard found near Newry before 1858⁸. There are, however, several differences between the farthings and the present halfpenny which may be of significance. One is the abbreviated Latin form of de Courcy's name on the new halfpenny in marked contrast to the Anglo-Norman rendering on the farthings.

Another is the central design on the obverse with the shaft crossing over the legend space. This crosier has a spiral head and large knob, typical of all French- and English-type pastoral staves of the twelfth and early thirteenth centuries, although less characteristic of the earlier Celtic form used in Ireland⁹. The nominative form of the saint's name suggests that the symbol represents the saint himself, whereas on the farthings the form PATRICII appears, indicating that the word CRVX has been omitted and that the cross belonged or was dedicated to him.¹⁰

It is probable that John de Courcy struck coins after he was constituted sole governor of Ireland in 1185; he may, however, only have issued coins in Ulster after 1189 when he was removed from the office of justiciar in Dublin and retired to his northern capital at Downpatrick. Since he removed the shrine of the Holy Trinity at Down Cathedral and rededicated the church to St. Patrick as early as 1183, it is, of course, possible that these coins are memorials of that event. In any case he is likely to have ceased all issues after Prince John came to the throne in 1199 and reserved for himself 'omnia placita Hibernye spectantia ad coronam nostram, et monetam, et

⁷ Obverse and reverse are difficult to determine in this instance but the writer has followed Aquilla Smith's interpretation of the de Courcy farthings (*Numismatic Chronicle*, n.s. III (1863), 149-161).

⁸ See note 7.

⁹ W. W. Watts, *Catalogue of Pastoral Staves* (V. & A. Museum, 1924), frontispiece and pls. ii-vi; J. Raftery, *Christian Art in Ancient Ireland* (1941), pls. lxxxvi-xcvii.

¹⁰ Aquilla Smith, *op. cit.* in note 7, p. 153.

cambiam".¹¹ If, therefore, the de Courcy halfpenny was *in circulation* when it was dropped at Lismahon, it dates the refortification of the mound closely to the later years of the twelfth century.¹²

Mr. R. H. M. Dolley of the British Museum, Dr. William O'Sullivan of the National Museum, Dublin, Mr. Derek Allen, Dr. T. S. Agnew and Mr. Peter Seaby have all contributed valuable comments on this coin.³

POTTERY (FIG. 58, nos. 1-9)

Phase I. Only one piece of pottery was found:

1. Upper part of bowl of souterrain ware, with simply rounded rim and applied finger-impressed strip. Hand-made, coarse reddish-brown clay containing numerous grits, including a flat pebble about $\frac{1}{2}$ in. diameter. The external surface darkened by burning and encrusted with a thick deposit of black carbonized matter.

The so-called souterrain ware has a wide distribution in east Ulster and is found on all types of habitation-sites, in raths, cashels and crannogs of the dark ages, as well as on castle sites of the twelfth and thirteenth centuries, and perhaps later. Such pottery was found at the rath at Lissue (*Ulster J. Archaeol.*, x (1947), 51) associated with a stone bearing ornament of tenth-century character. It has also been found on sites in Co. Down productive of imported wheel-thrown pottery (Class E of Thomas's classification, this volume, pp. 96 ff., 109), as at Ballyfounder (Waterman, 1958, p. 46) and Lough Faughan crannog (*Ulster J. Archaeol.*, xviii (1955), 55-57). This imported pottery is dated in contexts outside Ulster to the sixth-eighth centuries, but the origins of souterrain ware have yet to be determined.

Phase III. Three classes of pottery were in use during the thirteenth-fourteenth-century occupation:

a. Native Pottery.—This is hand-made, gritted and sometimes poorly fired, in dark-surfaced, reddish, brown or grey clay. A few fragments of everted rims and flat bases occur, but in no case can the complete profile of a vessel be restored. Decoration occurs rarely; apart from a rim sherd (FIG. 58, no. 9) with applied finger-impressed strip in the hollow of the neck, there are two body sherds which bear tooth markings of a comb-like implement. Most of the sherds exhibit impressions of chopped grass or straw which had adhered to the surface of the plastic clay and was burnt out in firing; these markings occur both inside and out but most plentifully on the under side of the base fragments. Such impressions are frequently present on dark-age souterrain ware, to which class of pottery finger-impressed strips are also sometimes applied. The native pottery from the motte occupation is clearly in the same dark-age tradition, although generally better fired, thinner walled and with less grit content. Similar native pottery was in use during the thirteenth century at Clough (Waterman, 1954a, p. 134, fig. 10) and the probable form of the Lismahon pots is suggested by two cooking-vessels, dated c. 1200, from Dundrum Castle (*Ulster J. Archaeol.*, xiv (1951), 26, fig. 4, nos. 4, 5). The everted rim may be a borrowing from a type of thirteenth-century cooking-pot, probably evolved under English influence, which is represented e.g., at Greencastle, Co. Down (*ibid.*, xv (1952), 95, fig. 5, no. 11); but the possible influence of the so-called 'crannog pottery' of west Ulster, although best known in late- or post-medieval contexts (O. Davies, *Excavations at Island MacHugh*, Belfast, 1950), cannot be overlooked.

b. English-style Pottery.—This is normal wheel-thrown pottery of English types and includes glazed jugs, cooking-vessels and pipkins (FIG. 58, nos. 2-8). It is uncertain how much of this material was made in Ulster; for a brief statement of the problem, see *Ulster J. Archaeol.*, xxi (1958), 67.

c. Imported Pottery.—A fragment (unstratified, not illustrated) of a strap-like jug handle, in fine buff-coloured clay with small red inclusions (probably pounded

¹¹ Charter Roll, *Turr. Lond.* 2 John, m. 28, *dorso*.

¹² A rather fuller discussion of this coin will be found in the *Brit. Numismatic J.*, xxix (1959), 87-90.

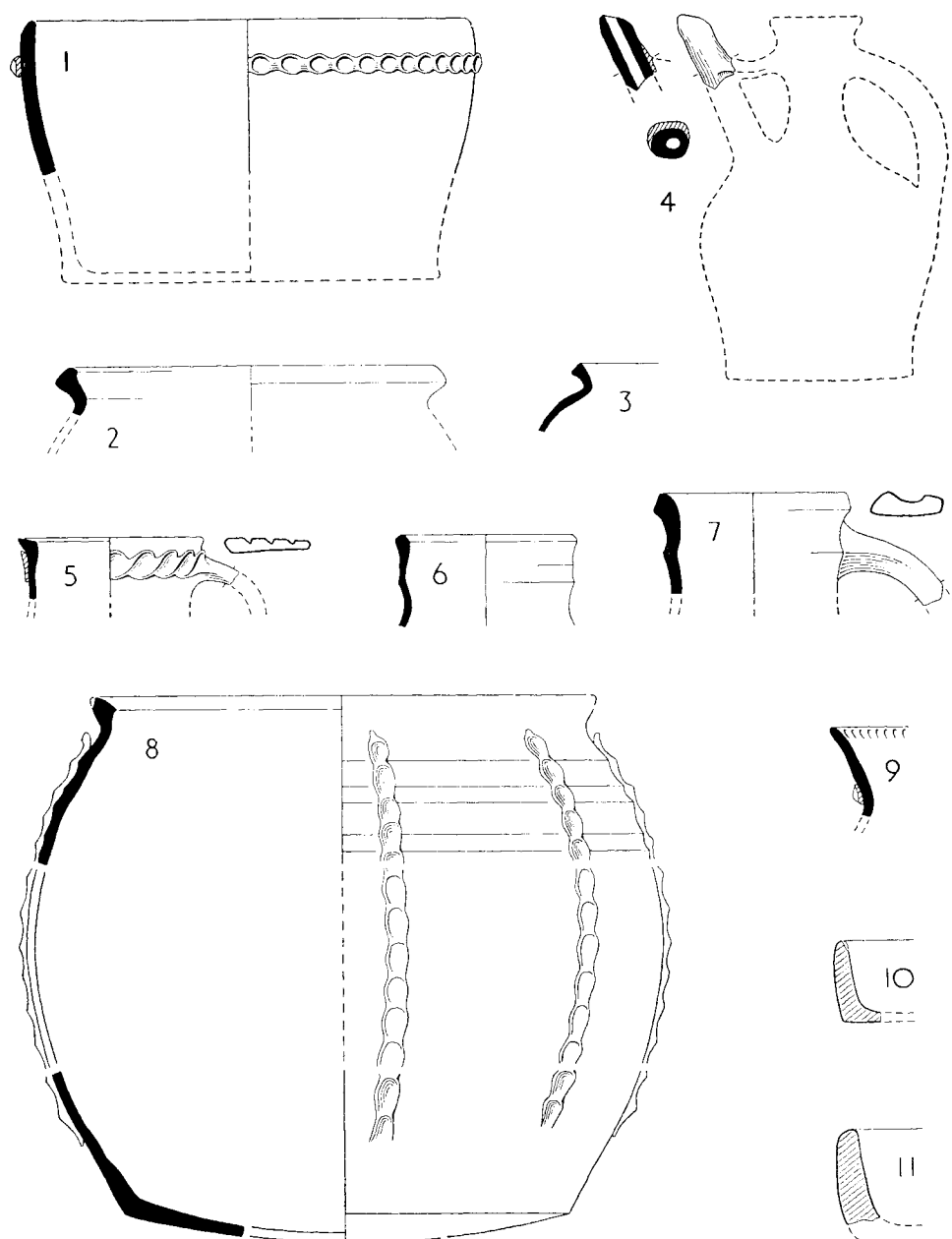


FIG. 58

LISMAHON, CO. DOWN

Pottery from phases I (no. 1) and III (nos. 2-9), and wooden bowls from phase III (nos. 10-11)
(pp. 157-61). Sc. $\frac{1}{4}$

brick or tile), covered by a thin mottled green glaze, is clearly not of local manufacture. It may possibly be an English import; the quality of the ware and glaze, however, suggests rather a French origin. For imported French pottery from Clough, see Waterman, 1954a, p. 124. A fragment of a polychrome jug has recently been found at Carrickfergus Castle, Co. Antrim.

2. Rim of cooking-pot, everted and thickened internally. Medium hard, close-textured grey clay with purple-brown surfaces. A patchy wash of thin, cracked and iridescent glaze, olive-yellow in colour, extends from the inner slope of the rim over the lip into the hollow of the neck. From occupation-deposit in hollow-way, early or middle thirteenth century.

A form of cooking-pot with internally thickened, properly folded-in, rim was current in the Gloucester area from the twelfth century until the later middle ages, *Trans. Bristol and Glos. Archaeol. Soc.*, LXXI (1952), 67, and in the western English counties, from Bristol eastwards to Oxford, occurs another type of thirteenth-century cooking-pot distinguished by a wash of glaze on the inner slope of the rim, *ibid.*, LXVIII (1949), 30. These comparisons are not intended to imply a west-of-England origin for the Lismahon vessel; but it is of interest to note such features in the hinterland of Bristol, a port actively engaged in Irish trade during the middle ages. The addition of glaze to thirteenth-century cooking-pots is uncommon, but occurs on two small vessels associated with coins of king John, 1199-1216, from Clough (Waterman, 1954a, p. 128, fig. 7, nos. 1, 2).

3. Everted rim, with small pinched lip for pouring, perhaps of a pipkin. Medium hard, gritted and laminated reddish-brown clay; thick, semi-vitrified umber-brown glaze on exterior. There is a fragment of convex base probably from this vessel. From occupation-deposit in hollow-way, early or middle thirteenth century.

4. Tubular spout, with part of strut holding it to the neck of the vessel. Hard, well-fired grey clay, mottled yellow-olive glaze. From filling of weapon-pit, later thirteenth to fourteenth century.

The vessel has been restored on analogy with a small spouted jug in the Yorkshire Museum, York. This is the first occurrence of a spouted jug in Ulster. The type is well represented in Yorkshire but has a wider, sporadic distribution; for recent distribution-maps see *Archaeol. Cantiana*, LXIX (1955), 146; *Trans. Cumb. Westmorland Antiq. Archaeol. Soc.*, LV (1956), 78. The role of the Nottingham potters in the development of this type of spouted jug has perhaps been underestimated; an example from Great Yarmouth, Norfolk (Norwich Museum) is provided with side handles, each in the form of a bearded face, which are seemingly a recognizable Nottingham feature (cf. B. Rackham, *Medieval English Pottery* (1948), pl. 82). The best dating evidence for jugs with tubular spout is still probably that from Castledykes, Kirkcudbright, where a fragmentary example was recovered from a site occupied by a garrison of Edward I during the brief period 1288-1308 (*Proc. Soc. Antiq. Scot.*, XLVIII (1913-14), 381-94; XCI (1960), 117 ff.).

5. Neck of jug with applied finger- or thumb-impressed band beneath rim and strap-handle bearing three parallel grooves down the back. Rather soft, finely gritted and close-textured reddish-brown clay with grey core; drops of brownish glaze on outside and top of rim. From paving outside N. door of hall-building, later thirteenth to fourteenth century.

Jugs with frilled neck-band are dated to the late thirteenth or early fourteenth century at several Ulster sites, e.g. Clough (Waterman, 1954a, p. 129); Carrickfergus Castle, Co. Antrim (*Ulster J. Archaeol.*, xv (1952), 109). They are common in the hinterland of Bristol and examples may have been carried to Ireland by way of trade through this port. A distribution map of these jugs (FIG. 59) has been prepared with the assistance of Mr. E. M. Jope.

6. Neck of jug, hard, close-textured reddish-brown clay, rich dark-brown glaze on exterior. From collapsed material of wall of hall-building.

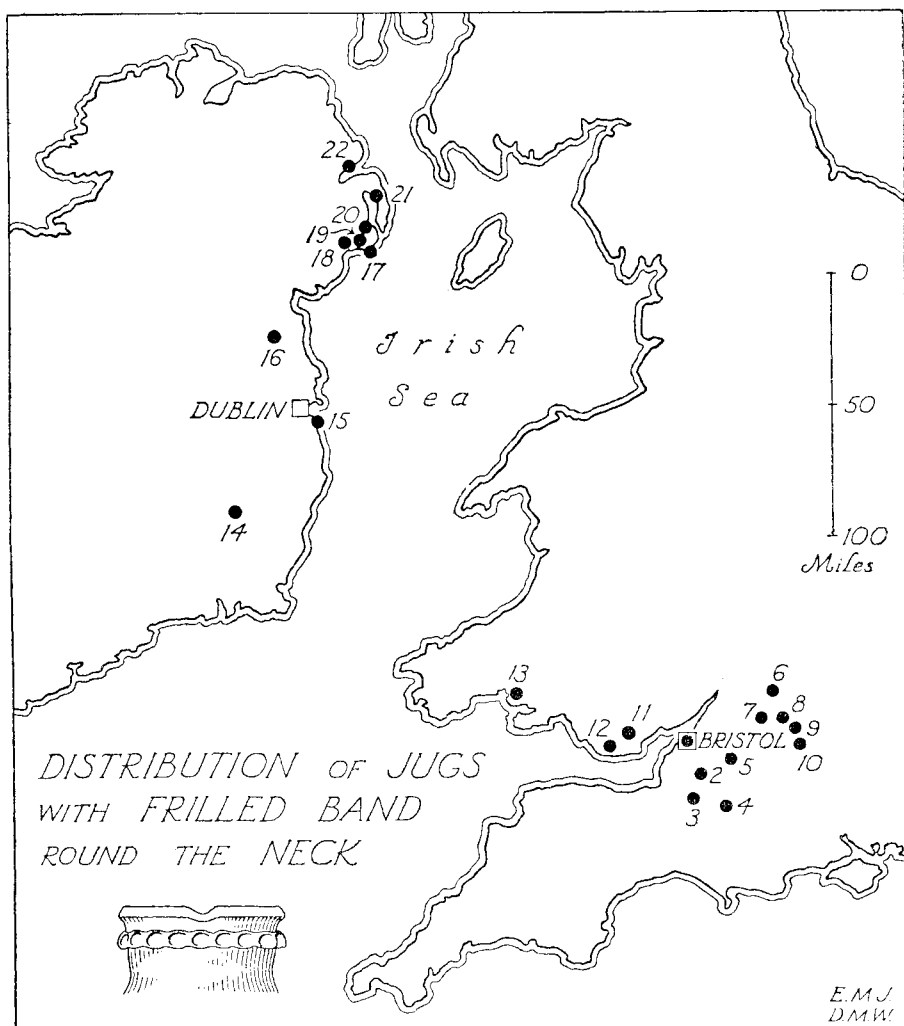


FIG. 59 (p. 159)

KEY TO SITES

Bristol (1); *Somerset*: Chew Valley (2), Glastonbury Abbey (3), Stavordale Priory (4); *Gloucestershire*: Lansdown (5), Tarlton (6); *Wiltshire*: Malmesbury (7), Wootton Bassett (8), Clyffe Pyppard (9), Avebury (10); *S. Wales*: Llandaff (11), Llantwit Major (12), Kidwelly Castle (13); *Co. Carlow*: Ballyloughan Castle (14); *Co. Dublin*: Dalkey Island (15); *Co. Louth*: Mellifont Abbey (16); *Co. Down*: Lismahon (17), Clough Castle (18), Lough Faughan Crannog (19), Downpatrick (20), Grey Abbey (21); *Co. Antrim*: Carrickfergus Castle (22)

7. Neck of jug with strap-handle bearing broad central groove. Rather soft, close-textured grey clay, brown external surface covered with olive-yellow glaze. Floor of hall-building, later thirteenth or fourteenth century.

8. Cooking-pot, everted rim with internal bevel, convex base. The body is strongly rilled and bears vertical finger-impressed applied strips; the spacing of these bands, as shown on the drawing, is uncertain. Medium hard, gritted grey clay, buff-brown surfaces. From filling of weapon-pit, later thirteenth to fourteenth century.

Cooking-pots of this type, but lacking the decorative bands, have been found at Carrickfergus Castle, Co. Antrim, in the later-thirteenth-century filling of the gate-house bridge-pit (*Ulster J. Archaeol.*, xv (1952), 113, fig. 6, nos. 1-6).

9. Cooking-pot, everted rim with applied finger-impressed strip in hollow of neck; thinning out of the lip has left a continuous series of finger-pinches on the inside. Hand-made, gritted grey ware, the interior surface bearing grass or straw impressions. From floor of house, thirteenth or fourteenth century.

The following fragments are not illustrated:

a. Fragment of pipkin-handle, circular in section with groove on upper surface. Soft, gritted reddish-brown clay, traces of yellowish glaze. From stone make-up in hollow-way, thirteenth century.

b. Fragment of pipkin-handle, rather soft brown clay with grey core, the end folded back as usual in this type of vessel. From filling of weapon-pit, later thirteenth or fourteenth century.

c. Sherd of jug, hard grey clay with olive-yellow glaze, decorated with applied scale-shaped pellets of clay, arranged vertically. From filling of weapon-pit, later thirteenth or fourteenth century.

d. Sherd of jug, hard reddish-brown clay with yellowish-brown glaze, decorated with applied, vertical, narrow clay strip, transversely notched at close intervals. From filling of post-hole 5, thirteenth or fourteenth century.

e. Everted rim of cooking-pot, rather soft, finely gritted reddish-brown clay, drop of yellow glaze on exterior. From stone make-up in hollow-way, thirteenth century.

Cooking-pots with similarly formed rim and in comparable fabric with splashes of glaze, were found at Castleskreen, Co. Down, in loose association with a coin of 1199-1218 (Dickinson and Waterman, 1959, p. 76, fig. 6).

The pottery was all in very fragmentary condition, so that an accurate estimate of the total number of vessels cannot be made. About a dozen cooking-pots, half in native fabric, and a score of English-style glazed jugs, together with two or three pipkins, seem to be represented. This is a small quantity to cover the wastage of an occupation of over a century; pottery must have been supplemented by vessels in other materials, presumably leather or wood.

The following objects were all associated with the occupation of the motte, phase III:

WOOD (FIG. 58, nos. 10, 11)

Fragments of two carbonized wooden bowls (no. 10, of hazel-wood, no. 11, of ash), both possibly lathe-turned, were found in the occupation-deposit in the hollow-way.

BRONZE (FIG. 60, nos. 1-3)

1. Plain buckle with iron pin. It consists of two elements, a U-shaped frame of plano-convex section to the back of which a rod, on which the pin rotated, was attached. From floor of house, thirteenth or fourteenth century.

2, 3. Studs with dome-shaped head, concave on the under side, and square-sectioned shank swollen at the extremity. No. 2 has an incised cross on the head and each stud retains a fragmentary iron washer on the shank. Both objects were found on the surface of the stone make-up in the hollow-way and are presumably later thirteenth or fourteenth century in date.

GLASS (FIG. 60, no. 4)

Dumb-bell-shaped toggle of blue glass, unperforated. From floor of house, thirteenth or fourteenth century.

In Ireland, objects of this type are of frequent occurrence and have been found on dark-age habitation-sites, as at Ballinderry Crannog No. 2 (*Proc. Royal Irish Acad.*, XLVII C (1942), 51, fig. 21, no. 251) and at Lagore Crannog (*ibid.*, LIII C (1950), 141,

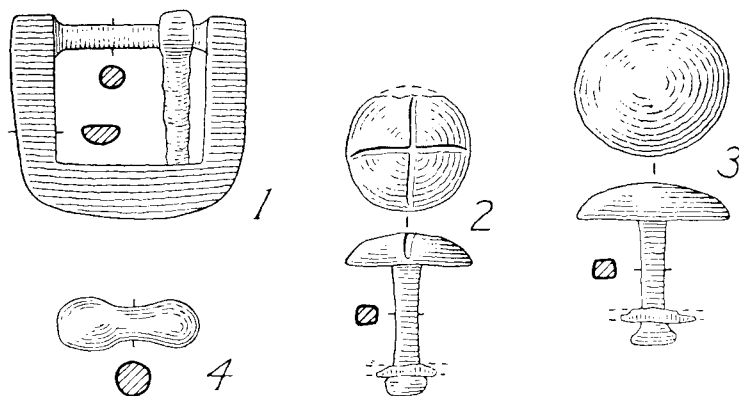


FIG. 60

LISMAHON, CO. DOWN

Objects of bronze (nos. 1-3) and glass (no. 4) from the mound (p. 161). Sc. $\frac{1}{4}$

fig. 67, no. 1471). Two examples from the promontory fort of Close ny Chollagh, Isle of Man, are said to date probably to the first century A.D. (*Proc. Prehist. Soc.*, XXIV (1958), 94, fig. 4, nos. 5, 6).

IRON (FIG. 61, NOS. 1-7)

The ironwork from the site was in extremely poor condition. I am indebted to Mr. B. C. S. Wilson, Department of Archaeology, Queen's University, Belfast, for cleaning and conserving the objects described.

1. Awl; pointed stem of square section, swelling at junction with circular tang. From filling of weapon-pit, later thirteenth or fourteenth century.

2. Tanged knife; same location as no. 1.

3. Tanged knife with remains of wood handle; same location as no. 1.

4. Staple, square section. From floor of house, thirteenth or fourteenth century.

5. Horseshoe nail of fiddle-key form. From filling of weapon-pit, with another example, later thirteenth or fourteenth century.

In England, such nails were used with horseshoes of twelfth-to-thirteenth-century type (*London Museum Medieval Catalogue* (1940), p. 112), but in Ulster may have continued into the fourteenth century, as at Clough (Waterman, 1954a, p. 140).

6. Fragment of horseshoe, heavy calkin. From floor of house, thirteenth or fourteenth century.

7. Iron spur, very corroded, the extremities of the arms broken away. An X-radiograph of this object, reproduced as a line drawing, B in FIG. 61, shows it to have been of rowel type. The shank is short, about 1 in. long, and retains the pivot of the rowel, which is missing. From top of filling in weapon-pit.

Spurs of rowel type appear to have come into general use after c. 1300 (*London Museum Medieval Catalogue*, pp. 103-5) and during the fourteenth century the shank is relatively short. The Lismahon spur is probably of the fourteenth century and, to judge

from the length of shank, is likely to be early rather than late within the period (cf. *ibid.*, fig. 34, no. 1, early fourteenth century).

STONE (FIG. 62, NOS. 1-8)

1. Fragments of upper stone of rotary quern, with a small circular sinking, perhaps for a handle, close to the edge. From filling of weapon-pit, later thirteenth or fourteenth century.

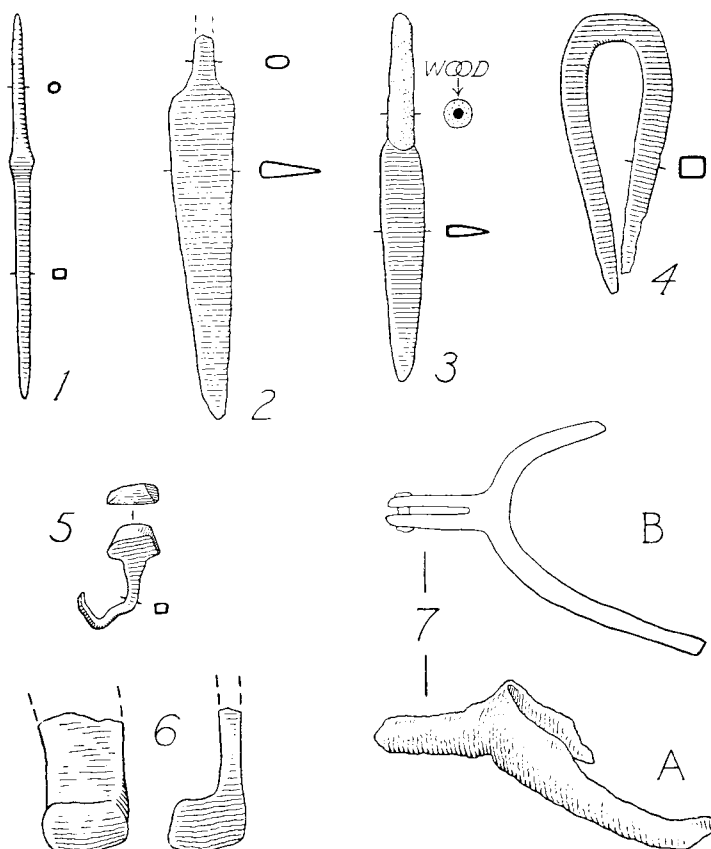


FIG. 61

LISMAHON, CO. DOWN

Iron objects from the mound (p. 162). Sc. $\frac{1}{2}$

The quern has been examined by Dr. J. Preston, Department of Geology, Queen's University, Belfast, who remarks that 'it is almost certainly Mourne granite and probably G2 (Quartzose variety, Richey)'. Mourne granite was also used for querns from Clough (Waterman, 1954a, p. 147) and from other dark-age and later occupation-sites in Co. Down (Waterman, 1956, p. 86; 1958, p. 50).

2-6. Five sandstone spindle-whorls, found together on the floor of the house, thirteenth or fourteenth century. No. 2 bears incoherent scratchings on one face and

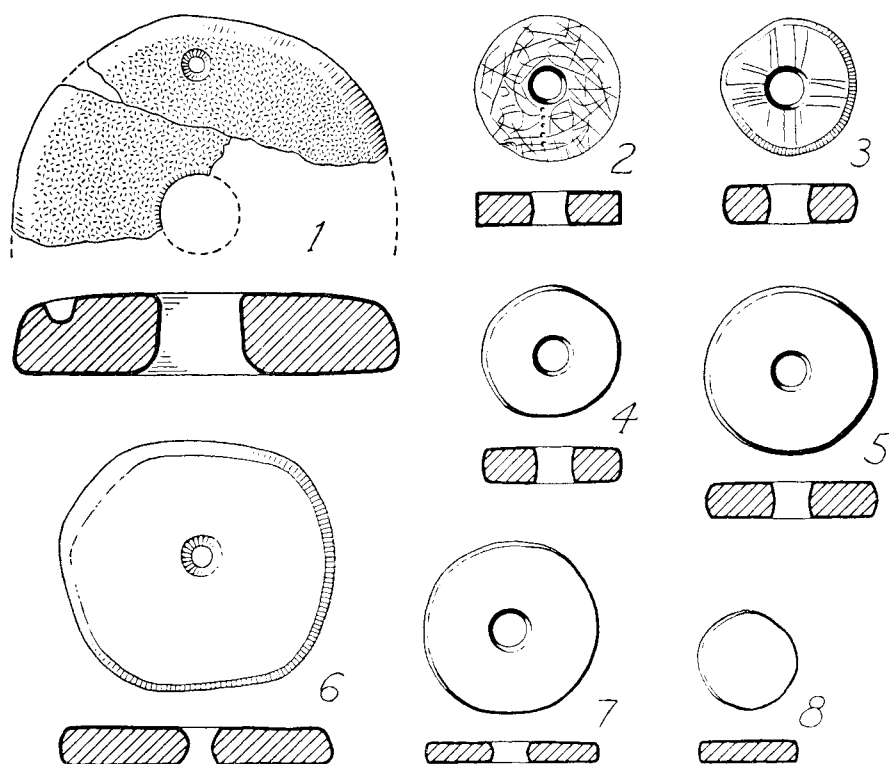


FIG. 62

LISMAHON, CO. DOWN

Stone objects from the mound (p. 163). Sc.: no. 1, $\frac{1}{8}$; nos. 2-8, $\frac{1}{2}$

small dimples on the other; no. 3 is also ornamented, with a cruciform arrangement of incisions on one side and random scratchings on the reverse.

7. Sandstone spindle-whorl, from make-up in hollow-way, thirteenth century.

8. Sandstone disc, from occupation-deposit in hollow-way, early or middle thirteenth century.

DISCUSSION

The documentary references to the site have been collected by Reeves (1846) and O'Laverty (1878). Lismahon lies within the parish of Ballykinler, certain lands of which were granted *c.* 1200 to Christ Church, Dublin, by John de Courcy, including probably part of the townland of Ballykinler Lower under the name of 'Lesscummascig'. The place name 'Lesmochan' first appears at about the same date in a charter of de Courcy to the abbey of Nendrum, confirming the churches and lands previously held by the monastery. In the ecclesiastical taxation list of 1307, the 'capella de Lismochan' is referred to, and Thomas Kittel, who succeeded to the bishopric of Down in 1305, had previously been parson of 'Lesmaghan'. An inquisition of 1427 found that Janico Dartas had been seized of two-and-a-half carucates of land in 'Lysmaghan', with the

advowson of the church; the church, according to Reeves, stood 'about 100 yards SW. of "Lismahon Fort"'. The place-name Lismahon, in one form or another, was therefore current at least by the early years of the thirteenth century, so that there are reasonable grounds for regarding it as a survival from dark-age origins.

Insofar as the existence of a dark-age platform-like earthwork was determined, the excavation may be said to have achieved its immediate purpose; but of equal interest was the evidence for a further heightening of the platform in the manner of an English-style castle-mound and for a continuous occupation of the site from its inception until the fourteenth century. In the virtual absence of finds, the dark-age settlement, phases I and II, cannot be closely dated; but the presence of a bowl of souterrain-type pottery indicates a commencement of occupation evidently not before the second half of the first millennium A.D. and, if the character of an associated bronze pin has been correctly determined, probably not before the eighth-tenth centuries. Excavation of a platform rath at Ballingarry Down, Co. Limerick (Ó Ríordáin, 1953, p. 20) produced evidence of successive occupation-levels and additions which raised the earthwork to its full height perhaps by the eighth century, although a post-Norman house had subsequently been built on the top. At Ballyfounder, Co. Down (Waterman, 1958), and at Shaneen Park, Belfast (Proudfoot, 1958), platform raths have been excavated which show an accumulation of dark-age habitation-levels followed, with or without a break in occupation, by an artificial build-up for further domestic use in the thirteenth century. In all these, however, the earthworks in their final form were considerably less in height than the Lismahon mound.¹³ Perhaps of greater significance in the present context is a mound on the shore of Lough Neagh, at Clanrolla, Co. Armagh (*Prelim. Survey A.M.N.I.*, p. 61), where an occupation-layer, containing pottery of dark-age character, has been revealed by erosion some 4 ft. below the present summit. Mention may also be made of the earthwork known as Piper's Fort, 2 miles N. of Lismahon,¹⁴ where a mound, with large central crater, rises to a height of 10 ft. above a dark-age occupation-level, recently exposed in the course of illicit digging, on the ground surface at its base. Other dark-age occupation-sites, later utilized as motte castles, are known elsewhere in eastern Ulster. In Castleskreen townland, Co. Down (Dickinson and Waterman, 1959), 3 miles NE. of Lismahon, an oval mound was thrown up, early in the thirteenth century, on the perimeter of an earlier earthwork of

¹³ Since this paper was written, excavation at Ballynarry on the E. coast of Lecale in Co. Down has shown a dark-age hill-top occupation-site established at ground level, which was built up, from successive layers of occupation debris and clay none more than 18 in. thick, to a maximum height of 10 ft. There were five main phases of occupation, of which phases 1 to 3 contained souterrain ware. In phase 5, producing thirteenth-century English-style glazed pottery, the top of the mound was enclosed by a bank, within which were the stone footings of a rectangular house, 14 by 12 ft. internally, and a stone-lined storage-pit. Even in this final phase the earthwork is best described as a rath-farmstead, or raised rath, since the slightly sloping summit and ramped and revetted entrance-passage are features characteristic of rath, rather than of motte construction. A detailed account of the site will appear in *Ulster J. Archaeol.*

The so-called refuge mounds in Zeeland (*Berichten R.O.B.*, VIII (1957-8), 114 ff.), built up in two stages, dated tenth to twelfth, and thirteenth century respectively, may also be noted. The lower, core-mounds were necessitated by physical conditions prevailing in the region but, so far, there is no direct evidence for identifying the high mounds as *châteaux à motte*.

¹⁴ See now *Ulster J. Archaeol.*, XXII (1959), 83-87.

normal rath type, and at Doonmore, Co. Antrim (Childe, 1938), occupation-soil, presumably from earlier habitation-levels, was used to level a small rocky eminence which, enclosed by a palisade of widely-spaced timber posts, appears to have functioned as a motte in the thirteenth and fourteenth centuries. At Knockaholet, Co. Antrim (*Prelim. Survey A.M.N.I.*, p. 19), a motte was also constructed within the area of an apparently earlier rath; both here and at Castleskreen the existing enclosure was presumably adapted to serve as a bailey. At the Co. Down site it is uncertain whether the motte should be regarded as a native work, raised in imitation of the castle-mounds of the invaders, or as an English construction designed to meet some passing military necessity; at all events the mound does not appear to have carried buildings, and the thirteenth-century occupation of the main enclosure seems to have been native in character. The important English-built motte at Ballyroney, Co. Down (Waterman, 1955), may also have been abandoned to native use during the course of the thirteenth century.

By comparison, for instance, with the material evidence for an English occupation of the motte-and-bailey castle at Clough (Waterman, 1954a), there are indications, to be discussed later, that the Lismahon site, throughout its history, was in native occupation. But whereas the native use of a castle-mound on the periphery of the English lordship, as at Doonmore, is explicable, the circumstances in which a fortification, similarly native in construction, could appear in Lecale, at the very heart of English Ulster, are by no means clear. With the defeat of the Irish by John de Courcy at Downpatrick in 1177, Lecale had fallen into English hands and considerable grants of land were thereupon made by the victor to his principal adherents, although no detailed lists of their names or possessions have survived. To them, presumably, the greater number of motte castles in the area can be attributed; but this does not, apparently, apply in the case of Lismahon, which seems to have been included in de Courcy's grant of c. 1200 to Christ Church, Dublin. The Anglo-Norman church no doubt afforded some prospect of betterment to its Irish tenantry (Curtis, 1936, p. 67) in contrast to the repression of the English feudal lords. If the Lismahon motte is indeed to be considered a non-English construction, this factor may have facilitated the appearance of a native fortification, on an English model, in otherwise unpropitious and unlikely circumstances. At the same time, the juxtaposition of castle and church is clearly reminiscent of English manorial practice, as exemplified in Co. Down, e.g., at Ardkeen and at Greencastle (*Prelim. Survey A.M.N.I.*, pp. 101, 141). Is it possible that Lismahon served as an administrative centre for Christ Church property, held by a warden responsible to the central authority in Dublin? Quite obviously, the character of the Lismahon motte is not easily to be assessed; it is time, therefore to examine the archaeological evidence which bears on the problem.

The transformation of the site from a platform rath to a motte castle is tentatively ascribed to c. 1200. The evidence for the event is scanty and the date depends largely on the significance to be attached to a single coin of John de Courcy found in a primary context on the mound. As Mr. Seaby points out,

however (p. 156), the coin, in normal circumstances, is unlikely to have been issued after king John's accession to the throne in 1199 and was presumably lost not later than the early years of the thirteenth century. The house, which in the absence of complete excavation of the top of the mound is assumed to be the principal residential building erected thereon, is a primary construction and must likewise date from this time. The plan, approximately a square with rounded corners, can be paralleled in dark-age houses recently excavated in Co. Down at Drumaroad (Waterman, 1956) and in Co. Antrim at Ballymacash (Jope, forthcoming) and at Larne (Waterman, forthcoming), all attributable to the latter half of the first millennium A.D. In these houses the floor area ranged from 16 by 12 ft. (Larne) to 18 by 17 ft. (Drumaroad); in all a central hearth was present, the entrance being situated at the mid-point of a short side and the roof supported by four free-standing posts disposed to occupy the corners of a square.¹⁵ The Lismahon house was of approximately similar proportions, but larger, 21 by 17 ft.; the roof construction, moreover, was different, involving the introduction of a ridge-piece which necessitated moving the entrance to an off-centre position in the gable wall. At Drumaroad, the walls were of mud construction; at Larne, however, they were of rubble masonry, seemingly dry but conceivably originally set in clay-mortar, built a single stone in thickness with an outer fair face, precisely as at Lismahon. This wall-building technique is seemingly a dark-age practice (Waterman, 1958, p. 51) and, in my view, emphasizes the essentially native character of the Lismahon house. The house plan itself can be traced further afield in dark-age contexts. Excavated instances occur at the 'Spectacles', Lough Gur, Co. Limerick (Ó Ríordáin, 1949, p. 58; house A), at Leacanabuaile, Co. Kerry (Ó Ríordáin and Foy, 1941; house B) and perhaps, with a four-square arrangement of roof supports, at Gwithian, Cornwall (Thomas, 1958, p. 20).

The tower attached to the house was presumably designed for defence and may have functioned in a manner similar to the larger free-standing structure found on the motte at Abinger, Surrey (Hope-Taylor, 1950). Strong towers of this kind, however, have yet to be identified in Ulster, and the slighter Lismahon construction may have been but one of a number of mural turrets, on the line of the palisade. The weapon-pit is a feature of motte construction already demonstrated at Clough (Waterman, 1954a, p. 107); but the Clough pits were deeper and the Lismahon excavation corresponds in depth more closely with a pit, occupying a similar peripheral position, on the Mote of Urr, in Galloway (Hope-Taylor, 1952, p. 170; and personal information). The strength of the Lismahon palisade compares unfavourably with the corresponding feature on the motte at Clough, where the posts themselves, 3-4 in. in diameter, were more closely spaced (Waterman, 1954a, p. 106); it appears, however, to be a stouter construction than the palisade at Dromore, in west Down (Waterman, 1954b, p. 166) where lies a great motte-and-bailey castle which remains one of the most impressive examples of English earthwork fortification in Ulster.

¹⁵ For a reconstruction of the Drumaroad house see Waterman, 1956, fig. 7. The reconstruction of a house, essentially similar in layout, of the migration period at Vallhagar, in Gotland, offers a different solution to the roofing problem, *Vallhagar: A Migration Period Settlement on Gotland, Sweden* (Ed. M. Stenberger, Copenhagen, 1955), II, fig. 439.

In layout, the original house was essentially of two-room plan, having at the east end a small chamber, screened by a partition and probably used for sleeping. As enlarged in the later thirteenth century, the residential building was therefore presumably of three-room plan, with a cross passage at the lower end of the principal apartment which linked the external doors and also opened to the additional room on the west. The three-room plan was common to two building traditions, that of the 'long-house', in which the third room was devoted to farm purposes, either the accommodation of livestock or of farm produce, and of the 'hall-house' wherein the same room was used for household service. The dual origin of the three-room and cross passage plan has been discussed by Sir Cyril Fox and Lord Raglan (I, 87-90; II, 104-8) who conclude that both long-house and hall-house are 'two branches of one stock, originating in very early times'. The long-house is not clearly represented in the dark-age archaeology either of Ireland or of Celtic Britain as a whole. Rectangular houses with opposite entrances in the longer sides are known, earlier than the Celtic monastery at Tintagel (Radford, 1935, p. 409) and, associated with a pin of Irish ring-headed type, at Gateholm, Pembrokeshire (Lethbridge and David, 1930);¹⁶ but a combination of features perhaps suggestive of long-house construction appears solely at Mawgan Porth, Cornwall (Bruce-Mitford, 1956) and then only at a time after the extension of Saxon power into the peninsula. In Wales, a dark-age origin for a type of platform house has been suggested, but the excavated sites, while of long-house character, have been shown to date no earlier than the thirteenth century (Aileen Fox, 1937, pp. 250-55; 1939, pp. 175-80). Of similar date is the long-house excavated at Beere, North Tawton, Devon (Jope and Threlfall, 1958) wherein the three-room and cross-passage layout is clearly to be discerned; another excavated long-house, at Crane Godrevy in Cornwall (Thomas, 1958, p. 29) is said to have originated in the twelfth century and continued in use, after rebuilding, until the early sixteenth century.

There is no direct evidence for the use of the third room in the later thirteenth century building at Lismahon. Certainly, the stone make-up of the floor would seem appropriate rather to a dwelling than to a cow-house, although the surface was extremely irregular and retained only slight traces of occupation. Attention has already been drawn to the possible existence of an external door in the south wall, which might be considered as an entrance for livestock, and it is extremely unfortunate that disturbance prevented verification of such a feature. Even so, the presence of a byre on a castle-mound is difficult to explain and for this reason alone the identification of the third room as a shippon may well be discounted. Use as a stable, or even as a dairy or grain or fuel store, cannot readily be dismissed, but discussion on these lines is quite useless in the absence of information concerning method of access to the mound, and the ease or difficulty with which it was gained.

In my view, the Lismahon structure in its final form should be regarded as a regular English-style hall-building, an identification based on the position of

¹⁶ They are said to be of the fourth-sixth centuries; also fourth-century is the remarkable building B at Iwerne, Dorset (*Archaeol. J.*, civ (1948), 58), but this cannot be considered here.

the entrance doorways in the side walls of the main apartment. These doors presumably led to a cross passage—the screens passage—at the lower end of the hall itself, from which was entered a third apartment, the normal function of which would have been that of a service room. There was no evidence to suggest that this third room had been used as a kitchen, and cooking may well have been carried out in the open; it is just possible, therefore, that the third room was used as the solar, occupying a position in relation to the hall which, although unusual, is not unknown, as in the twelfth-century two-story hall-building at Christchurch Castle, Hants. (Ministry of Works, *Guide*, H.M.S.O. 1956). The original closet, or sleeping-place, at the upper end of the hall, however, appears to have been retained and must presumably be regarded as, in effect, a diminutive solar; hence the third apartment is perhaps properly to be considered a service room, as one would expect from its position. In view of its construction there seems little reason for considering the Lismahon hall as other than a simple ground-floor structure. A model for a building of this type was, in fact, to be found close at hand on the motte at Clough (Waterman, 1954a, p. 110) where a stone-and-timber hall had been erected apparently in the second quarter of the thirteenth century. It is of interest to note the presence of two entrances in the Clough hall, one of which opened on to a part of the motte, otherwise difficult of access, between the building and the peripheral palisade; the north entrance at Lismahon may have been provided with a similar end in view. At both sites, cooking may have been carried out in this area, the fires sheltered from the prevailing winds by the bulk of the hall.

How long the motte at Lismahon continued in use it is difficult to estimate, but the rowel-spur, apparently of the fourteenth century, from the uppermost filling of the weapon-pit is seemingly the latest datable object found stratified on the mound. As at Clough, the site appears to have been abandoned during the course of the century (Waterman, 1954a, p. 122) and historical indications suggest that it may not have survived long after *c.* 1350. By this time, the English ascendancy was in decline, following the Bruce invasion and the chaotic conditions that ensued on the murder of the young earl of Ulster in 1333. It has been assumed that the English colony in Lecale was sufficiently strong to weather the storm, retaining its cohesion at least until the mid-fifteenth century (Curtis, 1938, p. 240). The evidence from Clough and from Lismahon, however, suggests that the repercussions of reviving native power may have been felt long before this time, at least on the marches of the English holding.

RECONSTRUCTION

A reconstruction of the house and tower erected on the mound *c.* 1200 has been attempted in FIG. 56.

If the significance of post-hole 27 has been interpreted correctly (p. 149), a minimum height for the ridge of the house can be estimated, i.e., about 10 feet above floor level. In the reconstruction, it is accepted that the junction of the strut in post-hole 27 with the central post was effected slightly below the ridge,

the minimum height for which is thereby not greatly exceeded. It is also assumed that the enclosing wall, by reason of its construction, was restricted to a few courses and that the roofing material was of sods or thatch, or of both. To obtain a pitch theoretically best suited to a roof of this nature, therefore, the height of the ridge should be increased to at least 13 feet.¹⁷ An attempt to indicate the fastening of the roof members would carry reconstruction to unwarranted lengths, but it may be noted that the virtual absence of constructional ironwork, especially nails, from the area of house and tower suggests that the timbers were tied by jointing or pegging.

The height of the tower cannot be gauged and this feature is but sketchily drawn, lacking the bracing necessary to ensure the rigidity of the structure. The use of a ladder, as a means of access to the upper story, has some support from evidence gained during excavation; at a point just west of the centre of the tower the surface of the mound was loosened, but not deeply penetrated, to form an area of superficial disturbance possibly caused by movement of the base of a portable ladder.

No reconstruction of the later-thirteenth-century hall-building has been offered. The appearance of the west end, however, where a sod-built gable has been suggested, may be gained from a photograph *c.* 1900 (PL. XI), brought to my notice by Professor E. E. Evans, of a turf-built cabin, now destroyed, at Magilligan, Co. Derry. Indeed, allowing for differences in material and height of the side walls, the Magilligan cabin conveys an excellent impression of the Lismahon building in its presumed final form.

¹⁷ To throw off water, a thatched roof cannot be pitched too low; the text-book requirement for thatch in the British Isles is an inclination of 45° (G. A. Mitchell, *Building Construction* (15 ed., 1943), p. 262). Observation of existing thatched roofs in Co. Down, however, indicates a pitch more often varying from 40°-45° and frequently less.

APPENDIX I

REPORT ON SOIL SAMPLES FROM LISMAHON, BALLYKINLER LOWER TD., CO. DOWN

By Bruce Proudfoot

(Durham Colleges, University of Durham)

The site was visited several times during excavation, particular attention being paid to problems of stratigraphy in the cutting into the W. face of the mound. Soil samples were collected for analysis and this report describes those results which are of archaeological significance.

Cutting into the W. face of mound. The location of five samples collected from layers (1) and (2) in this cutting (FIG. 53) is shown in FIG. 63. The amounts of phosphate and alkali-soluble humus in these samples were determined using methods similar to those described by Cornwall (1958). The results are shown in Table 1.

Samples A and B came from a thin band of rather reddish-brown boulder clay, slightly friable, and rather sandy in texture with a weakly developed crumb structure. Samples C and D, taken from the top of layer (1), were slightly darker in colour and rather more 'turfy' in appearance. Apart from this slight difference at the top of layer (1) no really consistent differentiation in the layer was noted. It can best be described as a sandy/medium loam with numerous stones. Most of the stones are of local silurian rock, and many retain sharply broken edges, especially where they have split into thin shaly fragments. Layer (1) was overlain by a thick accumulation of occupation-debris from which sample E was obtained. There were occasional flecks of charcoal in layer (1), presumably incorporated in it when the site was occupied, but the layer was otherwise quite undisturbed. The boulder clay beneath layer (1) was more compact and slightly greyer in colour, but there was no sharp division between it and layer (1). In the boulder clay, as in layer (1), many of the angular silurian stones retained their sharply broken edges, where rather slabby material has split lengthwise. It is probable that much of this shattering of the rock took place under periglacial climatic conditions, presumably at the same time as frost wedges were being formed in the near-by coastal gravels at Murphystown (Proudfoot and Gailey, 1959). Many of the flat faces of the shattered silurian rocks are coloured with bright-red and ochre iron compounds (Munsell colours 7.5 YR 5/8, 5 YR 5/8, 4/8, 2.5 YR 3/6) derived from the rocks themselves. The spread of this weathered iron material into the matrix of the boulder clay tends to give it a rather mottled appearance. It seems reasonable to suggest that layer (1) derives its reddish-brown colour from the diffusion of these weathering products throughout the whole layer. Analyses show that the top of layer (1) is relatively rich in humus, as indicated in Table 1 and FIG. 64.

The slightly higher humus content of D and the lower value for E suggests that sample D was taken at or near the original ground surface on which the occupation-debris, E, accumulated. The high phosphate value for D and the low values for A, B and C are consistent with this suggestion, for it is reasonably certain that there is relatively little migration of phosphates in the soil.¹⁸ The high value for D would then represent initial occupation on top of the old ground surface. Over much of the excavated cutting the top few inches of soil, represented by sample D, seem to have been removed either naturally or artificially, and the entire profile only survives where occupation-debris accumulated over the old ground surface. Nevertheless there are sufficient remains of the soil that underlies the path to suggest that it was a brown-earth similar to the Oligotrophic (Central European) Braunerde described by Kubiena

¹⁸ If there were extensive migration of phosphates it would not be possible to distinguish between successive archaeological deposits of different phosphate contents (cp. unpublished data from Cathedral Hill, Downpatrick), nor between parts of the same layer where phosphate contents differed (Johnson, A. H., 1956).

LISMAHON BALLYKINLER Td.

COUNTY DOWN

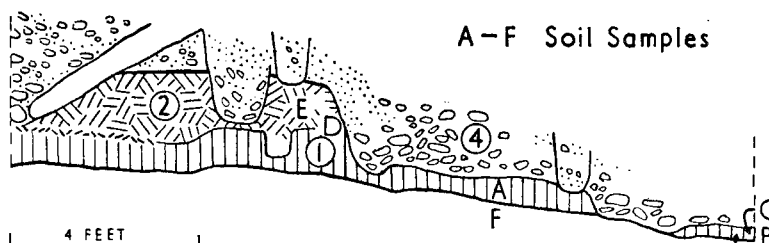


FIG. 63 (p. 171)

(1953, p. 234-6). A thin section of a sample from layer (1) has been prepared using techniques similar to those described by Dalrymple (1957) and this identification was thereby checked. In thin section the soil appears to have a rather loose crumbly or spongy structure. The iron appears as fine brown crumbs evenly dispersed through the soil: there is no evidence of staining round the mineral grains, but a small area of the slide (*c.* 1 mm. sq.) shows weakly developed streaking under high-power magnification.

A small pit was dug in the field between the site and the road on the south so that the profile of the soil that lay under the rath could be compared with that of the modern soil. The field has clearly been ploughed, probably within the last ten years. The top 10 or 11 in. of the soil are loose and relatively homogeneous, for the soil has been well mixed by cultivation and the sharp edges of the silurian stones which it contains have been smoothed. There is a sharp break between this cultivation-loam and the underlying compact boulder clay, which is similar to that described from the archaeological section (compare the profiles in FIG. 64). Taking into account the shallowness of layer (1), even where it is preserved intact, and the many contrasts between it and the cultivated soil outside the rath, it seems unlikely that the soil beneath the dark-age occupation was cultivated before the site was occupied.

LISMAHON BALLYKINLER Td.

COUNTY DOWN

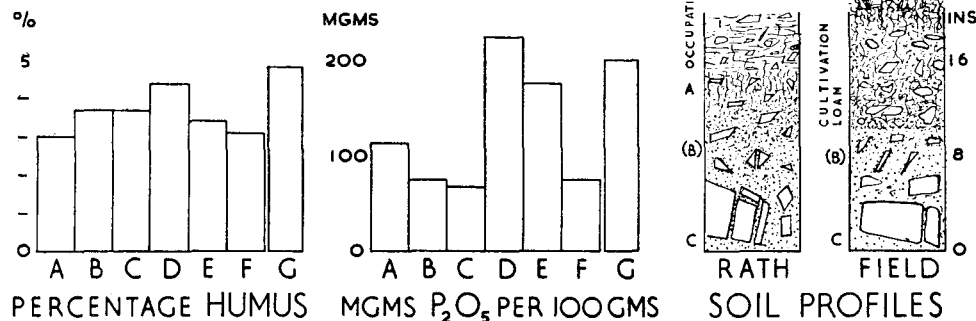


FIG. 64 (p. 171)

Table 1

<i>Description</i>		<i>Munsell colour</i>	<i>alkali-soluble humus percentage</i>	<i>phosphates mgms per 100 gms.</i>
A. Reddish-brown loam	} layer (1)	7·5 YR 4/4. 5 YR 4/3, 4/4	3·0	112
B. ditto			3·7	76
C. Reddish-brown loam but more turfy in appearance	} top of layer (1)	5 YR 4/3, 4/4 7·5 YR 4/2, 4/4	3·7	68
D. ditto			4·4	224
E. Occupation-debris overlying D	layer (2)	7·5 YR 3/2	3·4	176
F. Boulder clay		7·5 YR 4/4. 10 YR 4/4	3·1	76

Material from W. wall of hall-building. A sample, G, of material thought to be derived from the sod core of the W. wall of the hall-building has been examined:

<i>Description</i>	<i>Colour</i>	<i>Phosphates mgms per 100 gms</i>	<i>Alkali Soluble Humus %</i>
G. Fibrous black loam with some stones	10 YR 3/2	200	4·8%

The sample was black and 'turfy' in appearance and contained more alkali-soluble humus than the other samples described above. Its phosphate content was also relatively high, being slightly higher than that of sample E from the occupation-debris. It is reasonable to suppose that this material was originally sods, but whether it was enriched with phosphates before or after use in the core of the wall it is not possible to say.

CONCLUSIONS

1. The soil underlying the rath, represented by layer (1), was a brown-earth similar to the Oligotrophic Braunerde described by Kubiena.
2. This soil had not been cultivated before the rath was built.
3. The core of the W. wall of the hall was most probably of sods.

APPENDIX II

THE ANIMAL REMAINS FROM LISMAHON

By Margaret Jope

The animal remains were practically all from phase III. Phase I contained a number of oyster shells (*Ostrea edulis* Linné). The bones from phase III (except for 2 cat bones) were all of domestic animals, ox, pig, sheep/goat, hare, horse, rabbit, in that order of frequency. There were no deer remains anywhere on the site. The only bird bones were of domestic fowl, representing a minimum of 2 birds. There was 1 fish bone, a cod vertebra.

The rabbit remains must be regarded as recent intrusions, as the site was severely disturbed by burrows, most of which had collapsed.

PHASE I, SURFACE OF LAYER I

Ostrea edulis Linné 43+

PHASE III A, OCCUPATION

TABLE I

	Ox		Horse		Sheep/ Goat		Pig		Hare		Rabbit		Domestic Fowl	
	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.
Temporal Condyl	—	—	—	—	—	—	—	1	—	—	—	—	—	—
Mandible	—	—	—	—	—	—	1	1	—	—	—	—	—	—
Teeth	7	—	—	—	—	—	14	—	—	—	—	—	—	—
Coracoid	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Scapula	1	—	—	—	—	—	2	—	—	—	—	—	—	1
Humerus	1	—	—	—	—	—	1	2	—	—	—	—	—	2
Radius	—	1	—	—	1	1	—	—	—	—	—	—	—	—
Carpal	—	1	—	—	—	—	—	—	—	—	—	—	—	—
Metacarpal	—	—	—	—	1	1	—	—	—	—	—	—	—	—
Pelvis	2	3	—	—	—	2	2	—	1	—	—	—	—	—
Femur	—	—	—	—	—	—	—	—	3	—	—	—	1	—
Tibia	1	2	—	—	1	1	—	—	—	1	1	1	—	—
Calcaneum	1	—	—	—	—	—	—	—	—	—	—	—	—	—
Astragalus	1	—	—	—	—	1	—	—	—	—	—	—	—	—
Metatarsal	2	—	1	—	—	—	1	—	—	—	—	—	—	1
1st Phalanx	—	1	—	—	—	—	—	2	—	—	—	—	—	—
2nd Phalanx	—	1	—	—	—	—	—	1	—	—	—	—	—	—
Atlas	—	—	—	—	1	—	—	—	—	—	—	—	—	—
Vertebrae	—	—	—	—	—	—	3	—	—	—	—	—	—	—
Ribs	—	—	—	—	—	—	23	—	—	—	—	—	—	—
	7													
Number of bones	25 (+7)		1 (+7)		10 (+26)		28 (+26)		5		2		6	
Total no. bones	77 (+33)													
Percentage bones	32.5		1.3		13.9		36.7		6.5		2.6		7.8	
Approx. no. of animals	3+		1		2+		2+		3		1		2	

PHASE III A, OCCUPATION

Ostrea edulis Linné 1*Mytilus edulis* Linné 2

Cod vertebra 1

Cat { Radius (L) 1
Ulna (L) 1

PHASE IIIB, FILLING OF WEAPON-PIT

TABLE II

	Ox		Horse		Sheep/ Goat		Pig	
	L.	R.	L.	R.	L.	R.	L.	R.
Mandible	1	3	—	—	—	—	—	—
Teeth		12	—	—	1	—	—	—
Scapula	1	1	—	—	—	—	—	—
Humerus	—	—	—	—	—	—	1	—
Radius	2	—	—	1	—	—	—	2
Ulna	1	2	—	—	—	—	—	1
Pelvis	—	2	—	—	—	—	—	—
Femur	—	1	—	—	—	—	—	—
Tibia	—	—	—	—	—	1	—	—
Cuboid	—	1	—	—	—	—	—	—
Metatarsal	—	1	—	—	—	—	—	—
1st Phalanx	—	—	—	1	—	—	—	—
2nd Phalanx	—	—	—	1	—	—	—	—
Ribs			7	—	—	—	—	—
Number of Bones	28 (+7)		3 (+7)		2		4	
Total No. Bones							37 (+7)	
Percentage Bones	75.7		8.1		5.4		10.8	
Approx. No. Animals	3+		1		1		2	

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ACKNOWLEDGEMENTS

My colleagues in the work of excavation have already been mentioned (p. 141). To those who have assisted in the preparation of this report I would also express my thanks: to Mrs. F. L. Balfour-Browne and Mrs. Margaret Joje for examining the charcoals and animal bones respectively; Mr. E. M. Joje for help in compiling the distribution map, fig. 59; Mr. W. A. Seaby for his note on the coin; Dr. J. Preston for determining the material of the quern; Mr. Lawrence Flanagan and Dr. R. S. Crone for the X-radiograph of the spur; Mr. B. C. S. Wilson; Mr. A. E. P. Collins; and especially Dr. Bruce Proudfoot, who spent so much time on the site investigating soil problems and has provided Appendix I. It is a pleasant duty to make acknowledgement of so much help given readily on this and many other occasions.

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NOTE

The Society is much indebted to the Ministry of Finance, Northern Ireland, for a grant towards the cost of publishing this paper.