

IV.—EXCAVATIONS AT NEWMINSTER ABBEY, NORTHUMBERLAND, 1961-1963

Barbara Harbottle and Peter Salway

Acknowledgements

For a fortnight each August, 1961-63, excavations directed by the authors have been carried out at Newminster Abbey by the Medieval Group of the Society of Antiquaries of Newcastle upon Tyne. The directors are most grateful to the landowners, Mr. James Steel in 1961, and subsequently Mr. A. Armstrong, and to the one-time tenant, Mr. F. H. Hardy, for permission to excavate, to the Durham University Excavation Committee and the Morpeth Antiquarian Society for financial assistance, to Morpeth Corporation, Mr. and Mrs. A. Stroud and Mr. K. McGregor for lending equipment, to Mrs. B. Scott, Miss M. Clifford and Miss M. Cantrill for providing accommodation, and to Dr. Brian Dobson for much help with the administration. They wish to thank all those who have reported on and drawn the finds, or who have assisted in any way with the writing of the report, in particular Mr. R. Gilyard-Bear and Professor G. W. S. Barrow, and they acknowledge with gratitude the work of an army of volunteers, without whose ungrudging help the excavation could not have taken place.

The Site (fig. 1)

The Cistercian abbey of Newminster lies on the south bank of the River Wansbeck less than a mile west of Morpeth (NZ 189858). Like most monastic sites it was well-chosen, for here the valley widens out to provide a comparatively level area beyond the danger of flooding but still within the shelter of high wooded banks. The abbey itself was built on

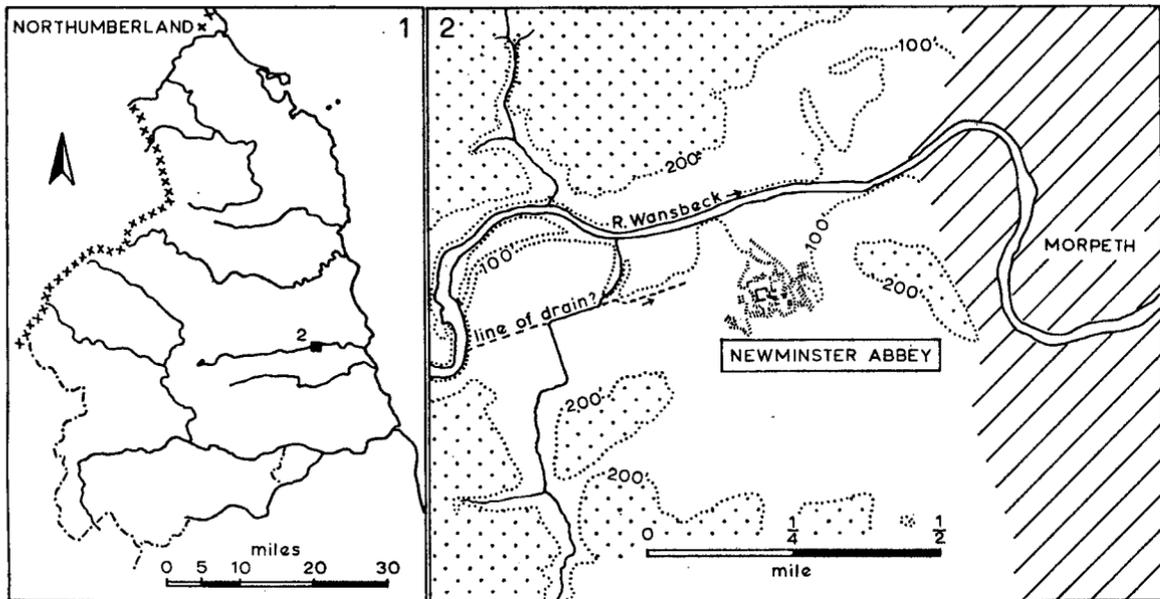


FIG. 1

a slight plateau of post-glacial alluvium deposited by the Wansbeck when it flowed at a higher level than today.¹

A good water supply was also a factor in the choice of monastic sites, and in his preface to the Newminster Cartulary Canon J. T. Fowler of Durham suggested that there had been two sources.² He stated that south-west of the abbey and within the curtain wall were buried tanks of oak and lead associated with a spring. If this is true, and there is certainly a marsh in that area now, such a spring might well have provided the community with drinking water. He also believed that water had been drawn from the river above Highford Bridge, and carried to the abbey in an artificial watercourse, which "can still be traced through a considerable part of its length." Near the abbey this is supposed to have been an arched conduit of stone 5 to 6 feet high, but at the river end excavation in the autumn of 1963 failed to reveal any masonry, though it did suggest that there might have been an open lade.³ This cannot be regarded as conclusive, and further work will be necessary before anything certain can be written about the abbey's water supply.

Documentary Evidence

Little is known of the abbey's history because, of all its records, only a cartulary has survived. It was the eldest daughter of Fountains Abbey in Yorkshire, and was founded on 5th January, 1138, by St. Robert and twelve other monks⁴ on land given to them by Ranulph de Merlay, lord of Morpeth.⁵ Newminster acquired a considerable amount of property in Northumberland, but it is probable that its nearness to the Border prevented it from becoming as large or as wealthy as the Cistercian abbeys further south. Nevertheless, it was able to establish three daughter houses at Pipe-

¹ We are grateful to Dr. D. A. Robson of the Department of Geology, the University of Newcastle upon Tyne, for this information.

² *The Cartulary of Newminster Abbey*, ed. J. T. Fowler, (S.S. 66), xiv-xv.

³ We are indebted to Mr. Michael Bartlett for permission to excavate here.

⁴ A. M. Oliver, *A List of the Abbots of Newminster*, (A.A. 3, XII), 208-10.

⁵ Fowler, *op. cit.*, 1-2.

well, Sawley and Roche within ten years of its own foundation. The abbey was dissolved in 1537, when it housed a community of seventeen priest-monks, three junior monks and four choirboys, and had an annual income of £100.⁶ The monks are supposed to have put up some resistance to the royal commissioners who came to dissolve their house, but with the aid of a mob from Morpeth the commissioners triumphed, and the mob razed the abbey to the ground.⁷

References to actual building operations are few and unhelpful. John Hodgson stated that the abbey was destroyed by the Scots under King David in the year in which it was built,⁸ and by this he must have meant 1138, for David acquired the earldom of Northumberland in 1139. At such an early date there were probably only timber buildings to destroy. And there is evidence in the cartulary to suggest that the nave of the abbey church was re-roofed with lead in the early fifteenth century.⁹

In 1574 the site of the abbey was leased to Sir Ralph Grey of Chillingham, whose son, Henry, is supposed to have lived there in the late sixteenth century.¹⁰ Be that as it may, it is certain that in post-medieval times the abbey served as a stone quarry for the surrounding neighbourhood, and in the late nineteenth century it was written that "there is scarcely an old building in Morpeth that does not contain 'Abbey stones'".¹¹ A water colour of 1792 showed only an arched opening at the west end of the nave standing above ground,¹² and in the 1830s Hodgson wrote that nothing remained "but the archway of the door of the conventual

⁶ David Knowles and R. Neville Hadcock, *Medieval Religious Houses of England and Wales*, (London, 1953), 112.

⁷ Fowler, *op. cit.*, xiii-xiv.

⁸ John Hodgson, *A History of Northumberland*, Part 2, Vol. II, (Newcastle, 1832), 408.

⁹ Fowler, *op. cit.*, 302.

¹⁰ Hodgson, *op. cit.*, 413n.

¹¹ A reprint of the *Newcastle Courant*, 25th October, 1878, bound into the front of the *Cartulary of Newminster Abbey* (S.S. 66) in the Woodman Collection of the Society of Antiquaries of Newcastle upon Tyne, (ref. M 16 A 19).

¹² *P.S.A.N.* 3, VIII, 115, and plate opposite 114.

church; all is green sward, overspreading long lines of walls and irregular heaps of ruins. . . .¹³

Previous excavations

Newminster has been partially excavated several times since 1800, but no reports have been published, and no unpublished drawings have been found.¹⁴ Information about these excavations is thus limited to that contained in newspaper cuttings, and in accounts of excursions and meetings of the Newcastle Society of Antiquaries.

The first excavation, which might be more properly termed a treasure hunt, apparently took place in about 1800, when "a stone coffin was found in which were the remains of a young man with auburn hair, which, however, on exposure, soon passed into dust". A silver cup was also found on this occasion, but has long since disappeared.¹⁵

The next occasion was in 1836 when William Woodman, later to be town clerk of Morpeth, invited John Hodgson, at that time vicar of Hartburn, to join him in an excavation. Woodman has left a note to the effect that he "opened the ground" at the chapter house doorway, but—deterred by the amount of rubble he encountered—he soon stopped.¹⁶

In 1878 Woodman directed another excavation at the abbey, this time in association with Canon Fowler and J. T. Micklethwaite, an authority on religious houses. From the information which survives it seems that they excavated the whole of the chapter house, examined parts of the church—particularly the presbytery, the north transept and the west end of the nave—and made a few "sinkings" elsewhere,

¹³ Hodgson, *op. cit.*, 404-5.

¹⁴ We are grateful to Mrs. E. M. Honeyman, Mr. A. J. Berrey, Mr. Austin Child and Sir Eustace Renwick, Bart., for their assistance in our search for unpublished material.

¹⁵ *P.S.A.N.* 2, III, 115.

¹⁶ A letter from Hodgson to Woodman, 8th March, 1836, and notes by Woodman, bound between pp. 40-41 of John Hodgson, *A History of Morpeth*, (Newcastle, 1832) in the Woodman Collection.

in the west range, the warming house and the frater.¹⁷

Sir George Renwick, Bart., bought the site of the abbey either late in 1912 or early in 1913, and immediately began the first of a series of excavations which continued intermittently until 1928. He too devoted some attention to the church, or more specifically to the presbytery, both transepts and the north wall of the nave, but broke new ground when he investigated the cloister, the east range south of the chapter house, and parts of the reredorter, infirmary and abbot's lodging. Sir George was also responsible for the clearing out of the northern half of the west range, and for the re-erection of portions of the medieval fabric, notably the cloister arcades, the chapter house entrance and part of a pier in the south transept.¹⁸ Information about the fifth excavation is virtually non-existent, but it is believed that Mr. H. L. Honeyman worked at Newminster early in 1938.

The current excavation has been affected in two ways by this past activity. The amount of masonry already exposed in the church, cloister, and east and west ranges has meant that the trenches could be accurately sited to answer specific questions, and the previous excavators removed from this central area most of the overburden of rubble which had

¹⁷ For details of the 1878 excavation see the Woodman *Cartulary of Newminster Abbey*, *op. cit.*, bound into the front of which are:

Misc. 1. A reprint of the *Newcastle Courant*, 25th Oct., 1878, entitled "Excavations at Newminster Abbey, near Morpeth."

Misc. 2. A newspaper cutting, without date or provenance, entitled "Morpeth."

Misc. 3. A newspaper cutting, without date or provenance, entitled "Newminster Abbey" and signed J. T. Micklethwaite.

Misc. 4. A newspaper cutting, without date or provenance, entitled "Durham Archaeologists at Morpeth."

Misc. 5. A letter from Fowler to Woodman, 10th Oct., 1878.

Misc. 6. A letter from Micklethwaite to Woodman, 13th Jan., 1879.

See also *P.S.A.N.* 2, III, 110-114, and Fowler's preface to *The Cartulary of Newminster Abbey*, (*S.S.* 66).

¹⁸ For details of the excavations by Sir George Renwick see:

P.S.A.N. 3, VI, 23, 73-5, 104-5, 138-9, 209-11, 241.

P.S.A.N. 4, I, 318.

P.S.A.N. 4, II, 47-9, 137-8, 185, 203-4, 219, 221-4, 229.

P.S.A.N. 4, III, 94-7, 242-3, 266.

H. L. Honeyman, Robert Bertram and C. H. Hunter Blair, *The Tile Pavements at Newminster Abbey*, (*A.A.* 4, VI), 95-115.

NEWMINSTER ABBEY

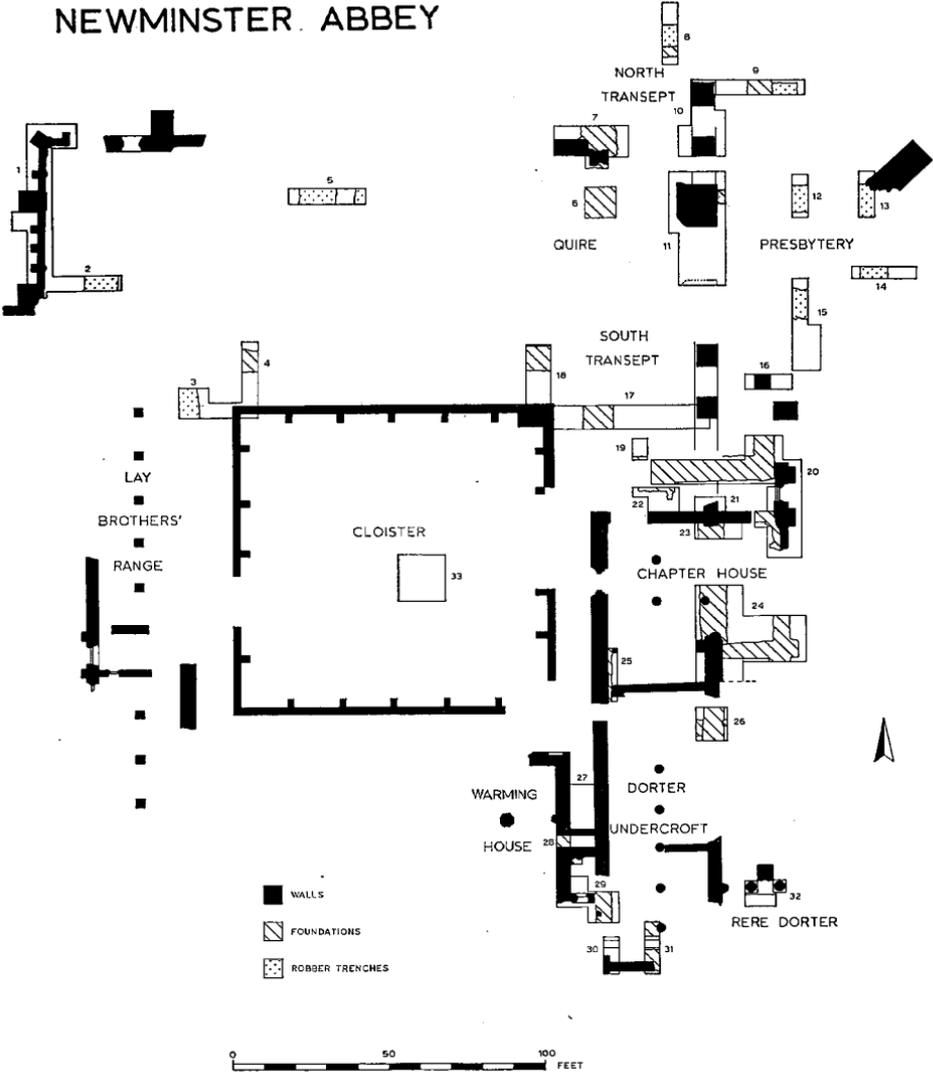


FIG. 2. PLAN OF EXCAVATIONS

resulted from the abbey's destruction. On the other hand, work has been impeded by spoil heaps, piles of stones and half-filled holes, and interpretations made considerably more difficult by the re-erected masonry and by the wholesale levelling of the site. Very few traces of floor levels have been discovered, and in many parts topsoil was found directly overlying undisturbed subsoil.

Reasons for the present excavation

From a local point of view, Newminster was of considerable importance in a county that contained only five independent monasteries (i.e. excluding cells, nunneries and friaries), and this is perhaps true even in a wider context, for there were just three Cistercian houses in the four northernmost English counties, the other two being Holcultram and Calder in Cumberland. Yet Newminster is the only religious house of any size in Northumberland of which no plan, however incomplete, has been published, and the dearth of satisfactory records of the earlier explorations has made it necessary to have yet another excavation before such a plan can be drawn. As the abbey lies in an open field which has never been either built on or ploughed, there is a reasonable chance that even the lesser buildings may have survived, and that continued excavation could well provide an unusually detailed picture of a Cistercian house. Until this point is reached, there can be only partial conclusions as to how far the lay-out at Newminster conformed to the orthodox Cistercian pattern, and to what extent and why it was altered or enlarged.

Extent and method of the present excavations (fig. 2)

During the last three years work has been confined to the church and the east range with the primary object of revealing an outline ground plan. The method employed has been one of selective trenching to establish the lines of walls, and to determine the nature of certain upstanding features. The trenches have been based on a grid, and the east face of the

east cloister wall, projected to north and south, was chosen as a base line on the supposition that the principal buildings round the cloister would lie parallel or at right angles to such a line, a theory subsequently proved to be correct.

Results of the excavations (fig. 3)

On the basis of the reconstructed plan of Newminster, and remembering that very little of the fabric remains above ground, it is fairly safe to say that the abbey was built on normal Cistercian lines with no more than its share of individual characteristics, and with few later alterations, none of which were very extensive. On the north side of the cloister, which was approximately 120 feet square, was the abbey church, consisting of an aisleless square-ended presbytery of three bays, transepts each with three chapels, and an aisled nave of nine bays. To the original church were added at least four new buttresses in the course of the years—a diagonal one at the north-east corner of the presbytery, one against the east wall of each transept, and a fourth at the west end of the north wall of the nave. Within, the bases of the two eastern crossing piers were enlarged, and hence probably the two western, and outside the west end of the nave was built a galilee, with the bases of two flying buttresses incorporated in its wall.

As first built, the ground floor of the dorter range had consisted of a library with a door in its east wall, a chapter house with its long axis from north to south and contained within the east wall of the range, a parlour, and a passage walled on its south side and leading from the cloister to the infirmary. South of the passage was the dorter undercroft, the full length of which is as yet unknown, but which certainly contained a northern room of six bays terminated by a partition wall at its south end. The main drain ran below the undercroft and eastwards into the reredorter, which had an open arcade along its north side.

Apart from indications that the arcade of the reredorter was later blocked up and buttressed (pl. X, fig. 2), and

NEWMINSTER ABBEY

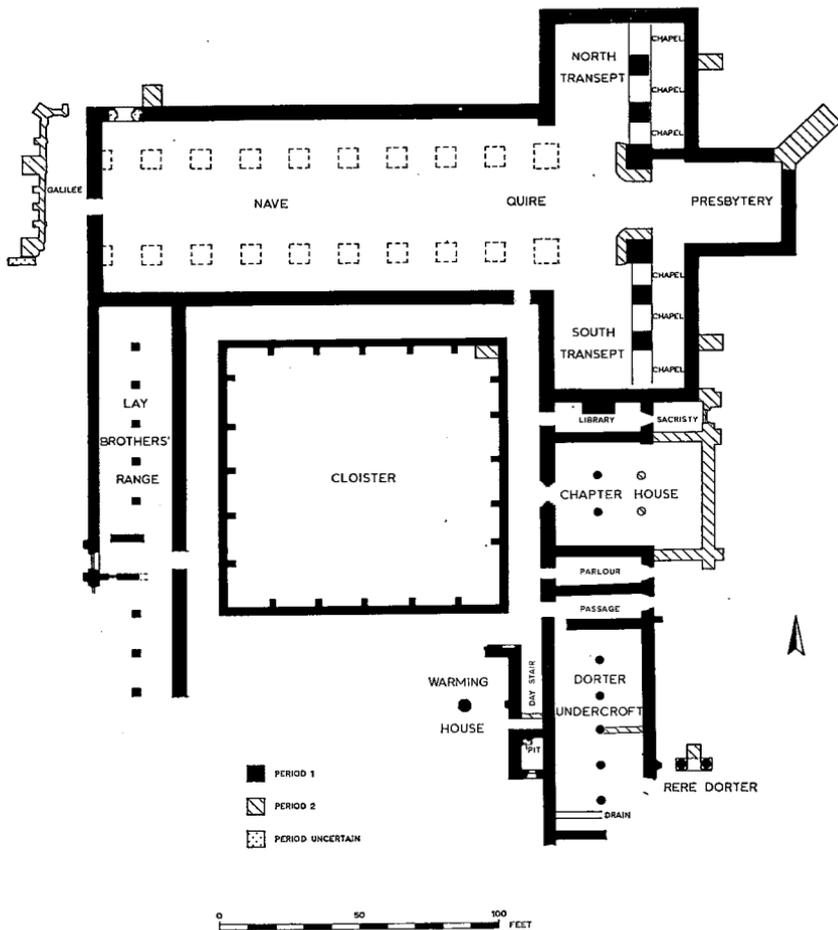


FIG. 3. RECONSTRUCTED PLAN

another partition wall built across the undercroft, the only other alteration in this area was the enlargement of the chapter house to the east and the addition of a sacristy next to the library. These rooms thus formed an extension the same width as the south transept and projected east of the dorter.

Only the extreme east end of the south range has yet been explored, and here—between the dorter undercroft to the east and the warming house to the west—was the space for the day stairs opening off the south walk of the cloister, and behind the stairs a small room containing a garderobe. The space for the stairs was later curtailed by the insertion of a wall to the south, thus leaving behind the stairs a deep niche which opened off the warming house (pl. III, fig. 1).

The abbey was in the course of building for a number of years, from the second half of the twelfth century well into the thirteenth. It seems likely that the church, cloister, and west and east ranges date from before 1200, and the rerdorter and south range from the thirteenth century. The chapter house was probably enlarged in the latter part of the thirteenth century, and the galilee and some at least of the buttresses on the church may well have been added as late as the fifteenth century. As the dating is tentative it has not been indicated on the plan, and all additions have been grouped together as secondary.

THE EXCAVATIONS OF 1961-63

The abbey church

There was enough masonry visible before the excavation began to suggest the outline of the church. The existence of a large diagonal buttress at the east end meant that a short square-ended presbytery was virtually certain, and although none of the transept walls remained above ground another buttress indicated the line of the east wall of the south transept, and by inference the same wall of the north transept. Two short sections of the north wall of the nave had been exposed in one of the earlier excavations, and the

battered remnants of the galilee wall provided a western limit. Within the church survived most of the bases of the piers in the transept aisles, and from these it was clear that there had been three chapels in each transept.

1. *The presbytery*

In the belief that the presbytery had been short and square-ended, trenches **12**, **14** and **15** were laid out across the supposed lines of the north, east and south walls, and **13** at the base of the diagonal buttress in an attempt to determine its relationship to the presbytery.

In **12** loose rubble, consisting of broken stones, mortar and earth, was found to cover the whole trench below the topsoil. As it went deeper the rubble narrowed to a width of 9 feet between sandy subsoil to north and south. At the bottom of the rubble and on natural gravel were a very few river cobbles. Among this debris was found a skeleton wrapped in lead, which had obviously been moved from its original resting place and well shaken up, for the lead was holed and the bones disarranged.

Very much the same situation existed in **14**. Here again rubble covered most of the trench except the extreme east end, and here too it narrowed down to 9 feet in width at about 6 feet from the surface, and with undisturbed sand on each side. In this area the river cobbles were rather more numerous on the gravel bottom. East of the rubble, and covered only by topsoil, there were two grave covers, one above the other, and a small coffin. The upper of the grave covers was decorated with an incised cross and an illegible inscription, and the coffin, which was 4 feet long and made from a single stone, was partially covered by a piece of wood painted pink, and contained three skulls, sundry other bones and a lot of earth. It is clear from their position and from accounts of earlier excavations that both grave covers and coffin had been discovered before.¹⁹

In the northern half of **15** (fig. 4) loose rubble 7½ feet

¹⁹ Misc. 5, *op. cit.*, and *P.S.A.N.* 3, VI, 210.



Fig. 1. Warming House – slot in east wall



Fig. 2. N.E. Crossing pier, showing early pier imbedded



Fig. 1.
North Transept
piers from north



Fig. 2. Buckle c. 1" long

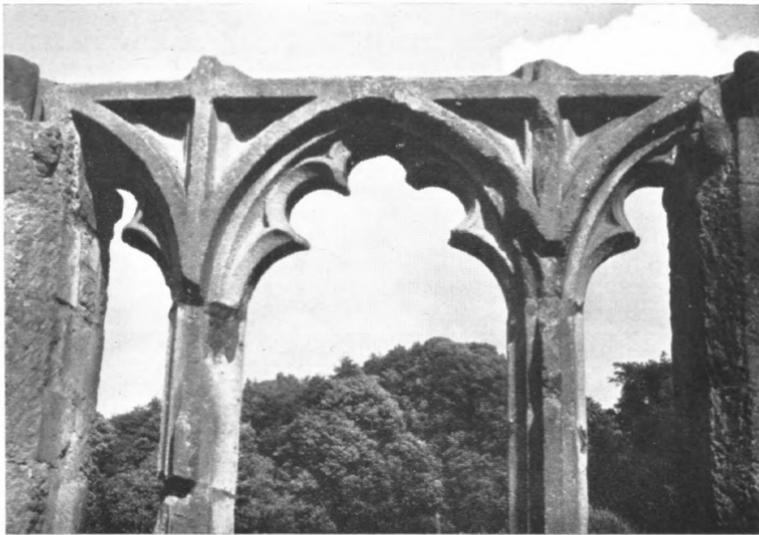


Fig. 1. Re-erected tracery in North Transept



Fig. 2. North wall of Nave joining North Transept



Fig. 1. Galilee: footings of N. large buttress



Fig. 2. W. wall of Lay-Brothers' Range as ghost wall



Fig. 1. Galilee: a small butters from the back



Fig. 2. Garderobe shaft



Fig. 1. S. wall of Dorter Undercroft: drain



Fig. 2. Cloister arcade: re-erected waterleaf capital



Fig. 1. Chapter House: original E. wall and secondary column base from N.



Fig. 2. Chapter House and Parlour: original E. wall from N.W.

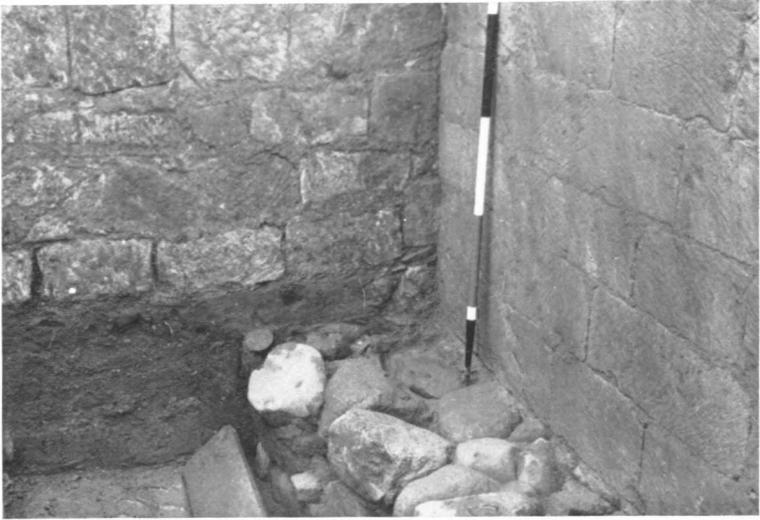


Fig. 1. Day Stairs: secondary S. wall overlying footings of E. wall



Fig. 2. Reredorter arcade and secondary buttress from south

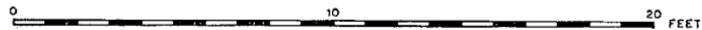
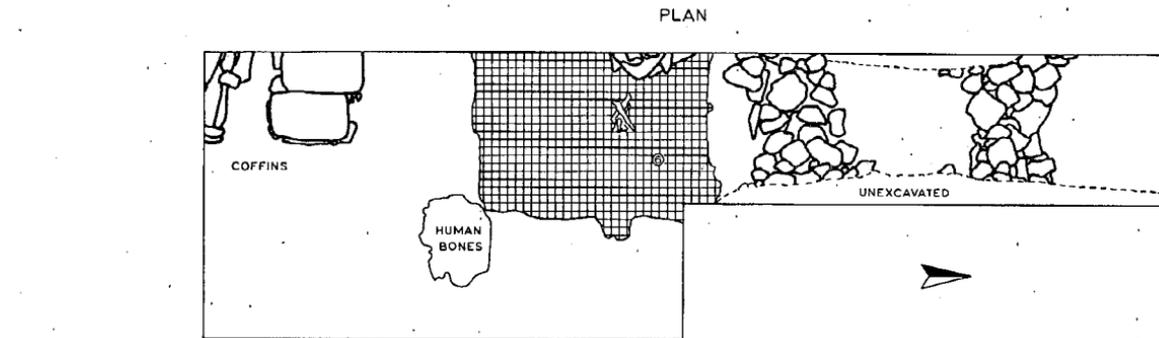
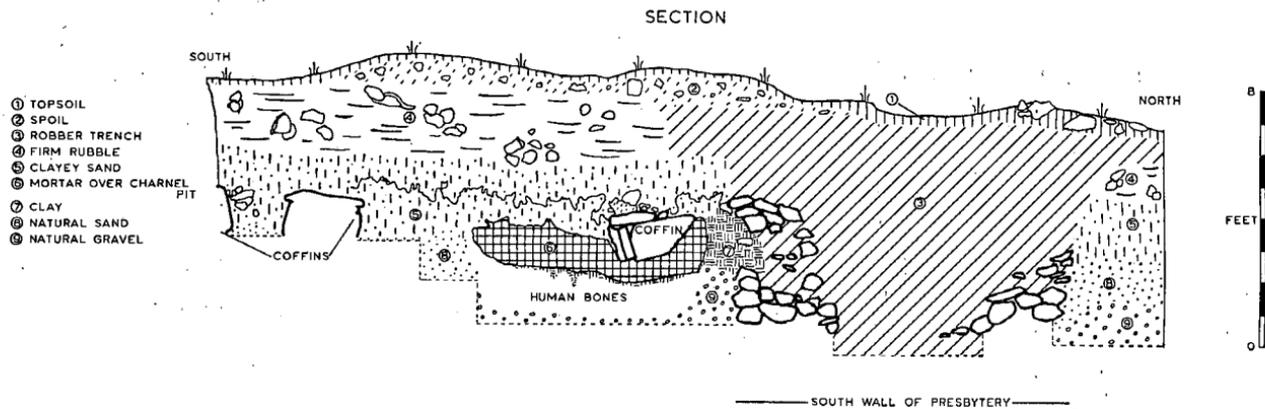


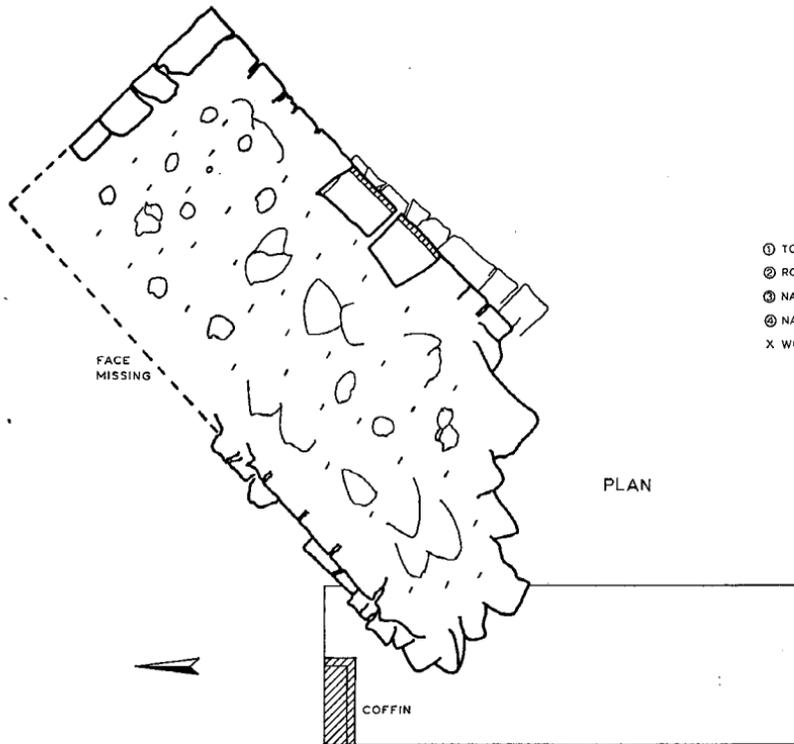
FIG. 4. SOUTH WALL OF PRESBYTERY (15)

in depth was found above laid river cobbles 9 feet across from north to south. South of the cobbles the sandy subsoil was overlaid by a thick level of brown clayey sand, in which were three stone coffins and a layer of hard mortar and stones covering a charnel pit. This contained a large quantity of human bones which, judging from their systematic arrangement, had been collected from other burial places in the abbey and deposited here. Above the clayey sand there was firm rubble, which was cut through by the loose rubble already described. Immediately below the topsoil was a slight mound of spoil from an earlier excavation.

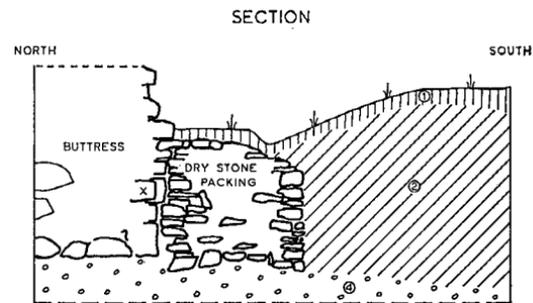
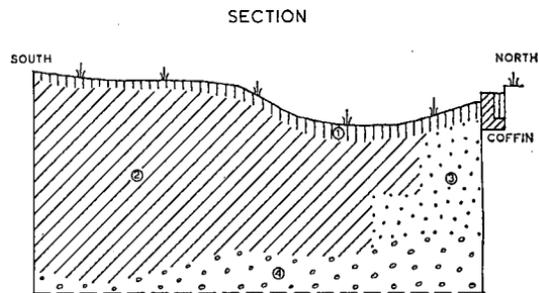
The large diagonal buttress beside **13** (fig. 5) was found to be 15 feet long and 9 feet wide at ground level, and to have a chamfered plinth on its third course. Examination of its masonry revealed the presence of several re-used stones in both the top course of its foundations and its core. The trench against its inner end was filled with rubble of varying consistency and this narrowed slightly to leave a strip of undisturbed sand at the north end. In the remainder of the area the rubble overlay natural gravel. The buttress was found to protrude into this debris, and beneath it there was some substantial dry stone packing, 4 feet in depth and set on the gravel.

Most of the finds made in these trenches came from the firm rubble over the south end of **15**, which yielded some medieval pottery, fragments of window glass, a roof tile and various iron objects. A few fragments of medieval pottery, a jetton (p. 168, no. 84), a silver buckle (p. 168, no. 85, and pl. IV, fig. 2) were found in the sticky brown sand below the same rubble. From the rubble in **12** came a fragment of clay tobacco pipe (p. 166, and fig. 29, no. 79).

There can be no doubt that the object of revealing the outline of the presbytery was achieved. In each case the edges of the rubble were found to be well-defined and to taper at the bottom to a width of about 9 feet, and in one case cobbles were found as they had been laid. This rubble can be nothing else but the filling of robber trenches, in



- ① TOPSOIL
- ② ROBBER TRENCH
- ③ NATURAL SAND
- ④ NATURAL GRAVEL
- X WORKED STONE



FEET
10

0 10 20
FEET

FIG. 5. BUTRESS AT NORTH-EAST ANGLE OF PRESBYTERY (13)

which the stone robbers were so thorough that they removed not only the ashlar of the walls but also the greater part of the foundations. In **15** the robber trench had been dug through the firmer rubble, which may represent debris from the demolition of the abbey soon after the Dissolution. From the re-used stones incorporated in it the buttress is clearly secondary, and its angle would suggest that it was added at a comparatively late date. As it protrudes into the line of the wall provided by the evidence of the robber trench in **14** it must have been bonded into the wall, hence part at least of the north-east angle of the presbytery must have been rebuilt.

The small finds recovered from this area cannot be regarded as helpful for dating purposes, since most of them came from post-dissolution debris of one period or another. The fragment of clay pipe perhaps suggests that really business-like stone robbing was being carried on at least 150 years after the abbey was dissolved. The objects found in the sand were not associated with the walls, and might well have been deposited in this level when the various burials were made.

2. The north transept

The approximate lines of the west, north and east walls of the north transept were calculated from such of the fabric as was visible, and **7**, **8** and **9** sited across these walls to confirm their position. **7** was also designed to include the upstanding portion of the east end of the nave north wall, and **9** to provide a complete section of the northernmost chapel of this transept. The object of **10** was to clear most of the northern and central pier bases in the aisle and to give a section of the central one.

The removal of the rubble overlying much of **7** (fig. 6) exposed foundations of rough sandstone running from north to south. These footings, which were 11 feet wide and had particularly large blocks in their east face, ran under the extreme east end of the north wall of the nave. The nave

wall was cleared down as far as the top of its foundations, and was found to be 5 feet thick at ground level (pl. V, fig. 2). Its north face stood six courses high above slightly projecting footings, and was relieved with four chamfered plinths. Two to three courses of the south face remained, and as not all the stones were ashlar it is possible that there has been some recent reconstruction here. These courses rested on a dressed course projecting 18 inches to the south, and below which were the rough foundations. It will be seen from the plan that masonry 6 feet in width projected $2\frac{1}{2}$ feet into the church from this junction of walls.

This trench also served to confirm what was already obvious, that the fragment of a perpendicular window now standing within the transept is not *in situ* (pl. V, fig. 1). It is built on sand, with only one course below present ground level, and

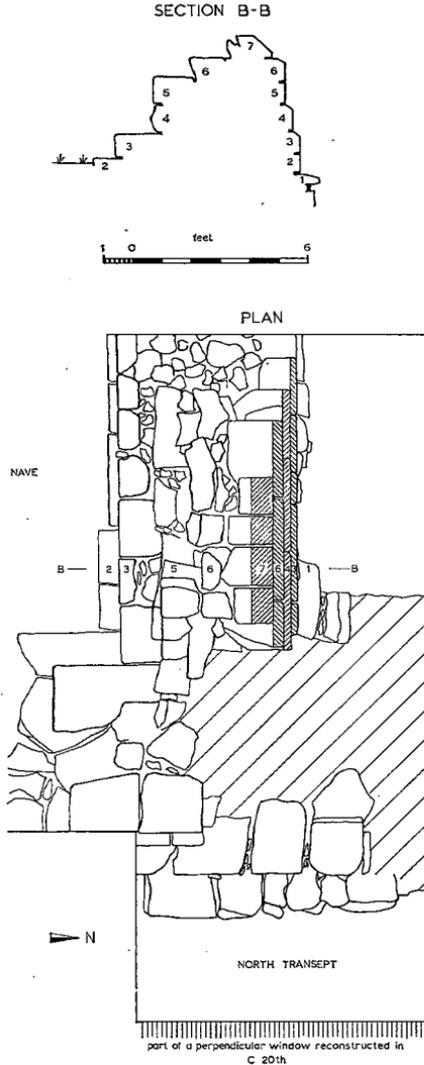


FIG. 6. JUNCTION OF NORTH WALL OF NAVE WITH WEST WALL OF NORTH TRANSEPT (7)

must certainly be the reconstructed remains of the window found in this area first by Woodman and Fowler,²⁰ and later by Renwick.²¹

In **8** the first layer below the topsoil at the north end of the trench was a spoil heap from an earlier excavation. Underlying this was loose rubble with a spread of more than 20 feet from north to south, and narrowing to about 7 feet where it overlay the subsoil, here a muddy-coloured sandy clay. Acting as a form of kerb against the south edge of this rubble were two courses of large rough sandstone blocks, some $2\frac{1}{2}$ feet high and over 3 feet wide. Set on the subsoil, and covered by the rubble in the northern half of the trench, was an east-west drain. It was small, being under 1 foot square internally, and had sides and cover of stone slabs, but no stone bottom.

Below the topsoil in the middle of **9** (fig. 7) was another spoil heap, and beneath this for almost the full length of the trench, a spread of loose rubble which contracted in width as it went deeper. At a maximum depth of 9 feet from the surface it was found to cover a layer of large, solidly-packed river cobbles, approximately 8 feet across from east to west. Abutting on the eastern edge of these cobbles there was more rubble and a few large stones, including a section of two keeled shafts, one large and one small. At this depth the division between rubble and sandy subsoil was straight and well-defined.

Nearly 10 feet separated the western edge of the cobbles from the northern pier of the transept. In this space the sandy subsoil merged almost imperceptibly into the sticky brown sand above it, and this in turn was covered by a thin spread of yellowish mortar. Above the mortar there was a layer of coarse gravel 1 foot in depth, and lying on the gravel were four flagstones projecting into the trench from the south.

The attempt in **10** (fig. 8) to obtain a complete section

²⁰ Misc. 1, *op. cit.*

²¹ *P.S.A.N.* 3, VI, 210.

across the base of the central pier in the transept aisle was unsuccessful, for heavy rain caused some of the loose stones of the foundations to fall, and so made it impossible to reach the bottom on the west side. In fact this was the less rewarding of the two sides, for the original floor levels had gone, and the sandy subsoil was immediately overlaid by rubble, which had in turn been disturbed by an old excavation trench. Dug into the natural sand were the remains of two skeletons.

On the east side the two foundation courses had been set 1 foot into boulder clay, above which were some $5\frac{1}{2}$ feet of natural sand. In the upper surface of this sand and 6 to 18 inches from the face of the footings, was a group of seven postholes, all within an area about 18 inches square, and none more than 1 inch in diameter and a few inches deep. Their arrangement and size did not suggest that they were structural, but rather that they might have been made by something like a ranging pole in the course of laying out the foundations. Hard-packed clay sealed off the sand from a layer of broken sandstone, probably masons' chippings, and over this a thin spread of mud formed the base for a mortar surface. Once again, the remains of an old spoil heap lay immediately below the topsoil.

Only the bases of the northern and central piers of the aisle survived (pl. IV, fig. 1). Both had a bottom course of ashlar approximately 7 feet square, and on the northern there remained part of the second course, slightly less than 7 feet square and with a chamfered upper edge. The piers stood 10 feet apart on a continuous sleeper wall consisting of one course of ashlar $7\frac{1}{2}$ feet wide set on foundations $10\frac{1}{2}$ feet wide and $6\frac{1}{2}$ feet deep. The two bottom courses of these footings were river cobbles, the remainder rough sandstone blocks, and as there were virtually no traces of a foundation trench it seems clear that when the big blocks had been placed in position the sides of the trench were filled up with smaller stones. These tended to peel off during the excavation when the sand supporting them was removed.

Between the piers the western edge of the sleeper wall had once been chamfered, and its top covered with yellow mortar. Another and higher mortar layer remained only in the east section of the trench. The mortar on the wall was overlaid by small rubble beneath large flat stones of varying sizes and at three levels, the highest on the east. Among these stones were two which had been re-used—a fragment of a moulding, and a broken grave cover bearing part of an incised chalice.

Almost all the fragments of pottery and glass, nails and broken tiles, found in the north transept came from the topsoil or rubble. The exception was one piece of pottery (p. 159, no. 37) sandwiched between the mortar level and the flat stones above the sleeper wall.

Excavation in the north transept not only established the original plan of this part of the church, but also provided evidence of later alterations. The foundations uncovered in **7** at their junction with the north wall of the nave were undoubtedly the remains of the west wall of the transept, and the masonry which projected into the church from this junction probably the base of a respond. It is equally certain that the cobbles beneath the rubble in **9** were the only trace of the footings of the east wall to survive the stone robbers. In **8** the evidence for the existence of the north wall was not as clear as for the other robbed walls in the church. The usual footings of river cobbles seem never to have underlain this wall, and the bottom of the sandstone blocks was shallow by comparison with the depth of the foundations elsewhere. As the subsoil in this trench was not sand on gravel but a muddy-coloured sandy clay, it may be that this was found to be a firm enough base for the wall without digging to any depth. Certainly, if considered together, the surviving masonry and the robber trench would suggest a wall with foundations up to 10 feet wide, which would tally well enough with what is already known about the other walls of the church, and the line of such a wall would run at a reasonable distance—some 12 feet—from the north pier of

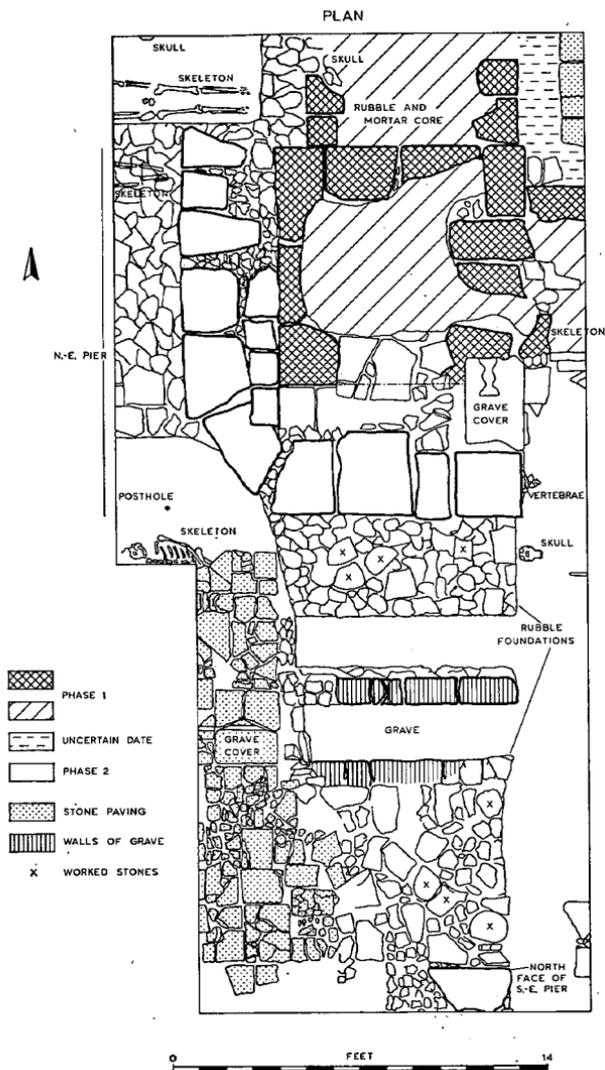


FIG. 9. THE CROSSING: NORTH-EAST AND SOUTH-EAST
PIERS (11)

the aisle. The small drain found outside this north wall was probably intended to carry off roof water.

In view of its position and content, the rubble abutting the eastern edge of the cobble footings in **9** may fairly be interpreted as the remains of a buttress added after the first phase of building. It was in line with the north pier of the transept arcade, and it contained a re-used stone of perhaps the late twelfth century, but no evidence was found to show how long after this date it was built, nor was there any trace of an earlier smaller buttress.

Although the re-erected fragment of a window was not found *in situ*, it should be included in a consideration of later alterations to the outer walls of the transept. Woodman and Fowler recorded the discovery at the north end of the transept of "portions of the tracery of a very large perpendicular window . . . with an embattled transom". Renwick made a similar find in this area of presumably the same fragments (see p. 103), and it is reasonable to suggest that a fifteenth-century window was constructed in the north transept, perhaps in its north wall.

Within the transept the evidence for secondary work is limited to changes in the flooring of the eastern chapels. The spread of mortar found in both **9** and **10** was the lowest level to bear any resemblance to a floor, and it seems probable that it had been laid as the base for a tiled pavement though no tiles were found. From the fact that two layers of mortar were discovered east of the sleeper wall and within the central chapel it appears that the chapel was entered up one or more steps. Subsequently the tiles were removed, and the chapels refloored at a higher level with rough stone flagging, their arrangement again suggesting steps. The fragment of pottery found between the mortar and the flags may be attributed to the thirteenth century, but the re-used grave cover could well be fourteenth, so the remaking of the floor could have occurred at any time after this date.

3. *The crossing*

Though large blocks of masonry showed through the turf in the assumed position of the north-east pier, nothing was visible of the other three crossing piers, and the uneven ground suggested that the area had been thoroughly disturbed. **11** was designed to include the whole of the north-east pier, from north of its junction with the north transept sleeper wall, and the north face of the south-east pier if this still existed. **6** was an attempt to locate the north-west pier.

At the north end of **11** (fig. 9, and pl. III (fig. 2), and beneath laid rubble which carried a few flat stones, some 4 feet of the sleeper wall were revealed. Here the wall consisted of a rubble and mortar core faced on either side with one course of well-dressed but unchamfered blocks of ashlar, and was found to abut a line of similar stones forming a straight face $9\frac{1}{2}$ feet long from east to west. After the removal of a thin covering of topsoil it became apparent that this face was the north edge of a large stone platform, which could be nothing else but the base of the north-east crossing pier. The base, which measured 13 feet from east to west and 14 feet from north to south, had a rounded south-west corner, and west and south faces of very large but rough stones, with their greatest dimension in depth from face to core. These stones projected outwards from ashlar faces which showed as straight joints in the core of the pier, and which were partially obscured by other stones, including the fragment of a grave cover. When a covering of clayey sand had been removed, the rough stones of the south and west edges of the base were found to rest on rubble, among which were a number of re-used stones. The pier had no true east face, for large stones lying on rubble were found projecting jaggedly from its core, but it should be noted that this rubble had a north face of ashlar.

17 feet to the south, and in the position where one would expect to find the south-east crossing pier, was visible one large stone which resembled those in the south and west faces of the north-east pier. It was set on rough stones pro-

jecting some 8 feet beyond it to the north, incorporating a number of re-used fragments of shafts and mouldings, and riding up against a wall dressed only on the north side and standing two courses high. This proved to be one of a pair of walls, 8 feet long and 2 feet apart, and open at the east end. While this feature contained nothing, having been partly dug out in an earlier excavation, it was probably the remains of a tomb. Over an area of some 45 square feet in the south-west half of this trench there were flat stones of varying size and shape, and among them the fragments of a grave cover decorated with an incised sword. No complete skeletons were uncovered in this area, but there were partial remains of a number of burials, some of which had been in wooden coffins of which only the iron nails remained.

The results in **6** were disappointing. Loose rubble lay $7\frac{1}{2}$ to 8 feet deep over large cobble foundations, of which there were at least three courses, and no ashlar remained at all.

Because of the lack of stratification the small finds from **6** and **11** were uninformative. The rubble in **6** yielded one sherd of pottery and a few broken floor tiles, and the sticky brown sand beneath the topsoil in **11** three medieval potsherds, none of which were associated with the stonework.

It seems clear that the base of the north-east crossing pier represented two phases of building. The well-dressed stones of its north face, and showing in the core, resembled in size and quality the ashlar in the bases of the other north transept piers and sleeper wall, and must therefore represent the crossing pier as it was first built, when it measured $9\frac{1}{2}$ feet from east to west by 9 feet from north to south. The fact that it had no east face, and that rubble footings 4 feet wide apparently extended eastwards from this point, suggests that there might have been a stone screen between presbytery and north transept, but any hope of confirming the existence of such a screen has been ruined by earlier excavation immediately to the east.

Later the base of the pier was enlarged by laying further

foundations to the south and west, and placing on top the large rough blocks which now form the edges. This increased the basal area of the pier from about 85 to nearly 180 square feet. The evidence which remains suggests that the south-east pier underwent the same treatment, but an old excavation trench between the north face of the pier and the central pier in the south transept has made it impossible to obtain further proof. It is possible, perhaps even likely, that the western piers of the crossing were also enlarged, but in the case of the north-west pier the evidence for such enlargement has been destroyed.

It is not possible to date the reconstruction in the crossing. The grave cover on the north-east pier was exposed when excavation began, and could have been put there at any time in the past, and the re-used stones in the foundations merely provide a *terminus post quem* of the early thirteenth century. The flat stones in 11 appear to be stone paving similar to that already described in the north transept, and as they were found partly to cover the footings of the south-east pier they must have been laid after the pier had been enlarged. Only the blade of the sword remained on the grave cover among this flagging, and without the hilt it is not very useful for dating purposes.

4. *The south transept*

Some fragments of masonry stood above ground in the south transept before excavation began. The line of the east wall was indicated by the lower part of a buttress, 6 feet wide by 8 feet long, and six courses high with a chamfered plinth on the third course. It lay opposite the southern of two pier bases, 7 feet square and standing 10 feet apart on a sleeper wall, which could be traced from the northern pier to a point some 10 feet south of the southern one (fig. 10). The northern pier, which was the more complete of the two, had a square base four courses high with chamfered plinths on the three upper courses, and bevelled angles on the east side of the top course. In its east and north faces there were vertical

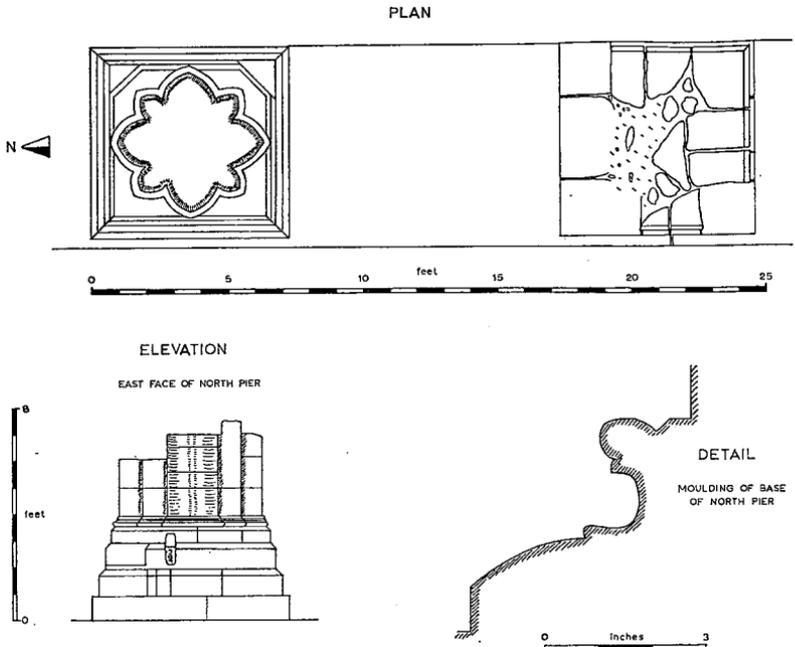


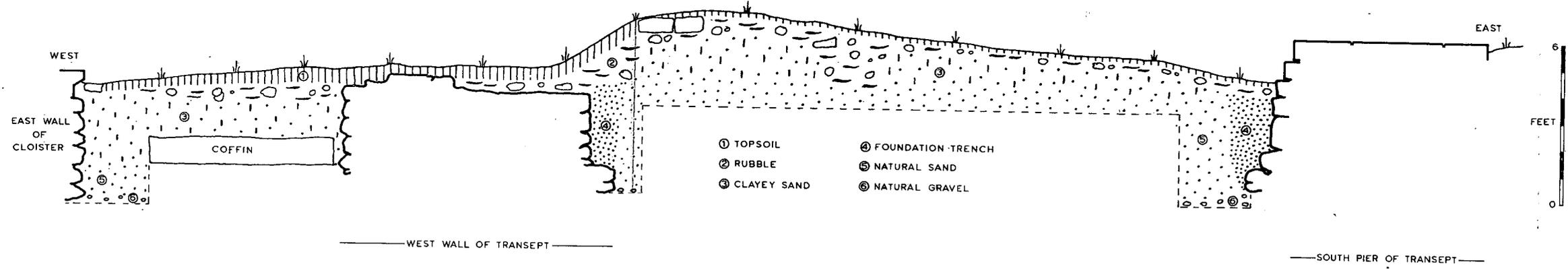
FIG. 10. PIERS OF SOUTH TRANSEPT

slots, so rough as to suggest they had been cut after the pier had been built, and presumably intended to support wooden screens. Above its base, the pier was in the form of a compound column composed of four large and four small keeled shafts, and it is quite certain that this upper portion was one of Renwick's restorations.²² The probable position of the south wall of the transept was indicated by foundations showing through the turf, and of the west wall by a slight mound.

Four trenches were excavated in this area, both to confirm the plan of the south transept and to investigate the stratification. **17** ran from the east wall of the cloister across the west wall of the transept as far as the southern pier of

²² *Ibid.*, 209 and plate.

SECTION



PLAN

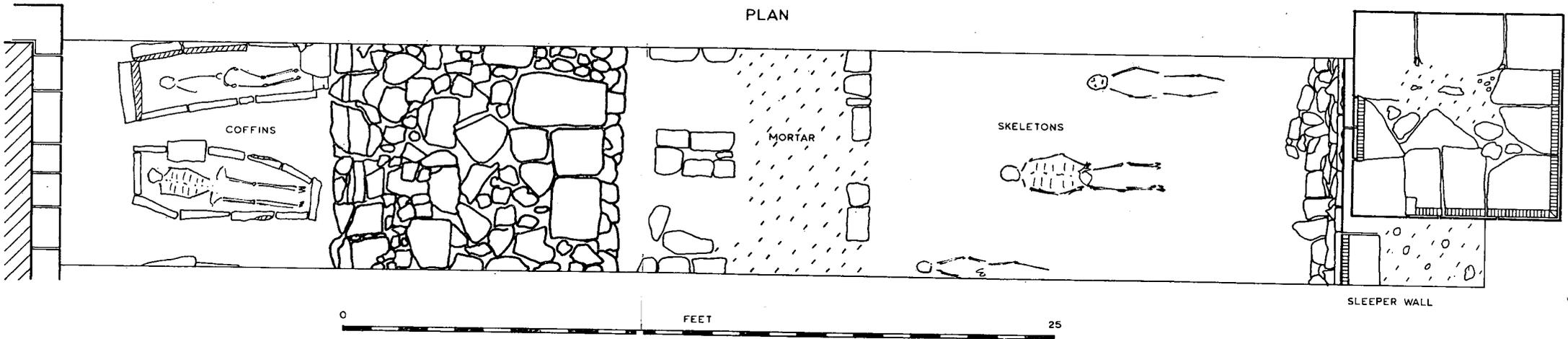


FIG. 11. NEWMINSTER ABBEY 1961. SOUTH TRANSEPT (17)

the aisle, and **16** across the east wall. **20** included a large part of the south wall, as well as the east wall of the sacristy, and **19** was excavated to answer a question suggested by **20**.

The stratification proved to be much the same in all four trenches. Sandy subsoil overlay gravel, and was itself covered by brown clayey sand in which were a number of burials. In some places this layer was beneath a level of small debris, but in others it was covered only by topsoil. Of the graves, three skeletons without coffins and a few odd bones were discovered in the transept, and two skeletons in coffins built of several slabs in the east cloister walk. A third coffin was visible in section in the cloister walk, and another outside the east wall of the transept.

At the west end of **17** (fig. 11) the east face of the footings of the cloister wall was fully exposed, and was found to consist of 3 feet of river cobbles, one course of large rough stones, one dressed course and a projecting plinth chamfered on the underside. This plinth presumably indicated the level of the floor in the cloister walk, though no trace of tiles or stone flagging remained. On the upper surface of the corner stone of the plinth there were a number of small holes, and it is possible that these were connected with the original setting out of the plan of the abbey.

The foundations of the west wall of the transept lay $9\frac{1}{2}$ feet east of the cloister wall. Two courses of river cobbles had been placed at the bottom of a trench $10\frac{1}{2}$ feet wide, and rough sandstone blocks laid on the cobbles at a reduced width of 9 feet leaving cobbles projecting on the east side only. This side of the trench had then been filled up with dark brown sand.

A space of 25 feet separated this wall from the south pier of the transept aisle. The pier was 7 feet square at its base, had a chamfered second course and was set on a sleeper wall with footings similar in size and construction to those of the west wall. South of the pier the west edge of the top course of the sleeper wall was also chamfered. Within the

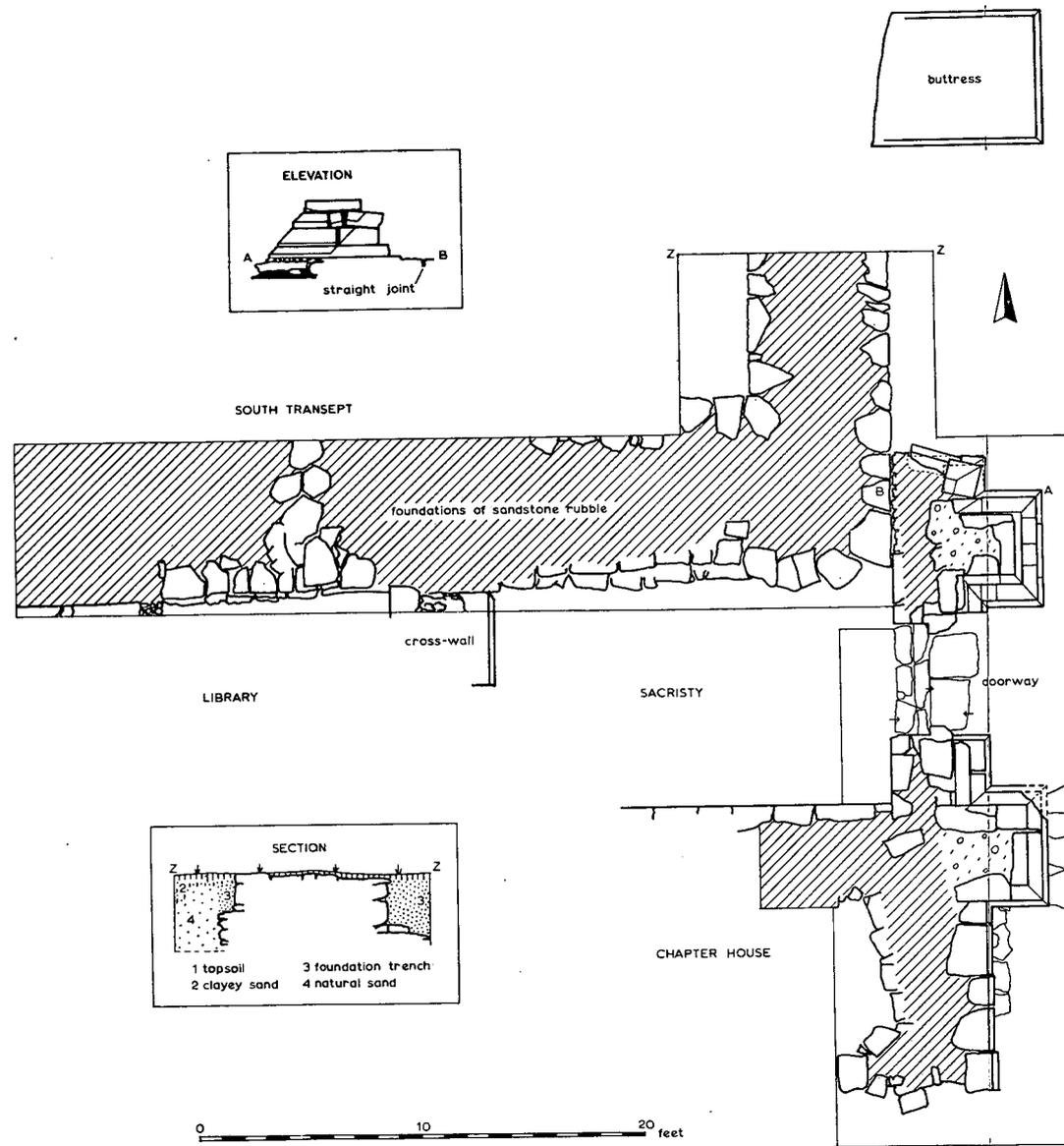


FIG. 13. SOUTH TRANSEPT AND SACRISTY (20)

several places the dark filling of the trench could be clearly seen. The transept wall, of which only the foundation stones remained, was over 8 feet wide, and from its south face projected the east wall of the library. The lowest part of the foundations of the latter wall merely abutted the transept wall, but the upper part appeared to be intended to bond into it. Towards the west end of the south face of the transept wall there was another projection, which was more fully investigated in **22** (p. 127), and it need only be added here that **19** established that there was no similar feature built out from the opposite face on the transept wall.

The rubble layer over much of the transept yielded fragments of medieval pottery, window glass and iron nails, and the clayey sand, which had been disturbed by the insertion of burials, produced pottery, a few tiles and some metal objects. The only find of any importance was a fragment of jug (p. 159, no. 41) from the foundation trench on the east side of the west wall of the transept.

From the south transept came the only evidence which has any bearing on the date of the church in its first phase, and the significance of this—the architectural detail of the central pier in this transept, and the sherd of pottery from the foundation trench—is discussed below. Other than this, excavation in the area provided one surprise and one secondary feature. It was odd not to find any trace of the night stairs, but the slight remains of walls in **17** were so associated with the level of debris, probably of the original demolition, as to be unconvincing as a medieval feature. While there is no direct evidence to show that the buttress opposite the south pier was a later addition it nevertheless seems clear that it was so. If it belonged to phase 1 it would surely have been one of a pair on this wall, and the findings in **15** make it clear that no buttress of this length had ever existed opposite the central pier in the south transept. Furthermore, it was exactly the same size as the secondary buttress found opposite the north pier in the north transept, and it is therefore possible that they were contemporary.

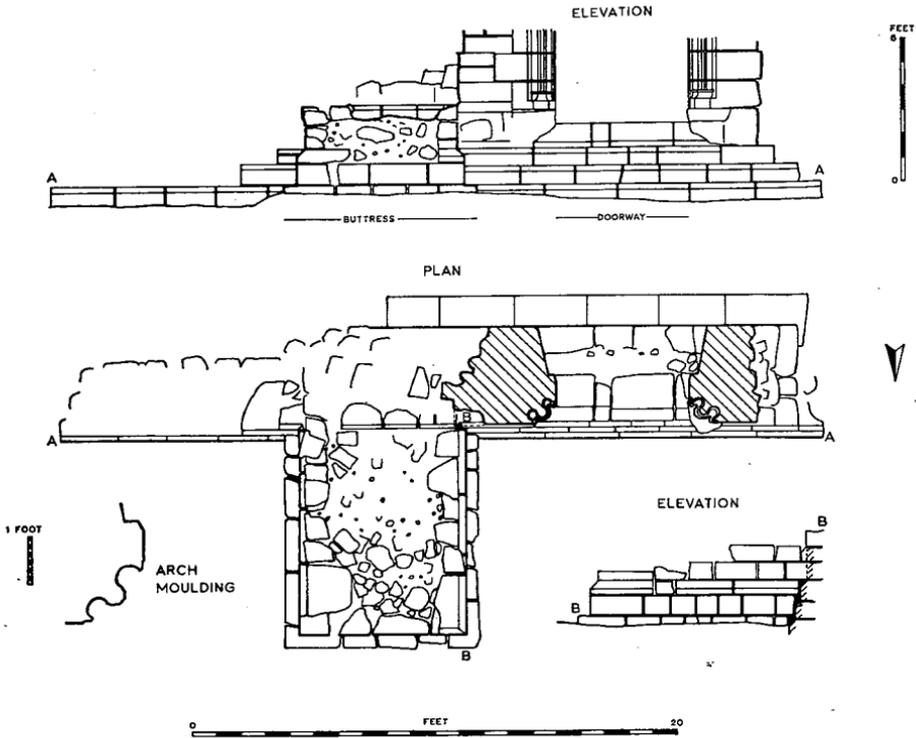


FIG. 14. WEST END OF NORTH WALL OF NAVE

5. *The nave*

Although very little of the nave fabric was visible before excavation began, the two upstanding portions of the north wall, the wall of the galilee and the north wall of the cloister made it possible to estimate the outline with a fair degree of accuracy. Accordingly, **18** and **4** were laid out across the supposed line of the south wall, and **2** over the west wall. Within the nave **5** was set out parallel with the north wall on a line projected west from the crossing piers in the hope of locating one pair of piers in the north aisle.

At the west end of the nave there remained a short stretch of its north wall standing four courses above modern ground level. On this wall was a complete arch, and against the outer face of the wall and east of the arch a large buttress (fig. 14). The wall itself was similar in width and character to the other end of the same wall found close to the north transept (fig. 6). The buttress, $8\frac{1}{2}$ feet long by 7 feet wide, was clearly later than the wall. There was one chamfered plinth on the buttress and four on the outer face of the wall, and the two were only raggedly bonded together. The face of the wall within the buttress retained the remains of a chamfered plinth, but as this was higher than the equivalent course outside it is probable that it had been moved when the buttress was added. An attempt was made to discover if an earlier buttress was embedded in the later, but no trace of one was found.

The arch remained a mystery. It had the appearance of a door, with two hollow mouldings outside, and splayed and rebated jambs inside, but a door in this position in a Cistercian church would be unusual. It was badly seated, being found to overhang slightly the uppermost chamfer on the wall, and on its east side there was no provision for bonding into the nave wall proper. Being 3 feet above ground level, it would have to have been entered up steps, but neither the inner nor the outer face of the wall on which it rested showed any sign of such a feature. The only evidence for steps was unconvincing, consisting as it did of a single semi-circular line of stones both within and without the church. On the whole it seems probable that the arch was reconstructed in this position after the Middle Ages, perhaps as a Gothick folly of the eighteenth century, for it was certainly standing in 1792 (p. 88). It is unlikely that it would survive the demolition of the church, or be consistently ignored by stone robbers when the remainder of the abbey had disappeared beneath the grass.

Below the topsoil over the northern part of **18** (fig. 15) there was loose rubble some 5 feet in depth over river cobbles

11 feet south of the cobbles, and were similar to the foundations of the east wall of the cloister seen in **17** except that they contained part of a brick (p. 156, no. 25).

The stratification in **4** was not unlike that in **18**. Loose rubble covered the whole trench almost to the cloister wall, but as it went deeper it retracted to a width of $7\frac{1}{2}$ feet between banks of natural sand. On the gravel subsoil and beneath the rubble there were laid courses of river cobbles standing a maximum of $2\frac{1}{2}$ feet high and some 10 feet north of the cloister wall. No floor remained in the north walk of the cloister, and near the face of the wall topsoil lay immediately on sand.

The eastern part of **2** (fig. 16) was also filled with loose rubble, which was found to cover large river cobbles $10\frac{1}{2}$ feet across from east to west between undisturbed sand on either side. On the west edge of the cobbles and below the rubble there was a layer of sand and stones over 1 foot in depth, and on top of the natural sand east of the cobbles was a thin spread of small broken stones. Rubble was also found to project from the south section east of the cobbles. At the west end of the trench and close to the galilee wall there were two stone-built coffins.

Conditions in **5** were much the same as those already described. Below the topsoil rubble formed a continuous layer over the whole trench, gradually narrowing until, some 5 feet below the surface, it was found to cover river cobbles set in a trench dug into the sandy subsoil, and 12 feet across from east to west. A patch of dirty sand was visible over the east edge of these cobbles, which were separated from more rubble to the east by a 6 feet wide stretch of natural sand overlaid by a spread of mortar. It is probable that the rubble at the east end also covered cobbles, but after there had been four falls of rubble from the sides the trench was abandoned as dangerous.

Almost all the small finds from these trenches in the nave came from the loose rubble over the river cobbles, and included fragments of medieval pottery and window glass, roof

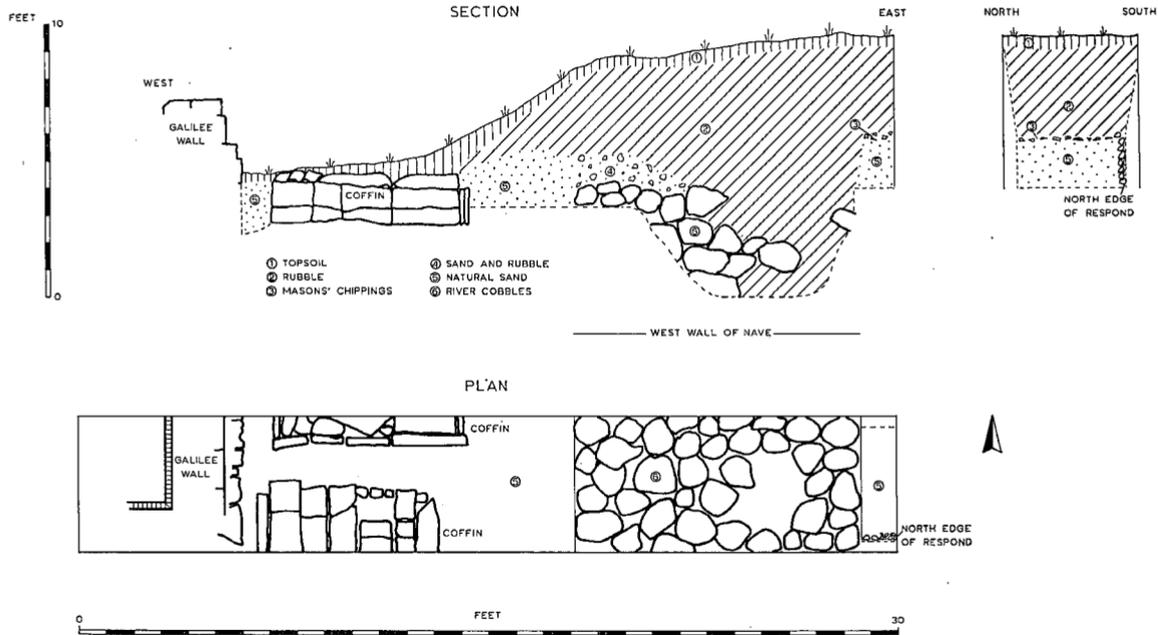


FIG. 16. WEST END OF NAVE (2)

and floor tiles, and a few metal objects. The rubble in **5** yielded two small lead tokens (p. 170, and fig. 31, nos. 86-87). Apart from these the only other finds were twelve fragments of window glass immediately below the broken stones in **2**.

Although the demolition of the nave had been more thorough than of any other part of the church except the presbytery, its plan may now be reconstructed with some confidence though not with absolute accuracy. The rubble over river cobbles in **2**, **4** and **18** may fairly be interpreted as robber trenches marking the line of the west and south walls, with—here and there—the remains of the filling of foundation trenches, and a patch of masons' chippings. The rubble visible in the south section at the east end of **2** is probably the sole surviving trace of the west respond of the nave south aisle.

In **5** it seems likely that the sand between the cobbles on the west and rubble on the east represents approximately the interval between two piers in the north aisle of the nave, and the presence of this same sand shows clearly that the piers themselves had been built on individual footings and not on a continuous sleeper wall. The spread of mortar which covered the sand and extended over the top of the filling of the foundation trench suggests a floor level, rather than the existence of a screen wall between the piers. On the basis of information obtained from this trench, the position of the secondary buttress against the north wall of the nave, and the approximate position of the north-west crossing pier it has been possible to calculate the number of bays in the nave.²³ The nave would have accommodated nine bays if the centres of the piers were set $17\frac{1}{2}$ feet apart, and they are so drawn on the final plan (fig. 3). There is no evidence for the actual size of the piers, and hence for the space between them, so they have been reconstructed to correspond with the visible piers in the transepts.

²³ We are grateful to Mr. Peter Campbell for these calculations.

PLAN

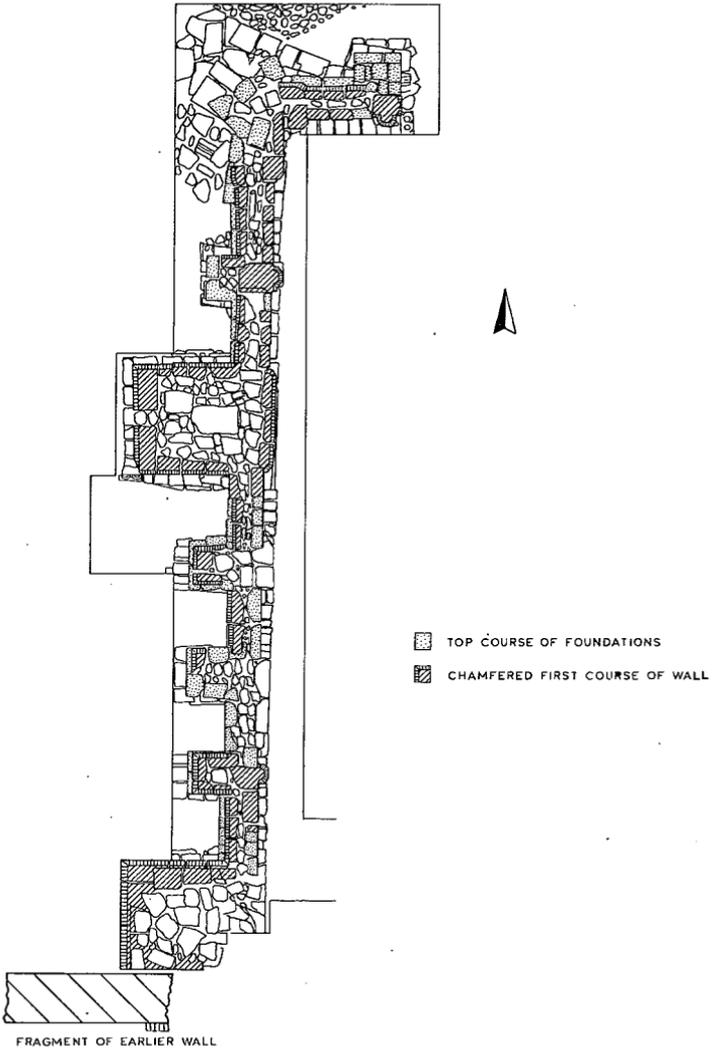


FIG. 17. WEST WALL OF GALILEE (1)

6. *The galilee*

The whole galilee wall was included in 1 (fig. 17), and was cleared of debris and its foundations fully excavated in three places. It lay about 12 feet west of but not strictly parallel with the west wall of the nave, and consisted of a short stretch on the north, aligned with the north wall of the nave, and a 53-foot long wall on the west. This did not run the full width of the nave, but stopped short on abutting a fragment of another wall running from east to west.

The galilee wall itself was insubstantial, being only 2 feet wide, and having just two courses of footings. There were, however, a number of buttresses against its outer face—a small buttress at the east end of the north wall, the remains of a larger diagonal one at the north-west corner, and then, from north to south and at 3-foot intervals, one small buttress, a large one, three small ones, and finally a second large one. The small buttresses were $2\frac{1}{2}$ feet wide and projected 2 feet from the wall, the large $6\frac{1}{2}$ feet wide and projecting 6 feet. The foundations of the buttresses proved to be much deeper than those of the wall, the footings of the northern of the two large buttresses being 6 feet deep, and of rubble sandstone blocks and re-used material (pl. VI, fig. 1).

There was little surviving architectural detail contemporary with the building of this wall. The upper edge of the first course of ashlar along the outer face of wall and buttresses was chamfered, as was the same course on the inner face of the northern large buttress, and from the surviving masonry it is clear that the inner faces of the small buttresses had been formed of semi-octagonal responds (pl. VII, fig. 1, and fig. 25, no. 1). A large number of re-used stones, however, were found in the footings and core of the galilee wall, among them fragments of shafts and three pairs of small column bases.

Because of earlier excavation there was little stratification, and in the greater part of the trench topsoil overlay natural sand. However, outside the wall to the west was

found a patch of crushed sandstone, probably masons' chippings, and between this and the subsoil there were two fragments of pottery, one of the late thirteenth century and part of a rim of the late fifteenth (p. 160, and fig. 27, nos. 50-51).

Apart from the obvious inference that the galilee wall was added after the first phase of building, there are three other facts about it to be noted. First, it is clear from the close and even spacing of the buttresses that there cannot have been a western entrance in this wall, which was probably in the form of an arcade. Instead, the galilee appears to have been entered from outside through a gap between the east end of its north wall and the north-west corner of the nave. Secondly, although incomplete in appearance, the galilee wall cannot ever have been longer than it is now. At the point where it abuts the fragment of another wall the south face of the southern large buttress is of ashlar with its chamfer omitted, as though this face was never intended to be seen, and there is no visible evidence to support the idea that the galilee wall ever extended south of this point. Hence the east-west fragment of wall must be earlier than the galilee, though its extent and function have not yet been investigated. Thirdly, while the wall and small buttresses do not appear to have been designed to support a roof of any weight, the large buttresses seem much too big by comparison. If, however, they are considered in relation to the church, it becomes apparent that they lie approximately in line with the nave arcades, and it is therefore at least possible that they were the bases of flying buttresses carried over the roof of the galilee on to the west wall of the nave.

The date at which the galilee was built remains uncertain. The re-used stones provide a *terminus post quem* of the early thirteenth century, but the semi-octagonal responds are of too simple a design to be of help. The diagonal buttress at the north-west angle suggests a date in the late fourteenth or fifteenth century, and is probably a more accurate guide than the late fifteenth-century potsherd, which—although

sealed below the masons' chippings—was not clearly associated with the base of the wall.

The west range

Renwick's excavation of the west range left visible a stretch of the west wall, including the lower part of both jambs of a door and the north jamb of another, part of the east wall, fragments of two cross-walls, and the bases of eight central piers. These piers had square plinths below cylindrical columns, and had carried springers of eight chamfered ribs worked on one stone (p. 153, and fig. 25, nos. 6-9). This surviving masonry showed that the range had consisted of a northern room (cellarium) of six bays, a slype or parlour leading from the outer court into the south end of the west cloister walk, and a southern room (the lay brothers' frater) of four bays or more. Further excavation here was not considered urgent, and only one trench (3) was dug in this range to discover whether the north end of the east wall of the cellarium still existed, and to see if there was a chance of finding a door into the cellarium from the north cloister walk.

Below the topsoil rubble covered the western half of the trench, and an old spoil heap lay over the sand in the west cloister walk. In the north section (pl. VI, fig. 2) loose rubble 4 feet in depth covered 2 feet of laid river cobbles, which were themselves bedded on a layer of dirty sand over natural gravel. The trench containing this loose rubble had been dug through lighter-coloured more compact debris to the east, which covered a thin spread of mortar. The cobbles projected only 2 feet into the trench, and on the subsoil south of them were half a dozen large whin boulders haphazardly arranged. A few sherds of medieval pottery, and some broken floor and roof tiles were found in the loose rubble.

The cobbles and boulders appear to be all that was left of this end of the east wall of the west range after the stone robbers had finished work, and it would seem that the

foundation trench for the wall had been dug too deep, and then partially refilled with sand before the cobbles were laid. The spread of mortar probably marks the original floor level in the cloister walk, and the varying types of rubble suggest two periods of destruction as has been found elsewhere in the church. The extent of the destruction of this end of the range has made the discovery of further details unlikely.

The east range

The arrangement of rooms in the east range was clearly visible as a result of earlier excavation and Renwick's restoration. The space between the south transept and the chapter house was occupied by two small rooms, traditionally the library and sacristy in Cistercian houses, and there were remains of the dividing wall between them, and the east wall of the sacristy. The north and west walls of the chapter house, the arch over its entrance and three column bases within the building were all standing before excavation began in 1961, and it is certain that much of the west wall including the arch, and part of the north wall were reconstructed between the wars.²⁴ Woodman and Fowler, however, record having found the lower courses of the entrance and west wall *in situ*.²⁵ South of the chapter house was the inner parlour, of which the south wall had been restored,²⁶ and the west wall rebuilt without a door into the cloister, and of which the only original fragment appeared to be the south jamb of an east door. The passage from cloister to infirmary lay next to the parlour, with a wide opening at the west end, and one jamb of its eastern door in position, and visible south of the passage were six bays of the dorter undercroft. Portions of both east and west walls of this building stood several courses high, together with five central column bases, a shoddily-built partition wall in the middle of the room, and part of another wall closing the south end of

²⁴ *P.S.A.N.* 3, VI, 139 and plate opposite 138.

²⁵ *Misc.* 1, *op. cit.*

²⁶ *P.S.A.N.* 3, VI, plate opposite 139.

the sixth bay. Surviving masonry showed that a door in the east wall had opened into another room, of which two piers and a buttress remained, and which is presumed to be the reredorter. Though so much of the range stood above ground excavation was necessary not only to complete the plan by the discovery of missing walls, but also to distinguish between original and reconstructed portions of the fabric where this was in doubt.

1. *The library and sacristy*

Here, because of discoveries in the south transept as well as the presence of standing masonry, there were several problems to be solved. **22** included the projection from the south wall of the transept and the north face of the north wall of the chapter house, **21** was sited across the junction of the cross-wall and the north wall of the chapter house, and the eastern end of **20** covered the east wall of the sacristy.

The stratification in this area, and indeed in the whole of the east range unless otherwise stated, usually consisted of a fairly thin covering of debris over clayey brown sand, which in turn lay over the subsoil of sand and gravel, though in some places the debris was missing and topsoil covered sand. No floor levels were found anywhere.

Work in **22** showed that the projection from the south face of the transept wall was 3 feet deep and 12 feet long, and was constructed of 2 to 3 feet of cobbles laid unevenly on gravel with one or two blocks of sandstone surviving on top. Of the north wall of the chapter house only the cobble foundations appeared to be original, and the upper courses, which were small and rough and set in modern cement, must be attributed to Renwick.

Enough of the ashlar of the cross-wall survived in **21** (fig. 18) to show that it had been $4\frac{1}{2}$ feet thick, and bonded on its west side into the north wall of the chapter house. The east end of the chapter house wall merely rode up against it. There was a chamfered plinth along the east face of the cross-wall, with a break 2 feet 4 inches wide in

the middle, and this—together with the traces of a splay—established that there had been a door in the centre of this wall between library and sacristy.

The whole of the lower part of the east wall of the sacristy remained in the eastern end of **20** (fig. 13). In the centre of the wall and with rebated jambs and bar-holes, there was a door which led to the outside up three steps. On either side of the door externally there was a buttress, and these buttresses resembled one another in character though not in detail. The northern one was the more elaborate, with a base built of three chamfered plinths one above the other. Though the north-east corner of the chapter house consisted only of foundations it appeared to be of one build with the east wall of the sacristy, but it was equally clear that the buttress north of the sacristy door did not bond into the east wall of the transept. There was a straight joint between the two, and the foundations of the buttress were of dressed stones to a greater depth than those of the transept. A re-used stone was found in the rubble and mortar core of the buttress.

A few potsherds, and some fragments of window glass and iron were recovered from the debris outside the east wall of the sacristy, and the complete rim of a jar from the filling of the foundation trench on the east side of the cross-wall between library and sacristy (p. 162 and fig. 28, no. 54). The bulk of the pottery, however, came from the clayey sand and topsoil in **22**, and with twenty-four of these sherds it was possible to restore a large part of the rim, neck and shoulder of a jug (p. 162, and fig. 27, no. 52).

It is clear from the discoveries made in the library and sacristy that the library dated from the first phase of building, and that the east wall of the sacristy and eastern end of the north wall of the chapter house was secondary. The widening of the south wall of the transept by the projection into the library was almost certainly designed to accommodate a spiral stair in the thickness of the wall.

on both sides of its junction with the east wall of the parlour as well as the base of the south-east pier.

In **23**, the central projection or respond was found to rest on one course of cobble footings $8\frac{1}{2}$ feet across and running south beyond the trench. The respond itself was over 4 feet wide and 1 foot deep, and had a south face of ashlar with an attached shaft at each corner. Neither shaft had a base, and the eastern shaft began one course higher than the western. The bottom course of the eastern face of the respond was chamfered, and was a continuation of the same course on the cross-wall between library and sacristy. The western half of the north wall of the chapter house had rubble footings the same depth as the cobble foundations already mentioned, an ashlar face of which the bottom course projected a few inches, and bonded into the respond. The eastern half merely abutted the respond, and was quite different in character, having rubble footings which began $1\frac{1}{2}$ feet above, projected $1\frac{1}{2}$ feet farther south and stood $2\frac{1}{2}$ feet higher than those of its counterpart. Towards the east end of this trench there was a line of three small postholes, possibly of scaffolding.

In **24** (fig. 19) the west end of this part of the south wall of the chapter house consisted of a rubble and mortar core faced with one course of well-dressed, squarish blocks of ashlar, the whole 4 feet wide and on cobble foundations (pl. IX, fig. 2). This wall bonded into the east wall of the parlour, which was $5\frac{1}{2}$ feet across and of similar construction, and which projected jaggedly northwards for a couple of feet into the chapter house. There its one surviving ashlar course ended, but its 8 foot wide cobble foundations continued for another 17 feet to the edge of the excavated area and beyond (pl. IX, fig. 1). Sitting on top of these cobbles was the bottom of the south-east pier, which now consists of a circular chamfered base, 3 feet in diameter, and made up of five segments, mounted on a low platform of earth and small stones. On top of the base was part of a cylindrical shaft, 1 foot 9 inches in diameter and about the same in height.

The lower part of a skeleton lay east of these cobbles, and had evidently been disturbed during building.

The east end of the part of the chapter house south wall excavated in **24** was not bonded into the wall of the parlour, and differed from the west end in every respect. It was not on the same alignment, being some 2 feet further south, nor was it of the same size or method of construction. It had less substantial foundations below two courses of sandstone rubble, and it tapered from 5 feet wide at its east end to $4\frac{1}{2}$ feet at the west. This wall turned to the north between 16 and 17 feet east of the parlour wall, and the angle thus formed was strengthened by two small buttresses, $5\frac{1}{2}$ feet wide by $2\frac{1}{2}$ feet deep.

This wall had two other unusual features. In the north face of its footings there was a vertical cleft, perhaps formed by piling the cobbles round an obstruction of some sort, though no evidence remained to show what this might have been. Projecting $3\frac{1}{2}$ feet from its north and west (inside) faces and level with its top there were rough flat stones, very similar to those in the wall itself, but only one to two courses deep and resting on sand. Their function is uncertain, but it has been suggested that they might have been the base of a stone bench along the wall.

As there was no layer of debris over the chapter house the small finds came either from the clayey sand over the area, or from the wall footings. Medieval potsherds, broken tiles and some fragments of lead were found in the sand, part of a jug handle in the cobbles at the east end of the south wall (p. 164, and fig. 28, no. 60), and three wall sherds in the footings of the east end of the north wall (p. 162, nos. 58-59). These last four pieces may be attributed to the late thirteenth century.

It is clear from the excavation of **23** and **24** that the original chapter house was later enlarged. The position of the first east wall is marked by the cobble foundations running from north to south across the middle of the building, and by the fragments of wall surviving at either end of these

foundations. In its first phase the chapter house was contained within the main walls of the east range, and was divided into three aisles by two columns. Its internal dimensions were 38 feet from north to south, and 31 feet from east to west, and it presumably dated from the same period as the church, for the cobble footings of its east wall ran north under the east wall of the library, the upper part of which was bonded into the south wall of the south transept.

Subsequently, the east wall was removed, and the building enlarged to 53 feet from east to west by extending its north and south walls, and by constructing a new east wall. The pottery found in these new walls suggests a date in the latter part of the thirteenth century for this second phase, in which the sacristy was also added. To carry the vaulting over this extension two new piers would be necessary, but it must be said that though set on pre-existing foundations the south-east pier base is not wholly convincing. It is likely that a moulded course is missing between base and shaft, and Woodman and Fowler recorded that they put part of a shaft on to one of the bases in the chapter house, although they do not specify which one.²⁷

3. *The parlour*

With the exception of the south jamb of its east door, most of the standing masonry in the parlour appeared to be the result of modern restoration. A narrow wall, with a gap in the west end, ran along its south side and extended east beyond the doorway, and the west wall was solid without any visible trace of an entrance to the cloister. The whole of the east wall of the parlour was therefore included in **24** so that the footings of the south wall could be examined both inside and outside the original east door, and **25** was laid out along the inner face of the west wall to look for the remains of the opposite entrance.

In **24** (fig. 19) the south jamb of the east door of the parlour was found to stand five courses above the threshold,

²⁷ Misc. 4, *op. cit.*

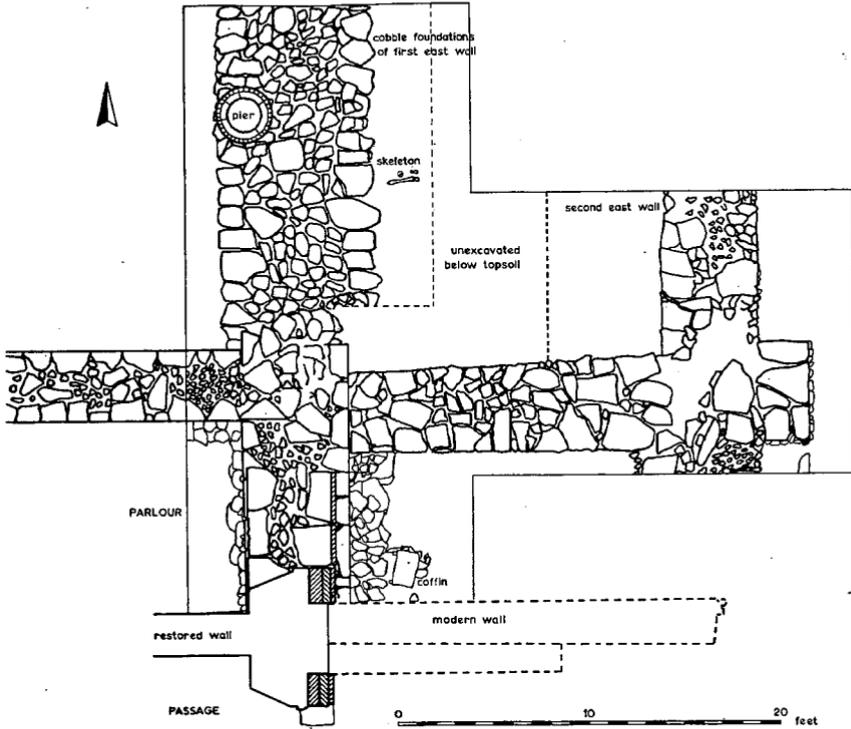


FIG. 19. CHAPTER HOUSE (24)

and to have its original splay, door-check and bar-hole. The lower part of its outer face was relieved by two chamfered plinths, and the outer edge of the threshold was also chamfered. The course which formed the threshold was $4\frac{1}{2}$ feet in width, and was set on the single course of ashlar $5\frac{1}{2}$ feet wide described above. Half an empty stone coffin was found east of this wall, and had probably been damaged when the foundations were laid.

Within the parlour the south wall had cobble footings almost 3 feet deep, and the north face of this wall, though clearly restored in places, bonded into the door jamb and followed the line of the foundations. Outside the parlour

and running some 25 feet east from the jamb was a wall $2\frac{1}{2}$ feet thick, and with only one course of ashlar and no cobble foundations below present ground level. It abutted but did not bond into a small buttress just south of the east door of the parlour.

At the north end of **25** the south face of the south wall of the chapter house (north wall of parlour) was exposed, and at the south end the whole width of the south wall of the parlour. One ashlar course of the latter remained, showing that it had originally been 4 feet wide, and that the upper part of the wall was thinner and set in on the south side. A small piece of stone paving was uncovered in the passage south of the parlour.

The surviving ashlar courses of both north and south walls of the parlour abutted on cobbles underlying the west wall, which was found to be solid and to show no trace of a door. It is certain from photographs and from its present appearance that this wall was reconstructed early this century, and it is possible that all evidence for a west door in the parlour was obliterated at that time, for it would be unusual to find a parlour without direct access to the cloister.

Enough original masonry survived to show that this room had been 31 feet long, and—as its side walls were not parallel—had tapered in width from 10 feet at the west end to 9 feet at the east. Its west wall has probably been completely reconstructed, and its south wall largely rebuilt at a reduced width. The wall beyond the east door is probably a modern invention.

4. *The passage*

Projecting from the east end of the south wall of the parlour was the north jamb of the east door of the passage. **26** was excavated here to discover whether there were any remains of the south jamb, and to see if the passage had had a south wall separating it from the dorter undercroft.

Over much of the trench there was an old spoil heap, but beneath this were cobble foundations 7 feet wide running

from north to south, and bearing substantial remains of the rough sandstone blocks of the next course, but no trace of the missing door jamb. Abutting on their west face were similar cobble footings, $4\frac{1}{2}$ feet across, and again overlaid by blocks of sandstone mortared together. Overriding the north-south cobbles by 1 foot and running east were further foundations only $2\frac{1}{2}$ feet wide. In the sand in the passage was found a fragment of cooking pot rim (p. 164, and fig. 28, no. 62).

The wide spread of cobbles was a southern continuation of that found beneath the original east wall of the chapter house, and in **26** it formed the base for the east wall of the dorter. The foundations running off at right-angles to the west could only be those of a south wall of the passage, which must thus have been screened off from the undercroft of the dorter. The much narrower footings found to the east might be the base of the north wall of a court in the angle between dorter and reredorter, but this is not yet proved and the problem is made more complicated by the existence on these footings of a reconstructed fragment of arcading.

5. *The dorter undercroft*

The question which only excavation could answer was the purpose of the east-west wall across the south end of the sixth bay. At $3\frac{1}{2}$ feet it did not seem wide enough to be the south wall of the east range, but if it was merely an internal wall it had yet to be decided whether it was part of the original fabric or a later addition. **30** was designed to show the relationship of this wall to the west wall of the dorter, and, as a result of the information gained there, **31** was subsequently excavated to reveal the connection, if any, between this wall and the central arcade.

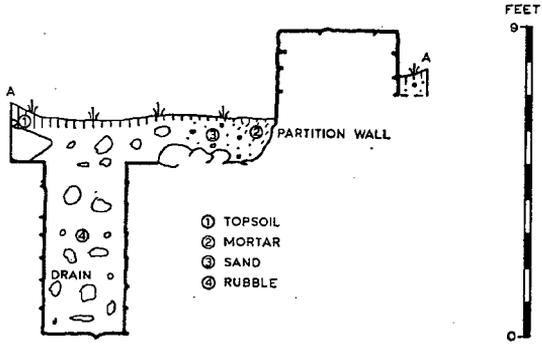
In **30** (fig. 20) this south wall was found to stand three to four courses above ground level, and to be built of poor quality ashlar. It abutted on but was not bonded into the one remaining course of ashlar of the inner face of the west wall of the dorter, which extended southwards beyond the

limit of the excavated area. North of this junction of walls and choked with earth and rubble was a large and well-built drain running from west to east (pl. VIII, fig. 1). It was over 2 feet wide, with a flagged floor and sides of well-dressed freestone, which stood as much as seven courses or 5 feet high, and with the cobble foundations of the dorter wall surviving on both sides of it. The only small finds recovered from this trench, one potsherd and two fragments of a clay tobacco pipe (p. 166, and fig. 29, no. 78), came from the rubble in the drain.

It was clear that the earliest feature in this trench was the drain, which had been built before the foundations of the west wall of the dorter were laid across it. The cover slabs over the drain must have been removed in the course of stone robbing after the Dissolution, perhaps in the late seventeenth century, when it became filled with rubble. It was also obvious that the south wall was not an outside wall, and the fact that it was not bonded with the west wall suggested that it might be secondary. On the other hand, the interval between the south wall and the pier to the north of it was the same as between any other pair of piers in the undercroft so that if the wall were secondary it must have replaced a pier. The object of **31**, therefore, was to discover if there was a pier embedded in this wall, and at the same time find out whether the foundations of the piers were separate or continuous.

Although the wall was not as well-preserved in **31** (fig. 20), it was quite clear that it did not incorporate the base of a pier. Large river cobbles projected from its north face, and lay beneath the pier base some 9 feet to the north, and though their line was broken by another stretch of the drain described above it seems certain that they had once formed a continuous foundation down the centre of the undercroft. From the rubble filling the drain came a number of fragments of pottery (p. 164, and fig. 28, nos. 63-64), and one section of vaulting-rib similar to those found in the west range (p. 153, and fig. 25, no. 7).

SECTION



PLAN

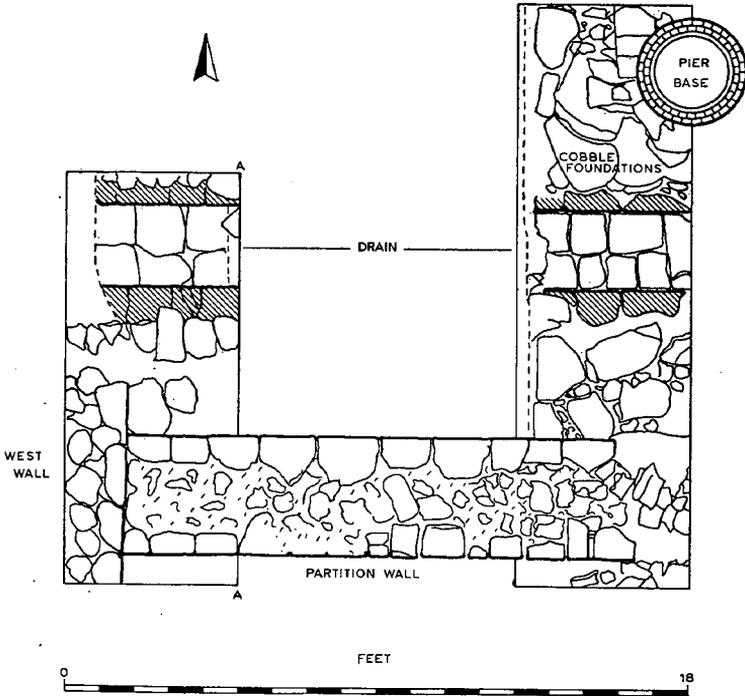


FIG. 20. DORTER UNDERCROFT (30, 31)

On the whole it seems likely that this south wall was of primary rather than secondary construction. If the latter, it would have entailed the removal of a pier before the wall could be erected, and this in turn would have meant some form of temporary support for the vaulting. The usual way of adding a partition wall was to leave the pier in position and build the wall up to each side of it, as was done further north in the undercroft.

6. *The reredorter*

The purpose of **32** (fig. 21) was to clean the visible masonry in the reredorter, and to examine the footings of the piers. (pl. X, fig. 2). In the course of this work the stratification was found to be slightly more complicated than elsewhere in the east range. The sandy subsoil was here covered by a layer of crushed yellow sandstone, probably masons' chippings, and on top of this there were patches of black burnt material. Rubble lay immediately above the traces of burning and below the topsoil.

It was found that a continuous foundation of cobbles, at this point almost 4 feet deep and dug into the sand, ran east from the north side of the entrance to the dorter undercroft. On the cobbles there was one course of sandstone rubble, and this formed the base for a respond and two piers, at approximately 5 foot intervals. The piers survived to a height of 4 feet, had semi-octagonal faces and stood on plinths 4 feet square and 8 inches deep. The buttress, which was about 5 feet wide and 5 feet 8 inches long, stood four courses above modern ground level, and had a chamfered plinth around its foot. It was placed opposite the space between the piers but did not overlap them and was not linked with them. Its inner face consisted merely of rubble core, so reddened as to suggest a fire had burned against it.

Two fragments of medieval pottery were found, one on top of the subsoil, and the second among the masons' chippings. The first was part of the rim of a cooking pot of the first half of the thirteenth century (p. 164, and fig. 28, no.

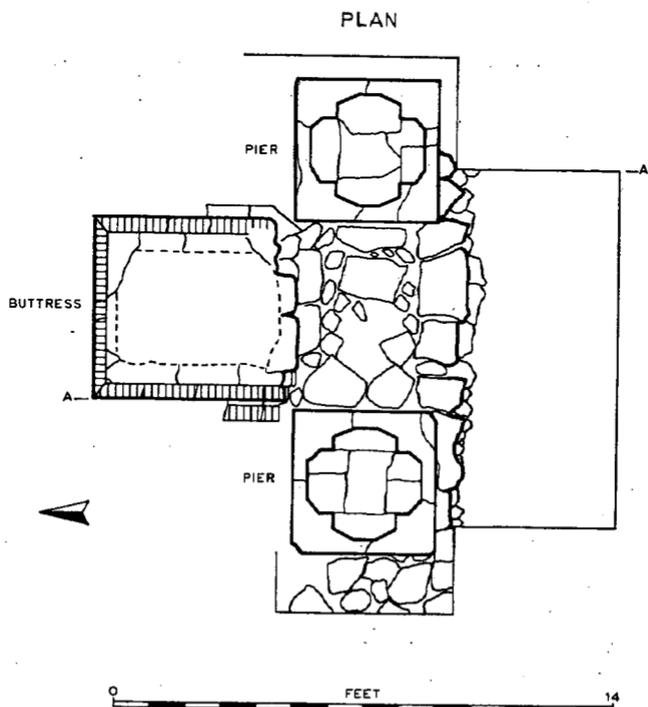
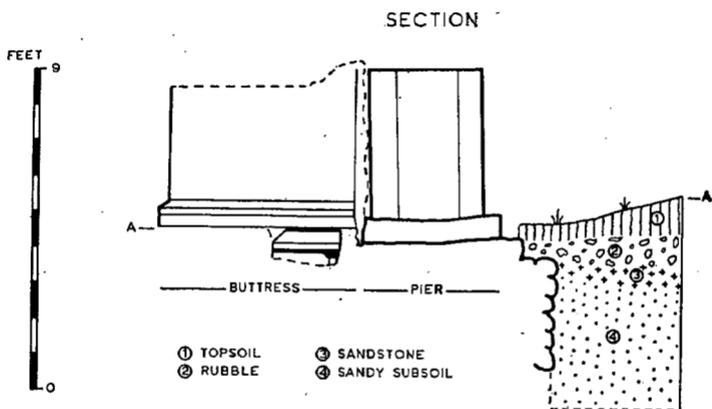


FIG. 21. RERE DORTER (32)

65), and the other part of the wall of a jug, also thirteenth century in date (p. 164, no. 66).

It would appear that the north wall of the reredorter had originally been an arcade. If the pottery were dropped in the course of construction, as appears likely, then the first phase of building in the reredorter can be dated to some time in the first half of the thirteenth century. The buttress was added subsequently, and must once have been tied to the arcade by a wall between the piers, for without such a wall the buttress would have served no purpose. As the piers show a marked cant to the north it seems likely that the buttress was constructed to counteract an outward thrust by the north wall. There is some secondhand information to support this interpretation, namely Renwick's discovery of the piers of an arcade half-embedded in a later external wall against which was a large buttress with a fireplace in the back of it,²⁸ and a photograph taken in the course of his excavation in this area.²⁹ This photograph shows fragments of a wall between the piers, fragments which Renwick must later have removed, but it does not show whether the fireplace was contemporary with the buttress, or was hacked out of it subsequently.

The south range

Except for its extreme east end, where the plan was fairly clear as the result of earlier excavation, the south range was still beneath the grass. The east wall of the warming house stood six courses above present ground level, and in the centre of the room there was an octagonal pier base. The warming house lay 8 feet west of the dorter, and the space between them was divided into three by cross-walls, the northern section being $25\frac{1}{2}$ feet long and opening off the south walk of the cloister, the central only 4 feet wide and opening off the warming house, and the southern 12 feet long and containing a garderobe. These three units were investigated in **27**, **28** and **29** respectively.

²⁸ *P.S.A.N.* 3, VI, 23.

²⁹ *Ibid.*, plate opposite 74.

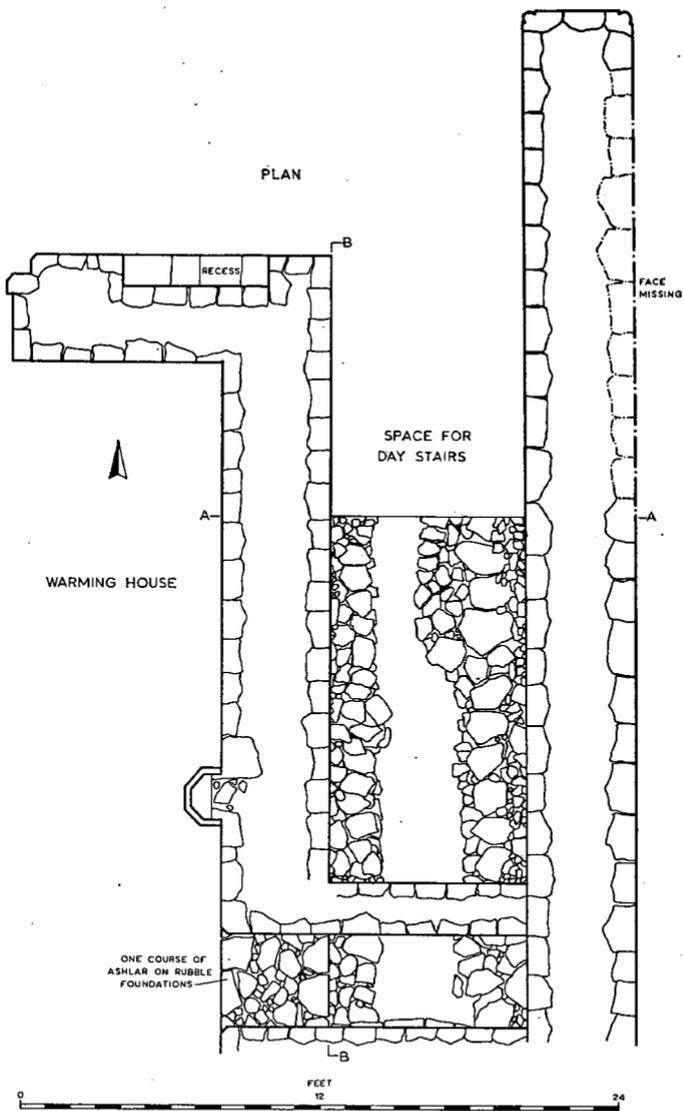


FIG. 22. THE DAY STAIRS AND WARMING HOUSE (27, 28)

1. *The day stairs* (figs. 22 and 23)

The long northern end of the space described above lay in the position usually occupied by the day stairs in Cistercian houses, and its southern half was filled by a high grass-covered mound. The original intention in 27 was to remove half this mound to obtain a longitudinal section, but heavy rain caused the rest of the mound to collapse before the section was completed, and the whole pile had to be cleared away.

The bottom of the trench was largely occupied by the projecting cobble foundations of the two side walls, the footings of the west wall of the dorter being rather wider and more substantial than those of the east wall of the warming house. These foundations were covered with sand, in which were two patches of mortar of uneven thickness, and above this rose the mound, consisting of hard-packed sand some 6 feet in height and with a north face sloping at about 45 degrees.

Both the side walls were $4\frac{1}{2}$ feet wide and built of excellent ashlar, and though the west face of the dorter wall was rather fragmentary, being only one to three courses high, the wall of the warming house stood as much as eight courses above its foundations. At the north end of the latter wall the courses became shallow, and just above ground level at the entrance there was a square hole 5 inches deep in each side wall.

The wall which contained the mound on its south side was very different in construction (pl. X, fig. 1). Only 2 feet wide, it was built on sand without footings, and did not bond into the west wall of the dorter. The stones of its north face were much rougher than the ashlar of dorter and warming house, and the joints between them were so heavily smeared with mortar that much of the detail was obscured. Nevertheless, it was clear that the courses of this end wall did not match those of the east wall of the warming house, though the two were found to bond in one or two places. Its five uppermost courses were just as obviously a modern

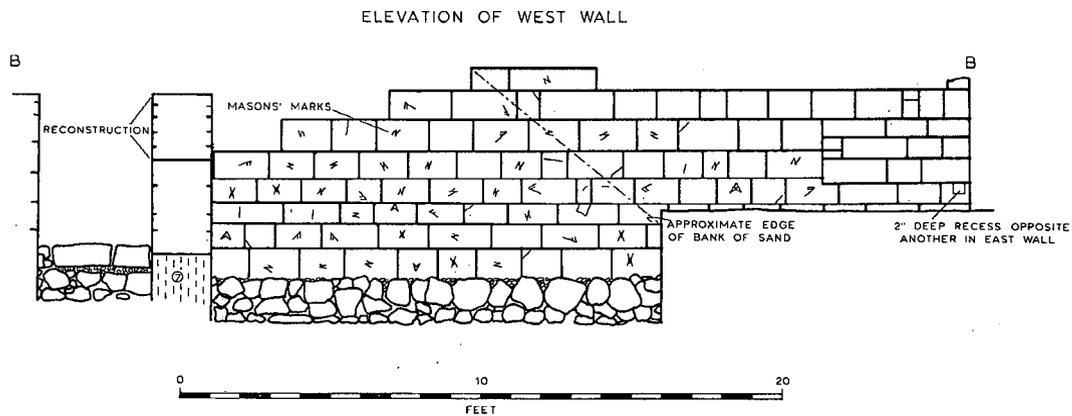
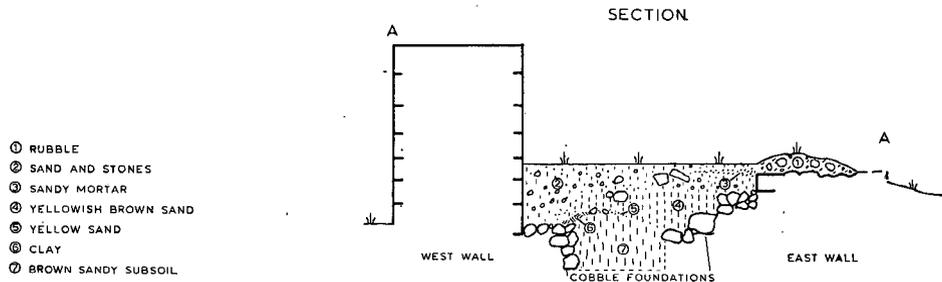


FIG. 23 THE DAY STAIRS (27, 28).

replacement. They had been built up from the south side against the mound of sand, and modern white cement had oozed out of the joints to congeal in ugly lumps against the north face.

The pottery from **27** was the first to be found in a well-stratified context. One fragment of the early thirteenth century was found in the foundations of the east wall of the warming house, and nine sherds, also of the first half of the thirteenth century, in the sand covering the footings and below the uppermost mortar spread. At the base of the mound were three sherds of the late thirteenth or early fourteenth century, and in the mound itself one rim of the late fourteenth or early fifteenth century (pp. 164-5, and fig. 28, nos. 67-73).

In spite of the lack of archaeological evidence, Cistercian custom must weigh heavily in favour of this space having housed the day stairs. Although the east face of the wall of the warming house was in pristine condition as if it had been concealed since it was built, the wall of the dormer was too fragmentary to say positively that stair treads could not have been bonded into it. While the mound of sand may seem an unlikely base for a staircase in that it would tend to shift northwards unless firmly controlled, it would hardly have been left in this position without a purpose, and it is difficult to suggest an alternative explanation for its presence here.

While the evidence as to its purpose was not entirely satisfactory, it was quite certain that this space was part of the original design. One of the patches of mortar, probably deposited during building, was found overlying the projecting foundations of the east wall of the warming house, and was itself covered by the sand over the footings of the west wall of the dormer. This suggested that even if the two walls were not rising at the same time their foundations were more or less contemporary. The pottery sequence indicated that the mound of sand was not added immediately, but some time after the foundation trench had been filled.

2. *The slot in the east wall of the warming house* (pl. III, fig. 1)

The whole of this slot between the day stairs to the north and garderobe to the south was included in 28 (figs. 22 and 23), and excavated to the bottom of the walls around it. Below tumbled stones it contained only sand. Its east and south walls stood seven courses high above their projecting cobble footings, and were not bonded together, and across its entrance were the remains of a wall, running from north to south, and consisting of one course of dressed stones on cobble foundations.

From the fact that neither of the side walls of this slot were bonded into the west wall of the dorter, it would appear that the dorter wall was built first, and it is possible that the east range was completed before the walls of the south range were begun. There can, however, be little doubt that the flimsy wall between the stairs and the slot was an after-thought, and that the space for the stairs must originally have included the slot. In which case, a portion of the east wall of the warming house must subsequently have been removed down to its last course of ashlar, the south wall of the slot partially refaced, and the new thin north wall inserted. There is no evidence to show when this was done, or indeed why it was done, though the construction of the slot provided more space in the form of a cupboard or locker under the stairs. It is impossible to be entirely certain about this rebuilding, as the inner faces of the walls of the slot give the impression of having been repointed comparatively recently.

3. *The garderobe* (fig. 24)

The north wall of this room stood six courses above present ground level, and retained—in the north-west corner—the projecting remnants of a vertical shaft, with a horizontal slot in its face 2 feet from the bottom (pl. VII, fig. 2). At the foot of the shaft there was a pit, half-filled with rubble. The east and west walls, formed by the dorter and warming

house respectively, stood in a more fragmentary condition, and the south wall barely showed through the turf. It was decided to empty the pit, and to expose the south wall in 29.

The south wall was found to be 3 feet wide, and to consist of one course of ashlar on cobble footings $3\frac{1}{2}$ feet deep. The bottom course of the rebated jambs of a doorway, under 3 feet wide, remained in the centre of the wall, and showed that the door had been closed against this room from the south side. Where this wall joined the west wall of the dorter, the latter had been robbed down to its cobble foundations except for one course of ashlar of its west face. The fragment of a door jamb remained on the dorter wall south of this room, but it seems unlikely that it was in its original position.

After its rubble filling had been removed, the pit was found to measure 3 feet by 2 feet at the top, and to be $7\frac{1}{2}$ feet deep. It was lined with large boulders, and had an earth floor with no outlet at the bottom. A tunnel some $2\frac{1}{2}$ feet high opened off its west side 1 foot from the top, and led into a cavity $3\frac{1}{2}$ feet by 4 feet, which had apparently been hacked out of the core of the east wall of the warming house.

From the existence of the shaft and the pit beneath it, it is clear that the room had contained a garderobe, and the slot in the shaft had probably once held a stone seat. The fact that the remains of the shaft still stand 4 feet above this slot suggests that the garderobe had also been used from the first floor.

The cloister

The position of the cloister is today clearly marked by the fragments of arcading reconstructed in 1914,³⁰ and although the restoration was not accurate in every respect there is no reason to doubt that the arcades were originally designed with twin shafts, beneath waterleaf capitals (pl. VIII, fig. 2), carrying pointed and moulded arches. The only

³⁰ P.S.A.N. 3, VI, 210 and plate opposite 209.

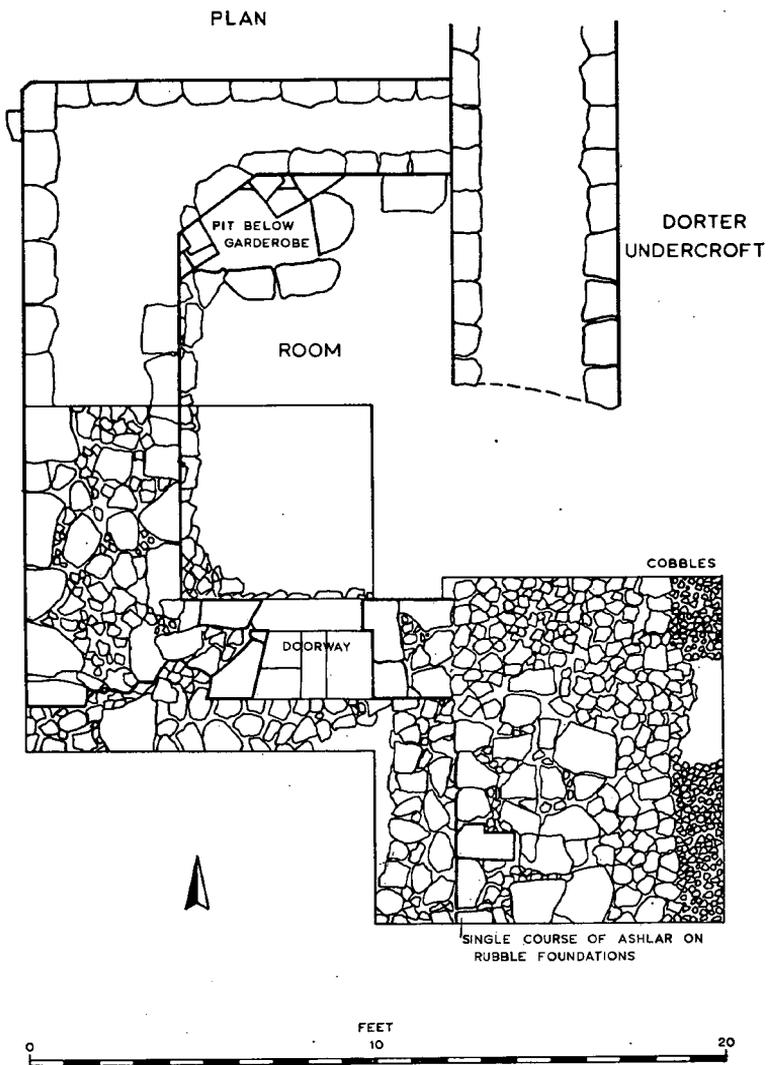


FIG. 24. GARDEROBE (29)

visible masonry which is definitely not part of the reconstruction is the base of the north cloister wall, and of the extreme north end of the east and west walls, the bases of the buttresses, and a lump of stonework in the north-east corner of the cloister. This has dressed west and south faces, does not bond into the cloister wall, and was probably the bottom of a flying buttress against the west wall of the south transept.

One quadrant of a low circular mound in the cloister garth was excavated in **33**. The mound was found to consist wholly of topsoil, and—on the evidence of a tin saucepan-handle found in it—had been dumped here in an earlier excavation.

Discussion

The general arrangement of buildings at Newminster closely resembled the plans of Fountains (after the fire of 1147) and Roche. In all three the cloister lay south of the church, the rooms in the east range were laid out in the same order, and the east end of the south range in each house was alike. At Fountains there was even a small room containing a garderobe, though there it was south of the warming house, not alongside it as at Newminster. St. John Hope believed that on the first floor above the room at Fountains there had been a small bedroom, which had communicated with the dorter and had probably been used by a senior monk.³¹

In spite of this general family resemblance, even the original buildings of each monastery differed considerably from one another in dimensions and details. Although the church at Newminster was larger than that at Roche, the first church at Fountains was larger still, and while there were only two chapels in each transept at Roche there were three at Newminster, and three at Fountains, where the innermost chapel in each transept projected to the east. At Fountains these chapels were divided from one another and from the presbytery by solid stone walls, at Roche the

³¹ W. H. St. John Hope, *Fountains Abbey* (Y.A.J. XV), 354.

chapels were vaulted in a continuous aisle with subsidiary screens between them, and at Newminster it seems probable that there was a stone screen only between the innermost chapel and presbytery. It is, however, interesting that at both Fountains and Roche there was a spiral stair in the south wall of the south transept as appears to have been the case at Newminster.

The most unexpected deviation from the norm yet found at Newminster was the plan of the chapter house. In Cistercian houses in Britain it was usual for this building to project independently east of the east range on an east-west axis, but at Newminster the first chapter house was not only contained within the main walls of the east range, but was longer from north to south than from east to west. The only other Cistercian example of a chapter house within the east range appears to have been at Sweetheart in Kirkcudbrightshire, but even there it was built with an east-west long axis.

While Newminster was founded as early as 1138 it does not seem likely that the church was completed until the latter part of the twelfth century. If the theory is right that the third bay of the presbytery was a later extension (p. 152 below), then the church was built on the classical Cistercian plan, of which Fountains, Roche and Kirkstall were examples of the twelfth century, and Valle Crucis of the thirteenth. The reasons for including Newminster in the earlier group are two—first, inherent probability, and secondly, the form of the surviving pier in the south transept. In view of the date of foundation it would be unrealistic to suppose that the church was finished later than 1200 without documentary evidence to provide a reason for such a delay. The absence of any form of stone screen between the transeptal chapels at Newminster suggests that the church may have been a trifle later than that of Roche, which is thought to have been completed by about 1170, but at the same time the clustered pier is typical of late twelfth-century architecture (cf. Roche, Hexham). It is therefore fair to suggest that at least the

eastern half of the church at Newminster was finished at some point in the last quarter of the twelfth century.

This date conflicts with the pottery evidence, for the one sherd found in the foundation trench of the west wall of the south transept is of a type commonly supposed to belong to the first half of the thirteenth century. As little stratified medieval pottery has been found in the north-east, and as this sherd is merely part of the wall of a jug, it cannot—in our present state of knowledge—be said to invalidate the argument for a late twelfth-century date based on architectural evidence.

On the basis of its arcades, formed by pairs of small columns set one behind the other and sharing bases and capitals, and the varied waterleaf motif on every capital (pl. VIII, fig. 2), it seems certain that the cloister at Newminster was also built in the late twelfth century. Surviving architectural fragments, in particular the square plinths below simple cylindrical pier bases, suggest a similar date for the west range, and “the method of working all the ribs at their springings out of single stones first appears in the latter part of the twelfth century.”³² It seems likely that the west was earlier than the east range (cf. Byland and Roche), and may have been in the course of building at the same time as the church.

The east range and that part of the south range so far investigated are both in accordance with the Cistercian plan as reorganized after the middle of the twelfth century, for at Newminster it is clear that the day stairs and the warming house were in the south range from the beginning. While the cylindrical pier bases of the chapter house and dorter undercroft are probably slightly later than those of the west range (p. 153, and fig. 25, nos. 2-6), the base of the chapter house doorway, with single shafts set in re-entrant angles, was of a traditional type and could well be late twelfth-century. It is therefore possible though not certain that the northern half of the east range was built before 1200, and it

³² J. Bilson, *The Architecture of the Cistercians* (*Arch. Journ.*, LXVI), 267.

is conceivable that the whole building was erected before the end of the century. The east range cannot be many years later than the western for the vaulting-ribs from both are identical.

The remainder of the buildings so far excavated can be attributed to the early thirteenth century on the strength of current pottery dating. It would thus appear that the next stage in the original lay-out was the addition of the reredorter, and the building of the south range. It is perfectly possible that the absolute dating of all these buildings may have to be adjusted after there has been further excavation and more research on pottery from the region, but their relative dates appear to be reasonably certain.

There is very little evidence to show when the various secondary additions were made, or why they were made. The chapter house is an exception, in that it seems probable that it was extended and the sacristy built in the latter part of the thirteenth century. It was lengthened perhaps to accommodate a larger community, perhaps because its original shape was found to be inconvenient, and in its second phase it certainly assumed a more orthodox appearance. Yet, although given an east-west long axis, its incorporation with the sacristy in a block wider than the east range (and the same width as the south transept) was still an unusual arrangement, and there are few parallels among Cistercian houses in Britain, notably Byland, Beaulieu and Tintern. In both its phases the chapter house at Newminster was of a continental, not a British, type.³³

Within the church, the enlargement of the crossing piers can mean but one thing, the erection of a tower over the crossing, or—more probably—the heightening of an existing low tower, of which there is a typical early Cistercian example at Buildwas. This development happened elsewhere with varying degrees of success. At Kirkstall the original tower was indeed heightened, but at Fountains and

³³ We are grateful to Mr. R. Gilyard-Beer for his comments on the chapter house at Newminster.

Furness the attempt failed, and the new tower had to be sited elsewhere—at the west end of the nave at Furness, and at the end of the north transept at Fountains. We shall probably never know how the monks of Newminster fared.

It is possible, but by no means certain, that the buttresses on the outside of the church were all added at the same time. If they were built because larger windows were being inserted, or the upper part of the church remodelled, perhaps even vaulted, the buttresses might all be contemporary. If, on the other hand, they were added to counteract a general decay of the fabric their erection might have occurred in piecemeal fashion. The diagonal buttress on the north-east angle of the presbytery appears from its size and shape to be late, perhaps fifteenth-century, and the smaller diagonal buttress of the galilee might be of much the same date.

As was said earlier, the existence of the buttress at the east end of the presbytery presupposes that part at least of the north-east angle of the presbytery was rebuilt. The fact that the presbytery is of three bays, and not the more normal two of late twelfth-century Cistercian churches, suggests that the presbytery might have been lengthened in a later phase of building, though not necessarily as late as the fifteenth century, for the buttress could represent a third phase. There is an example at Strata Florida of an aisleless two-bay presbytery being extended one bay to the east, so if this happened at Newminster (and it has yet to be proved) it would not be a unique instance.

The later addition of a galilee was not uncommon in Cistercian houses, the churches of Roche and Byland, for example, both being given galilees in the thirteenth century, but it is perhaps unusual to find one built as late as the fifteenth century, if that is indeed the date of the galilee at Newminster. It is possible that the monks took advantage of the erection of the flying buttresses and decided to incorporate them in the wall of a galilee in a single operation.

It only remains to comment on the building methods in so far as they have been revealed by excavation. It is highly

probable that the general lines of the foundations, i.e. the walls of the church, and the outer walls of the east range, were laid out as rafts of cobbles, and the footings of the inner walls then inserted, before the upper part of the fabric was begun. The method of basing the piers of an arcade on a continuous sleeper wall was, however, abandoned in the nave, perhaps because of a shortage of cobbles, and it is noticeable that cobbles were not used as foundations in the later work, other than the extension to the chapter house.

It also seems likely that after the walls had been begun, but before the floors were laid, the whole site was levelled up with the brown clayey sand found overlying the subsoil in almost every building. This layer must have been added after the foundations for in no case has a foundation trench been found cut through it.

THE FINDS

An asterisk indicates that the find is illustrated.

STONE

a. *Architectural details of the galilee, east and west ranges (fig. 25).*

In nos. 2-4 the column bases are numbered from north to south.

- *1. One of the three surviving responds built into the inner faces of the small buttresses on the galilee wall (plan).
- *2. Base moulding of columns 1 and 2 in the dorter undercroft.
- *3. Base moulding of columns 3 and 5 in the dorter undercroft.
- *4. Base moulding of column 4 in the dorter undercroft.
- *5. Base moulding of the two western columns in the chapter house.
- *6. Base moulding (lower portion square, upper portion cylindrical) of columns in the west range.
- *7. Section of vaulting-rib in west range and dorter undercroft.
- *8. Plan of eight ribs springing from one central stone (*tas-de-charge*) in the west range.
- *9. Vaulting keystone in the west range.

b. *Other stones*

- *10. Fragment of moulding.

In the south face of the cobble foundations in 32.

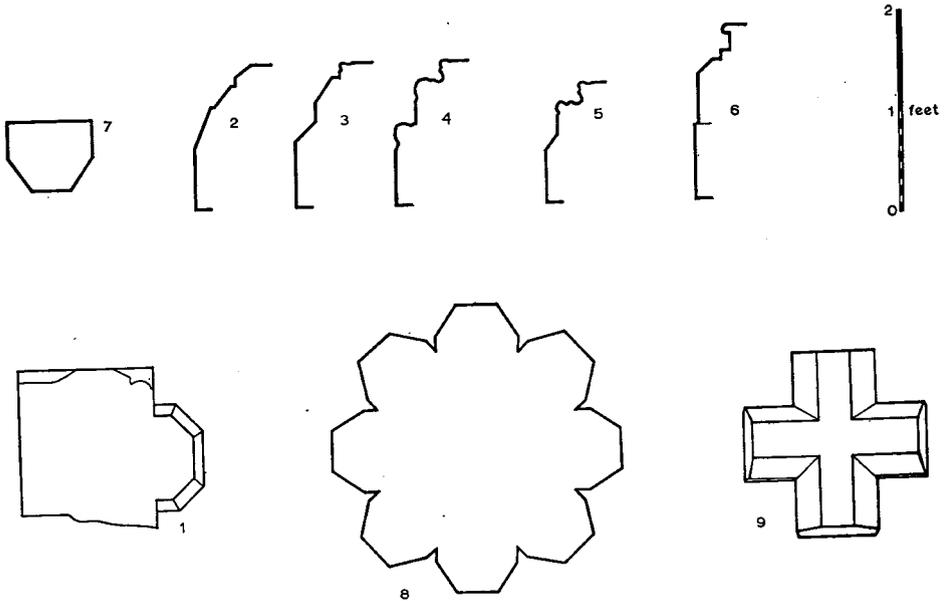


FIG. 25

- *11. Fragment of uncertain function, with tapering end pierced by a drilled hole; 4.5 mm. thick. It is possible that this was a small hone (*cf.* one found at Beere, Devon³⁴) but if so it was probably never used for it shows no sign of wear. From core of north wall of nave in 7.

FLOOR TILES (fig. 26, drawn by Derek Moffat)

- *12. Fragment of inlaid tile; yellow design on a brown background.
 *13-18. Several pieces of tile-mosaic, all glazed brown except no. 13, which is yellow.

Tile mosaic pavements have been found in a number of Cistercian houses in the north of England, and were popular from the mid thirteenth to the mid fourteenth century.³⁵

19. A number of plain tiles; 2.9" square, 1" thick; glazed yellow, green or brown.

Probably used to form borders or backgrounds to the decorated tiles or tile-mosaic. Thirteenth century.

³⁴ E. M. Jope and R. I. Threlfall, *Excavation of a Medieval Settlement at Beere, North Tawton, Devon (Medieval Archaeology, II)*, 139 and fig. 34, no. 4.

³⁵ *London Museum Medieval Catalogue* (1954), 230-1.

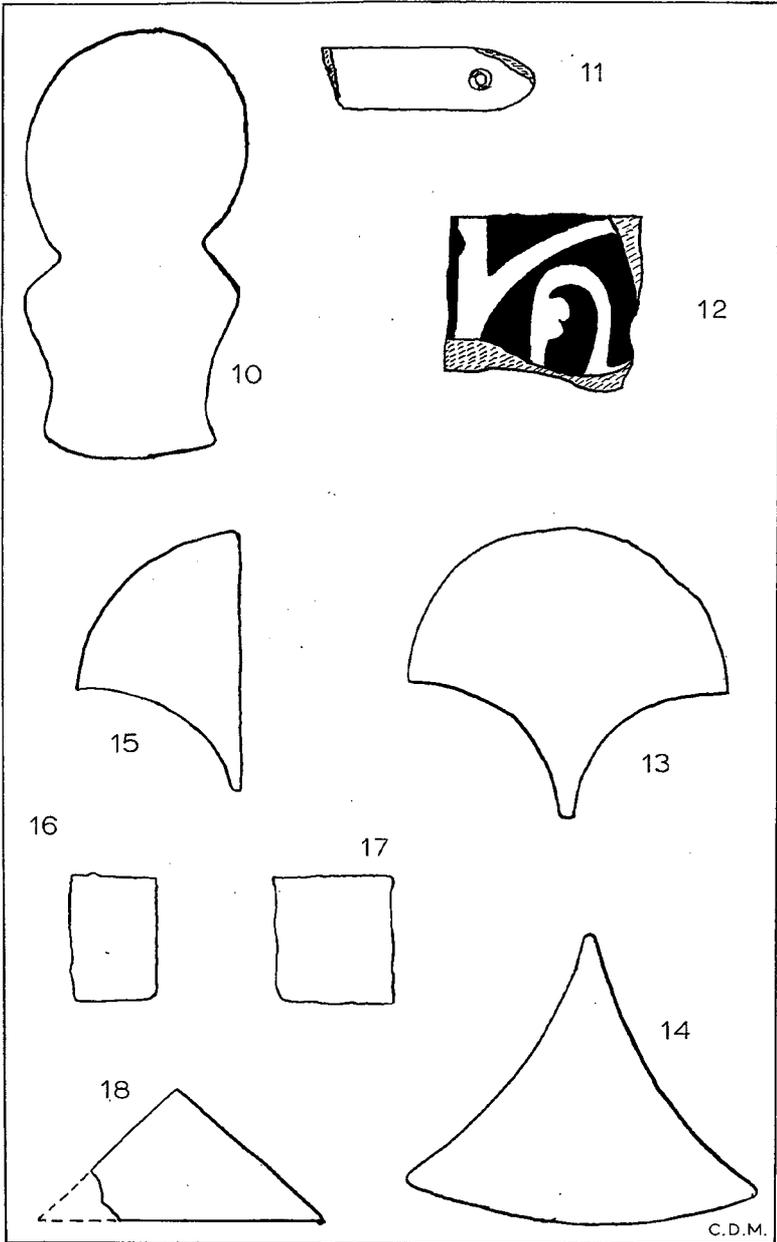


FIG. 26 (4)

20. Two tiles; 2.9" square, 0.6" thick; glazed brown—perhaps wall tiles.
21. One plain tile; 4.5" square, 1.05" thick; glazed green.
22. Part of a tile, of which the only complete side measures 9.4"; 1.1" thick; glazed black.
23. A number of fragments of tiles; 1.2" thick; covered with thick yellow, green or dark brown glaze.

These are probably considerably later than those listed above, perhaps fifteenth or sixteenth century.³⁶

Almost all these tiles were found in the topsoil or rubble covering the abbey church, and none were found *in situ*. Similar examples have been found in the transepts, chapter house and abbot's chapel at Newminster in earlier excavations.³⁷

ROOF TILES

24. Several fragments of earthenware roof tiles, all with smooth, very slightly concave, inner surfaces, and rough, faintly convex, outer ones. Two have square peg-holes, one is nibbed, and two are both nibbed and with peg-holes.

From the topsoil and rubble covering the abbey church. Similar examples have been found at Newminster in earlier excavations, and Honeyman suggests that they were used in the repairs made to the church in the early fifteenth century.³⁸

BRICK

25. One fragment of brick; grey core fired to pinkish buff; one surface rough, the other covered with a thin coating of pink plaster. Original dimensions uncertain, but not less than 5" by 5", and 2.3" thick.

Found in the footings of the cloister wall in 18.

The following note on this fragment was contributed by Mr. J. S. Gardner, of Coggeshall, Essex:

"1. Newminster was Cistercian and the Cistercians, if no one else, knew all about brick making by 1150. As all abbots were compelled to meet in annual Chapter at Citeaux this knowledge would have been general. I agree that Northumberland is an unlikely place for brick, but twelve monks (the usual initial community) in a water meadow (I assume) with a

³⁶ *Ibid.*, 229.

³⁷ Misc. 1, *op. cit.*; Honeyman, Bertram and Blair, *op. cit.*, 99-101.

³⁸ *Ibid.*, 101.

clay pit beside them may well have found it easier to make bricks than to go into the hills and hack out lumps of stone.

2. I notice that the fragment seems to be covered, on one of its surfaces, with pink plaster which is of some interest.

It was the Cistercian practice to cover all internal wall surfaces, whether of stone, brick or rubble with plaster. In the ordinary way this was white and they then added red lines about $\frac{3}{16}$ " to $\frac{1}{4}$ " wide to simulate mathematically regular coursing of stone (or brick). I have seen remains of this in Coggeshall, Cleeve (Somerset) and Roche (Yorkshire), so it may be taken as universal. I assume the outsides of rubble and brick walls were also plastered but time has washed it all away everywhere with one exception (that I know of). Coggeshall began to rebuild its cloister *c.* 1450-70 in brick, (previously it had been as the reconstructed cloister at Newminster). When the dissolution came, demolition was carried out more rapidly than clearance and the moment came when the garth was 2' 6" deep in rubble with what was left of the walls at the same height—there they left it. As a result the wall surface was preserved and this is covered with pink plaster on the garth side and yellow plaster on the inner or perambulatory side. I am unable to say whether this surface finish had been used in previous centuries but it is not impossible.

3. I question whether they would have used valuable bricks for foundations—they certainly would not have plastered what was not to be seen. If they were used for foundations there are two possibilities—

- (a) They were the remains of an earlier building.
- (b) Rubble from a Roman site was used for foundations. The brick looks too thick to be Roman, but the thin pink plaster could very well be Roman."

In view of the lack of additional evidence either of these explanations could be right.

POTTERY Eric Parsons (figs. 27-28 drawn by John Tait)

Note that measurements in mm. refer to the thickness of the fabric.

- 26. Fragment of wall of vessel; 5 mm.; in light smooth buff fabric, slight grit content. Thirteenth century.
- 27. Wall sherd of jug; 4 mm.; in thin hard medium-grey fabric; overall olive green glaze on outside. Late thirteenth-early fourteenth century.

Nos. 26 and 27 from clayey sand outside the south wall of the presbytery in 15.

- *28. Basal angle of flat-based medium-sized jug; 5-7 mm.; smooth hard buff fabric of fine matrix; base diam. 4". Thirteenth century.
- *29. Fragment of base of heavy flat-based small/medium jug; 12 mm.; smooth hard fabric of dark grey core fired to buff on both surfaces; base diam. 3". Late thirteenth century ?
- *30. Fragment of flat base of jug/jar; the hard smooth grey fabric has been fired to buff on outside except where olive green glaze covers a light grey surface. Late thirteenth-early fourteenth century.

Nos. 28-30 found in the debris of the original demolition outside the south wall of the presbytery in 15.

- *31. Everted angular rim of cooking pot; 4 mm.; in smooth off-white fabric with a medium amount of grit; the spots of glaze on the exterior are probably from another vessel. Derived from twelfth-century Northern cooking pot, the closest parallel coming from excavations at Lowe Hill, Wakefield, Yorks., and there dated to c. 1150.³⁹

From rubble of robber trench over south wall of presbytery in 15.

- 32. Uneven basal fragment of vessel; 4 mm.; in thin hard dark grey fabric, fired to buff on both surfaces. Thirteenth century ?
- 33. Body sherd, possibly of cooking pot; soft pinkish-buff fabric with medium grit content. Late twelfth-early thirteenth century ?

Nos. 32 and 33 from sand outside junction of north wall of nave and west wall of north transept in 7.

- *34. Part of plain rim of jug; in hard buff fabric with thin dark grey core and partial green/orange glaze on exterior; diam. 6½". The sherd bears evidence of an accidental tool (?) mark made before firing. Late thirteenth century.

From mixture of sand, mortar and stones outside north wall of north transept in 8.

- 35. Wall fragment of jug; 5 mm.; in gritty dark grey fabric fired to off-white on both surfaces; patchy light green/yellow glaze on exterior. Mid thirteenth century ?
- 36. Fragment of wall of vessel; 5 mm.; hard medium-grey fabric with small grit content; external surface covered by dark green glaze. Late thirteenth-early fourteenth century.

Nos. 35 and 36 from clayey sand west of central pier in north transept in 10.

³⁹ Brian Hope-Taylor, Excavations at Lowe Hill, Wakefield, Yorks. (*Wakefield Hist. Soc. Pub.* 1953), 10 and fig. 3.

37. Fragment of wall of jug; dark grey fabric with medium grit fired to buff on both surfaces; external spots of glaze. First half of thirteenth century.
Above mortar spread and below stone steps over sleeper wall in north transept aisle in 10.
38. Fragment of sagging-based cooking pot; orange/buff fabric with medium grit content; traces of post-manufacture heat on exterior. First half of thirteenth century.
39. Basal fragment of jug; in fabric similar to no. 37 with light green glaze spots on exterior. First half of thirteenth century.
Nos. 38 and 39 were found in clayey sand in crossing in 11.
- *40. Wall sherd of jug; dark grey fabric fired to buff internally, and light grey externally under green (?) glaze now missing. Decorated with both multiple horizontal and single chevron-type grooves. Mid to late thirteenth century?
From clayey sand outside footings of east wall of south transept in 16.
41. Wall sherd from near neck of jug; dark grey fabric fired to buff on internal surface, and on exterior except where medium-green glaze partly covers the surface. Early thirteenth century.
From filling of foundation trench on east side of west wall of south transept in 17.
42. Four fragments of wall of jug; dark grey fabric fired to buff on internal surface, and on exterior except where partly covered by medium-green glaze; pronounced wheel-marks on exterior. Early thirteenth century.
From clayey sand inside south transept in 17.
- *43. Body sherd of small squat vessel or bottle; in soft orange fabric of fine texture; flat base and sharply incurving shoulder. Potting and fabric closely paralleled by no. 28.
In topsoil in 17.
44. Wall sherd of jug; buff fabric with fine grit; overall light green glaze on exterior. First half of thirteenth century.
Found on footings of south wall of south transept in 20, but not sealed.
- *45. Fragment of rim of cooking pot; off-white fabric with slight grit content. The rim, derived from the twelfth century Northern type, represents a fusion of the clubbed and square rim forms, a combination of types 3 and 10 found at Knaresborough Castle.⁴⁰
From topsoil in 20.

⁴⁰ Dudley Waterman, A group of twelfth-century pottery and other finds from Knaresborough Castle, (*Ant. J.*, XXXIII), 212 and fig. 1.

- *46. Fragment of frilled base of imported stoneware jug; grey fabric with external light brown glaze. Siegburg ware. Early sixteenth century ?
From topsoil in 19.
- *47. Part of rim of medium/large jug; in dark grey fabric with buff interior, and exterior except where covered by thick light green glaze. Sherd shows traces of junction of upper end of handle. Mid-late thirteenth century. Three other fragments were found, probably of the same jug, i.e. fragment of a split handle, a wall sherd, and a neck sherd which shows evidence of a handle join.
- *48. Fragment of rope twist handle; dark grey core with thick buff exterior; traces of light green glaze on upper surface. Mid-late thirteenth century.
- *49. Tubular spout, in heavy dark grey gritty fabric fired to buff where not covered by good quality green glaze. The upper edge of the spout has been chamfered to facilitate pouring. The spout has been formed separately before being added to the inward body curve of the vessel (presumably a jug), and includes an inner sleeve bush. This addition has been necessary in order to maintain the bore diameter whilst widening the stem to provide a firm join with the vessel. At this junction, angular scoring marks, probably extending on to the vessel wall, occur on the under side of the spout. Now only decorative, they are possibly derived from an earlier method of improving adhesion. The upper surface of the spout has been drawn up into a web to attach it to the upper part of the pot, both as an additional form of support and as a form of decoration. The upper surface of the spout retains a row of pierced holes, and has another row of smaller marks below. The nearest parallel in the north is a spout found at Melrose Abbey, Roxburghshire. In this case, although the technique of attachment appears dissimilar, the upper web is pierced by a single hole.⁴¹ Mid-late thirteenth century.
- Nos. 47-49 were found in the rubble of the robber trench over the south wall of the nave in 4.
50. Wall sherd of jug; in gritless buff fabric; exterior covered by light green glaze. First half of the thirteenth century ?
- *51. Part of plain rim of jug; 6 mm.; hard pink-buff fabric; outside covered by iridescent dark green glaze, with band of same glaze round inside of rim. Diam. 4". Late fifteenth-early sixteenth century.

⁴¹ Stewart Cruden, *Scottish Medieval Pottery: The Melrose Abbey Collection (P.S.A.S. LXXXVII)*, 163, 167 note 2 and fig. 2.

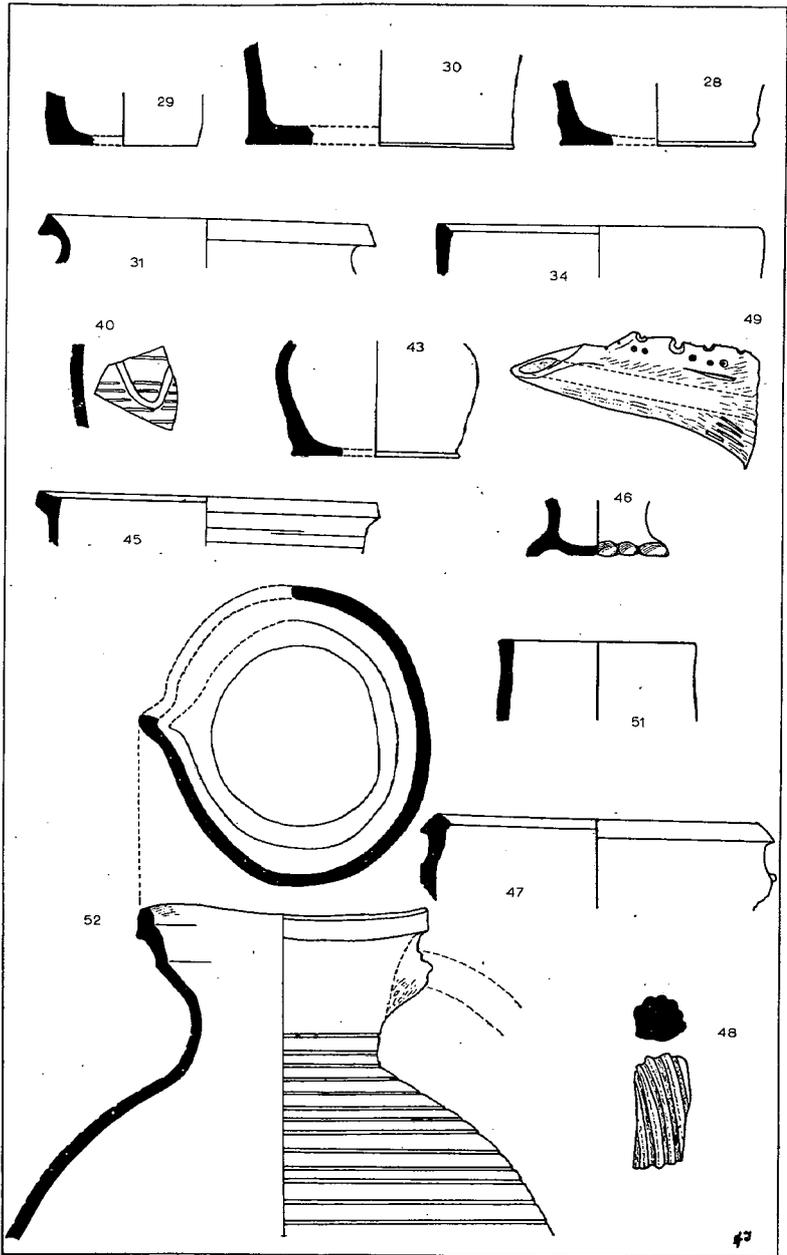


FIG. 27 (3)

M

Nos. 50-51 from brown sand below masons' chippings outside galilee wall in **1**.

- *52. Restored upper part of large jug; in medium-grey fabric fired to buff on inside, and on outside (i.e. rim area and beneath missing strap handle) except where covered by light green glaze. The jug has a wide and slightly sagging mouth typical of the first half of the thirteenth century, and a simple pinched spout. Horizontal grooves 1 cm. apart extend over the whole of the restored area. Aper. diam. 6"; neck diam. 3½". 1200-50?
- *53. Four fragments of one vessel, including one sherd of sagging base; in grey fabric fired to buff on exterior except where covered by light green glaze. Mid thirteenth century.

Nos. 52-53 from clayey sand in **22**.

- *54. Restored chamfered rim and part of neck of medium-sized, narrow-necked spoutless bottle-shaped (?) vessel; overall reddish-buff fabric; exterior shows traces of brownish-green glaze.

In filling of foundation trench on east side of east wall of library in **21**.

- *55. Fragment of flat base of large heavy jug/jar; medium-grey fabric fired to off-white internally, and buff externally; slight evidence of green glaze on exterior. Bad potting has reduced the base thickness considerably towards the centre, producing a near waster. Late thirteenth-early fourteenth century.

From the topsoil in **21**.

- *56. Part of rim and neck of jug; in hard medium-grey fabric fired to buff on outside except where covered by thin green glaze. Shape of rim and lid-seating indicate a fourteenth-century date.
- *57. Fragment of rim and wall of wide, shallow dish; dark grey fabric fired to off-white; inner surface and outer edge of rim covered by light green glaze; remainder of exterior shows signs of having been used on a fire. The vessel appears to have been made for kitchen or table use. Aper. diam. 6". Fourteenth century.

Nos. 56-57 from rubble below topsoil outside east wall of sacristy in **20**.

- 58. Two wall sherds of jug; in medium-grey close gritty fabric; exterior covered with greenish-brown glaze; decorated with horizontal bands of three grooves, each band c. ¼" apart. Late thirteenth-early fourteenth century.
- 59. Small fragment of wall of vessel; in pinkish-buff fabric; no visible trace of glaze. Mid-late thirteenth century.

Nos. 58-59 found in core of east end of north wall of chapter house in **23**.

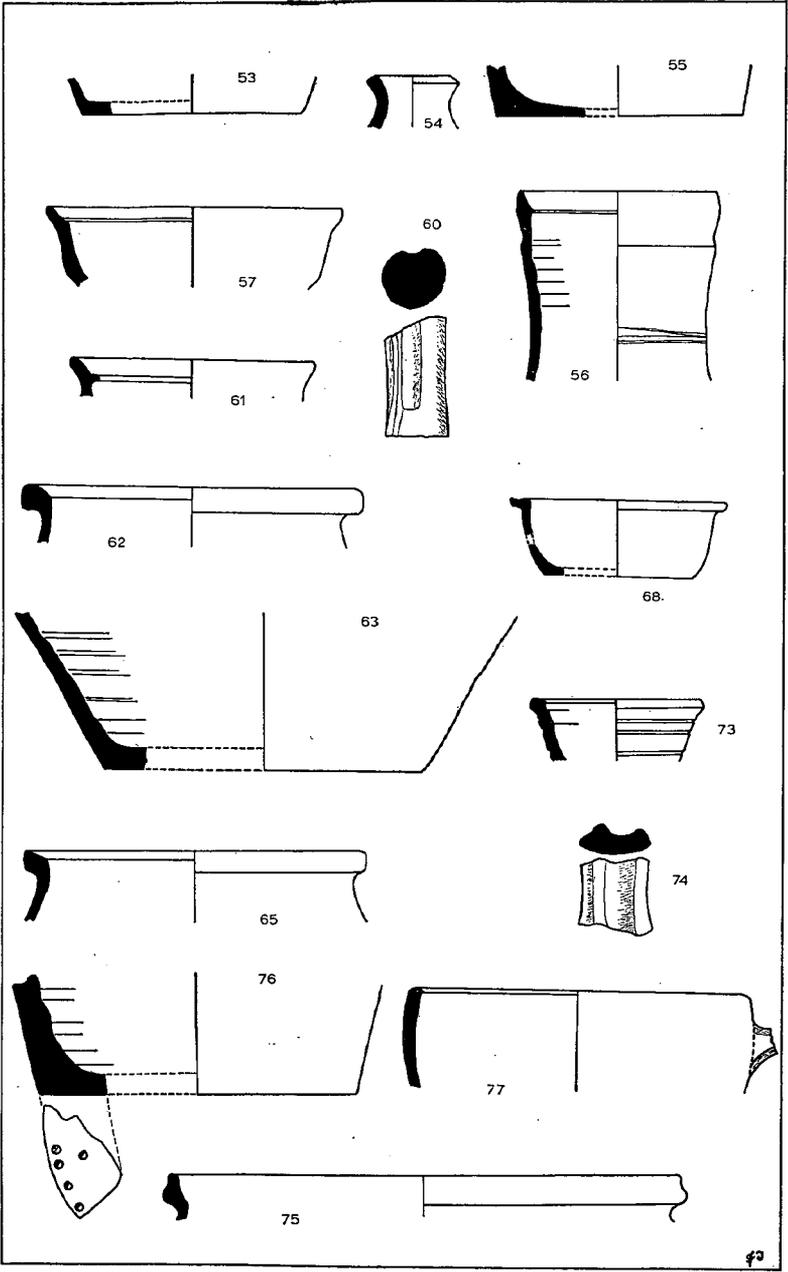


FIG. 28 (1/2)

- *60. Section of thick ($1\frac{1}{8}$ "") rope twist handle of large jug; dark grey core fired to buff on exterior; medium-green glaze in grooves on upper surface. Second half of thirteenth century.
Found in footings of phase 2 east wall of chapter house in 24.
- *61. Part of plain, slightly chamfered rim; in dark grey fabric fired to pinkish-buff except where covered by medium-green glaze, which has once extended on to the inside of the rim down to the lid-seating. Fourteenth century.
Topsoil in 24.
- *62. Fragment of rim of cooking pot; 5 mm.; in hard dark grey gritty fabric, with external traces of carbon. Reducing conditions have produced a fabric similar to that of fourteenth-fifteenth century jugs, but uncommon in a cooking pot form. Aper. diam. 7". Fourteenth century.
Clayey sand in 26.
- *63. Ten fragments of large jug; medium-grey fabric, fired to off-white on outer surface, except where covered by thin patchy medium-green glaze. One of the sherds is part of a sagging base, and another shows evidence of handle join. Fabric and glaze closely resemble those of no. 56. Fourteenth century.
64. Six sherds of shoulder of jug; medium-grey fabric fired to off-white on exterior, which is covered by overall olive green glaze; single horizontal groove below neck. Fourteenth century.
Nos. 63-64 from the rubble in the drain in 31.
- *65. Part of rim of cooking pot; 5 mm.; in hard pinkish-buff gritty fabric with light grey core in body of rim. Vessel has a squared rim on an everted neck. The rim form appears to be a variant of the twelfth-century Northern cooking pot.
On top of subsoil below masons' chippings in 32.
66. Small fragment of wall of vessel (jug ?); in dark grey fabric, fired to pinkish-buff internally, and on outside except where covered by light green glaze. Thirteenth century.
In masons' chippings in 32.
67. Shoulder/neck sherd of jug; in dirty buff fabric fired to off-white on outside, which is covered by light olive green glaze. 1200-1250.
In cobble foundations of east wall of warming house in 27.
- *68. Five fragments of a small thin-walled bowl; 2.5 mm.; in hard gritty grey-buff fabric, fired light buff externally. Overall greenish-brown glaze covers interior. A small well-potted vessel for table or kitchen use. The small rim is of a derived

angular twelfth-century form. Basal diam. 3"; aper. diam. 4½". 1200-1250.

No. 68 found below the lower mortar spread in 27.

69. Basal fragment of urinal (?); in dirty buff fabric, fired to pinkish-buff on outside, with traces of light green glaze. Thirteenth century ?
70. Fragment of uneven base; in fairly soft pinkish fabric containing slight evidence of quartz grit. Early thirteenth century.

Nos. 69-70 were found between the two mortar spreads in 27.

71. Two sherds of neck of jug; in light grey fabric fired to off-white on both surfaces; both covered with light green glaze. Late thirteenth century.
72. Wall fragment of jug; buff fabric, with overall olive green glaze outside, and horizontal bands similar to no. 58. Late thirteenth century.

Nos. 71-72 were at the base of the mound of sand in 27.

- *73. Fragment of plain rim; soft reddish-buff fabric, with slight traces of brownish glaze and carbon on exterior. Late fourteenth-early fifteenth century.

In the mound of sand in 27.

- *74. Section of strap handle; dirty buff fabric fired to pinkish-buff exterior; traces of light brown glaze on upper surface. Late thirteenth century ?

In rubble below topsoil in 27.

- *75. Fragment of rim of jug; 4 mm.; in worn soft dark grey fabric with buff exterior and medium grit; no trace of glaze. Rim form is of thirteenth-century type. In isolation this sherd indicates an improbably large aper. diam. of 10", but it is possible that it could be part of an early thirteenth-century sagging-rimmed jug (*cf.* no. 52), the distortion of which would thus account for the abnormal measurement shown on fig. 28.

From topsoil in 27.

- *76. Fragment of base of heavy storage jar (?); in dark grey fabric, with exterior covered in dark green glaze. Series of punch marks on outer edge of base, *cf.* thumbing method. Probably spoutless and with bung-hole. Fifteenth century.

In topsoil in 33.

- *77. Part of plain rim of jug, with upper junction of strap handle; fabric of dark grey fired to buff on inside, and off-white on outer surface beneath overall light green glaze. Thirteenth century.

Unstratified.



78



79

W.D.

FIG. 29 (2)

CLAY TOBACCO PIPES. Eric Parsons (fig. 29 drawn by Wilf Dodds)

*78. Part of stem of pipe, on which is stamped the mark of Michael Parke of Gateshead, (1691-1727). The type of stamp suggests the first quarter of the eighteenth century.

Found in the rubble in the drain in 30.

*79. Fragment of stem, and bowl of pipe of transitional form. This type (1680-1710) with a flattened base usually includes a stylized Tudor Rose in the position of the maker's initials.

From the rubble of the robber trench in 12.

GLASS

a. Window glass

A number of fragments of medieval painted glass were found:

80. All in this first group came from the topsoil or rubble beneath the topsoil covering the church. Most were in a poor state of preservation, opaque and showed no traces of decoration.
81. A small deposit of fragments was discovered beneath the masons' chippings in 2, and these were in slightly better condition.

Both groups fall into the same period, and form the subject of the following comment by Mr. L. C. Evetts, M.A., A.R.C.A., of the University of Newcastle:

"Among the many small fragments of glass found a small number reveal such details of vitrifiable paint upon them as to give an indication of the type of window of which they were part. It seems probable from the character of the painting that the windows were of the grisaille type dating from the late thirteenth and fourteenth centuries. A few fragments are of blue glass painted with small circles in a curved row which

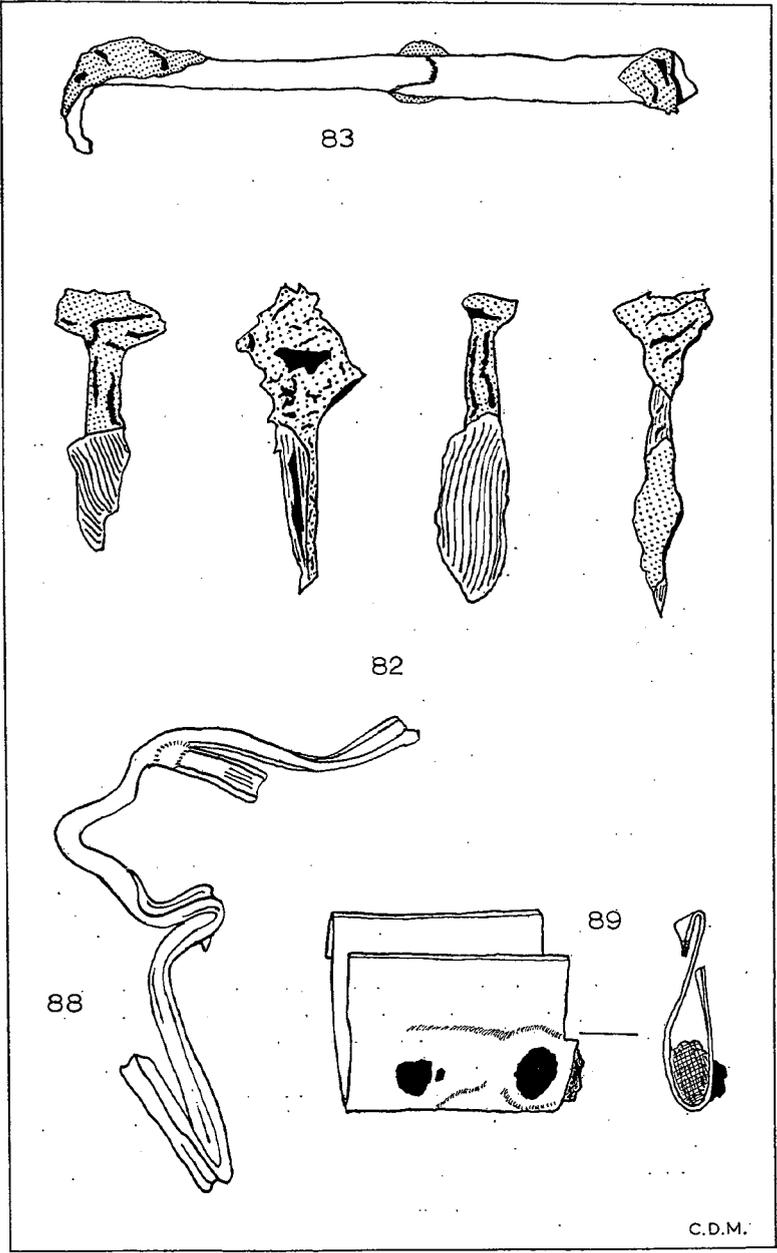


FIG. 30 (1/2)

suggests they were part of a band of colour forming a geometrical pattern over the window in the traditional manner. Other fragments are painted with the type of stylized foliage and hatched background which are characteristic of late thirteenth-century work. One fragment is of slight yellow coloration which is consistent with a light deposit of silver stain and may be attributed on that account to a date not earlier than the second quarter of the fourteenth century."

IRON (fig. 30, drawn by Derek Moffat)

Other than a large number of nails discovered in the topsoil and rubble below the topsoil, many of which appear to be modern, few iron objects were found.

- *82. Eight skeletons in the crossing (11) and chapter house (24) were found associated with nails and strips of iron, the sole surviving trace of wooden coffins, and in some cases the nails still had wood adhering to them. These nails were some 2½" long, square in section and with flat circular heads. The strips were 1" in width, up to 3½" long, and one formed a right-angle as though it had clasped the corner of a coffin.
- *83. A wedge-shaped iron bar, c. 6" long, and with a flat curved end. Its shape suggests that it was a "dog" ("dog nail" or "timber dog"), and in this case was probably used to clamp timber to stonework.⁴²

Found in the clayey sand in 11.

BRONZE

84. Jetton. Obverse reading: AVE MARIA GRACIA. A much devolved specimen of a common late fifteenth century French type. Early sixteenth century. Identified by Dr. J. P. C. Kent, of the British Museum.

From the firm rubble beneath the topsoil in 15.

85. *Silver-gilt buckle* (pl. IV, fig. 2).

Mr. Brian Spencer of the London Museum writes as follows:

"The buckle is silver-gilt, brightly-burnished and in almost perfect condition. It is an interesting and extremely dainty addition to the few surviving belt-fittings of precious metal that were so widely fashionable from about the mid-thirteenth century. Thus belts "harnessed with silver" often appear among the possessions of fourteenth-century merchants and the author of *Dives and Pauper* (? late fourteenth century) criticizes "men of Holy Church that . . . use great silver

⁴² L. F. Salzman, *Building in England* (Oxford, 1952), 291.

harneys in their girdles and . . . ride on high horses with saddles harnessed with gold and silver."

The buckle is one of the best surviving examples of a very distinctive type of strap-end buckle. It has four separate elements—the loop, hinge-bar, tongue and strap-attachment. This attachment or clasp completely enclosed the end of the strap and is very neatly fashioned in thin sheet silver. Its upper plate, chamfered at the edges, is appreciably thicker than the rest to allow for paring and hatching the background of the engraved decoration. The tongue, which has lost its tip and is now jammed upright, has a pair of semicircular flanges, taking the lateral strain, at the junction with the clasp. The hinge-bar passes through the tongue and through holes in the flattened ends of the loop. The loop itself is sub-oval, though the addition of a point gives its outer edge an ogival outline. Nothing remains within the clasp, apart from its two rivets, but it seems likely that this delicate buckle would have belonged to a strap or narrow belt of fabric rather than of leather.⁴³

More robust, bronze buckles of the same type and size have survived in considerable numbers.⁴⁴ Their loops have the same ogival appearance, their tongues are often flanged and, most notably, their strap attachments are four-sided clasps.⁴⁵ But, as a rule, they were differently constructed. The ring and hinge-bar were cast in one piece with a pair of fork-like prongs. The prongs served as the edges of the clasp and the front and back plates were soldered on to them. The plates are rarely engraved but they often have small cusped apertures at the open end.⁴⁶ A buckle of this pronged type was found with thirteenth-century pottery at Riseholme, Lincs. Another is still fixed to a leather strap ornamented with bronze studs of a type depicted on early fourteenth-century effigies.⁴⁷

⁴³ It weighs only 3.5 grams. Belts of silk and other costly fabrics are often recorded; fragments have survived of narrow belts of tablet-woven braids, dating from thirteenth and fourteenth centuries; *Proc. Suff. Inst. of Arch.*, XXV (1950), 202; *Ant. J.*, XXXIV (1954), 234; *Med. Arch.*, V (1961), 292.

⁴⁴ E.g. Rev. A. Hume, *Ancient Moels: . . . Antiquities found . . . on the Sea-Coast of Cheshire* (1863), pl. VII, 7, 13-15. There are ten examples in the London Museum alone; *L.M. Medieval Cat.* (1940), pl. LXXV, 8 is almost identical.

⁴⁵ Generally, the attachments of other medieval strap-end buckles are simply strips of bronze folded over the hinge-bar and riveted.

⁴⁶ *L.M. Med. Cat.*, pl. LXXV, 2, 1, 7. Occasionally the edges are filled in, after the style of the Newminster specimen, by inserting narrow strips of bronze; e.g. *L.M. buckle no. 36.19/3*.

⁴⁷ *Med. Arch.* IV (1960), fig. 34, 1; *L.M. Med. Cat.*, fig. 63, 7.

The evidence of effigies and brasses, in fact, suggests that these buckles were mainly a fashion of c. 1270-1350⁴⁸ and that they were generally used in conjunction with a corresponding type of chape. These contemporary strap-ends are also of forked construction and often have ogival terminals and cusped apertures; examples have been found in contexts of c. 1300-1350.⁴⁹

The decoration of the Newminster buckle is also consistent with certain grotesques of this period. Its clasp is engraved with a fanciful, dog-like animal set within a rectangular panel and against a hatched background. A mantle, draped about the animal's shoulders and reaching to the ground, has been left unglided and is powdered with clusters of triple dots, possibly to suggest ermine or fleur-de-lys. The artist thus leaves us in doubt about the nature, or indeed the existence, of the animal's forelegs. Grotesque bipeds, however, are often depicted, especially in the Luttrell Psalter (c. 1340), in the angular posture of quadrupeds. Moreover, between c. 1320-1340, fanciful dogs and creatures of all kinds are frequently shown wearing mantles or other loose-fitting upper garments.⁵⁰

The buckle was found in the clayey sand outside the south wall of the presbytery in 15.

LEAD (fig. 31 drawn by Derek Moffat)

*86-87. Two lead tokens, with decoration in relief, c. 1500. Identified by Dr. J. P. C. Kent of the British Museum.

Found in the rubble of the robber trench in 5.

*88. Six fragments of lead cawme for window glass.

From topsoil and rubble beneath the topsoil in the church and chapter house.

*89. Fourteen strips of lead, $\frac{1}{16}$ "- $\frac{1}{12}$ " thick, and ranging from 1.1"-3" wide, and up to 4 $\frac{1}{2}$ " long. One or two are clearly incomplete, but the remainder all have one or two holes, some

⁴⁸ Brasses: e.g. D'Auberon (1277), Trumpington (1289), Setvans (1307), Fitzralph (1323), Northwode (1330), Wautone (1347). Effigies: e.g. Harrington, Cartmel (early 14th C.), Berkeley, Bristol (1321 and 1326), Valence, Westminster (1326), a lady, Clehonger (1350).

⁴⁹ *Ant. J.* XIV (1934), 183; XIII (1933), 469; XV (1935), 204; XIX (1939), 197; *L.M. Med. Cat.*, 267; *Med. Arch.*, V (1961), 291; *Oxon.* XXVI-XXVII (1961-2), 168.

⁵⁰ E.g. Ormesby Psalter, c. 1310-25, Milmete's *De Nobilitatibus Sapientis* . . . , 1326-7, Luttrell Psalter, c. 1340; see E. G. Millar, *The Luttrell Psalter* (1932), *passim*; cf. also the cloak worn by leopard on gold half-florin of 1344.

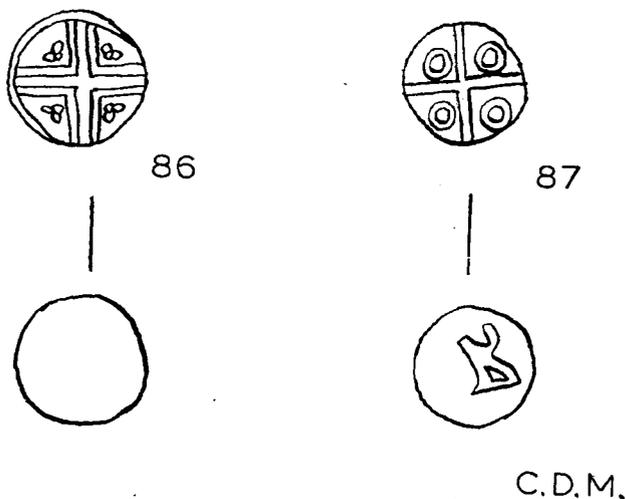


FIG. 31 (?)

with iron nails still in them, at one end only, and most were found bent into the same shape as the illustrated example.

It seems likely that these were roof clips used to hold together the seam between two sheets of roofing lead, although they may also have been used to clip the lower edge of the roofing lead on to the wall plate. Such lead clips are still used today on the roof of Durham cathedral, where one end of a clip is nailed horizontally to a rafter, and the remainder bent upwards into a vertical position. The extreme end of the upright section is then clipped over the edge of one sheet of roofing lead, while the neighbouring sheet is made to overlap the junction, and all three then rolled up tightly into the final seam. Today these clips are $2\frac{1}{4}$ " wide, and are inserted at 3' intervals in each seam. Similar, though smaller, pieces of lead ($\frac{1}{2}$ " wide and with only one nail hole) have been found in the Saxon levels at the monastery of Monkwearmouth, Co. Durham.⁵¹

Found in the topsoil and rubble covering the church.

⁵¹ We are grateful to Miss Rosemary Cramp, M.A., F.S.A., Mr. J. C. Maule and Mr. Eric Parsons for comments and comparative material.

