

Further Excavations on the Second Site of the Dominican Priory, Oxford

By GEORGE LAMBRICK

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SUMMARY

Further excavations and salvage observations on the second site of the Dominican Priory in Oxford have recovered additional evidence for the construction and architecture of the nave of the church and for the pattern of burials associated with the Priory. It now appears that there was not a 'north nave' as formerly suspected. Further details of the great cloister alley and garth have been recovered, and the existence of a little cloister with a path developing into a covered alley has been established. The position of the kitchens at the south-west corner of the great cloister is suggested by associated drains and a probable outbuilding on the west side of the little cloister. An attempt to locate wharfage on the friars' southern river frontage was inconclusive. Examination of the pottery, animal bones, fish bones and other dietary remains have added much additional information about domestic and dietary arrangements. The analysis of biological remains from the drains has provided environmental evidence. Studies of the floor and roof tiles and painted glass provide some extra indications of architectural details. The floor tiles include many designs not previously published for the region. The most interesting individual object found is part of a late medieval sandglass.

INTRODUCTION

The first major report on excavations on the second site of the Oxford Blackfriars was published in 1976, and covered all previous work, starting in 1961.¹ Although it was likely that further redevelopment would allow more excavation, none was then imminent, and the excavations had reached the point where a reasonably coherent picture of the Priory's layout and dimensions, with some details of its construction and use, could be put forward. Some specialist work on the finds was not completed when the main report was ready to go to press, but rather than delay further it was felt that this detailed material could reasonably wait for the inevitable sequel to the first publication. The reports on the floor-tiles, painted glass and animal bones published here thus cover all the excavations to date. This second report reflects a stage in redevelopment when little more of significance seems likely to be discovered in the near future. New buildings now occupy all the vacant spaces covering the Priory buildings except for the car-park adjacent to the Magistrates'

¹ G. Lambrick and H. Woods, 'Excavations on the Second Site of the Dominican Priory, Oxford,' *Oxoniensia*, xli (1976), 168-231. Hereafter Lambrick and Woods.

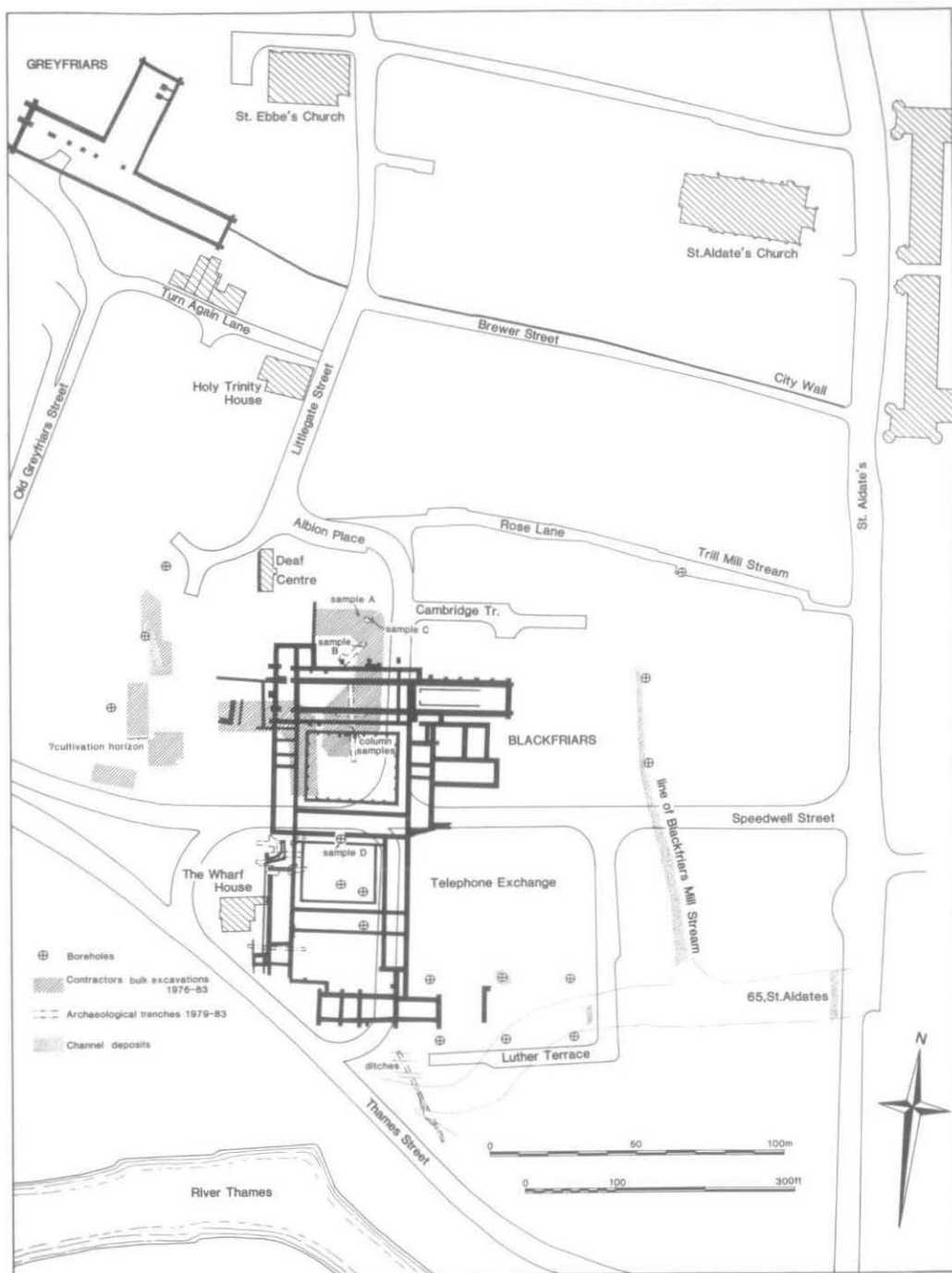


Fig. 1 General location plan showing areas examined 1976-1983, and boreholes, biological samples and other observations relating to pre-Priory deposits.

Court, which was in fact examined in 1967 and 1972. Further work there might be worthwhile, but there are no plans for redeveloping the site.

Since 1976 work has taken place in most parts of the Priory buildings except for the eastern area which covers the choir of the church, the chapter-house and the east range of the great cloister. As previously, the work has involved both controlled excavation in the form of small-scale, rapid trenching, and salvage observation. These methods are less than ideal, but have again proved reasonably cost-effective in recovering basic information, though this is certainly at the expense of much valuable detail which might have been recovered had resources been available for larger-scale work.

The results are presented in the same manner as in the first report, with the structural evidence dealt with by area (the old 'western' and 'southern' areas and a new 'south-western' one) and by individual buildings rather than by trenches. The same system of numbering contexts by prefixing the original numbers with a trench number has been continued, except that the South West Area has a running sequence of numbers. The new Southern Area trenches are distinguished by date. Annotated copies of both reports are housed with the excavation archive to ensure easy reference to the original records. The finds and archive are held by Oxfordshire County Council Department of Museum Services (Collection No. 75.42). Detailed object descriptions and tables are published in microfiche.

ACKNOWLEDGEMENTS

I would like to thank Oxford City Council, the Church Army and the British Legion Housing Association, as owners and developers of the areas examined, for allowing access for excavation or observation. I am grateful to the City Architect's Department and the Oxford Architects Partnership for their help, and the contractors, particularly Hinkins and Frewin Ltd. and W.H. Dore and Sons Ltd., who suffered most of the visits occasioned by salvage recording, for their unstinting co-operation. Thanks are also due to Andrews, Kent and Stone Ltd. for their willingness to site their preliminary assessment pits where they would be archaeologically informative.

I would like to thank Bruce Crammond, Pete Rooke, Jeffrey Wallis and Greg Woolfe, who acted as supervisors on the various controlled excavations, and also all those who took part in the excavations as volunteers.

The excavations were funded by the Department of the Environment, and the preparation of this report was also paid for by the Department of the Environment (now English Heritage) together with the W.A. Pantin Trust. I am grateful to all the contributors mentioned above and to those acknowledged elsewhere who have advised on specific points of interpretation or identification. I would like to thank Tom Hassall, Brian Durham and John Blair for reading the report and providing many helpful comments. Thanks are due to Jackie Wilson for preparing the typescript and microfiche text.

PRE-PRIORY LEVELS by GEORGE LAMBRICK

The overall location plan (Fig. 1) gives the position of recent trenches, sampled deposits and commercial bore-holes. Two sondages to gravel were dug into the alluvium in the area of the nave and north cloister walk during the excavation of Trench W V (L512). Dr Mark Robinson took a column of samples through the deposits revealed in the hole beneath the cloister walk (Fig. 5) and a detailed description accompanies his report (see p. 194). The

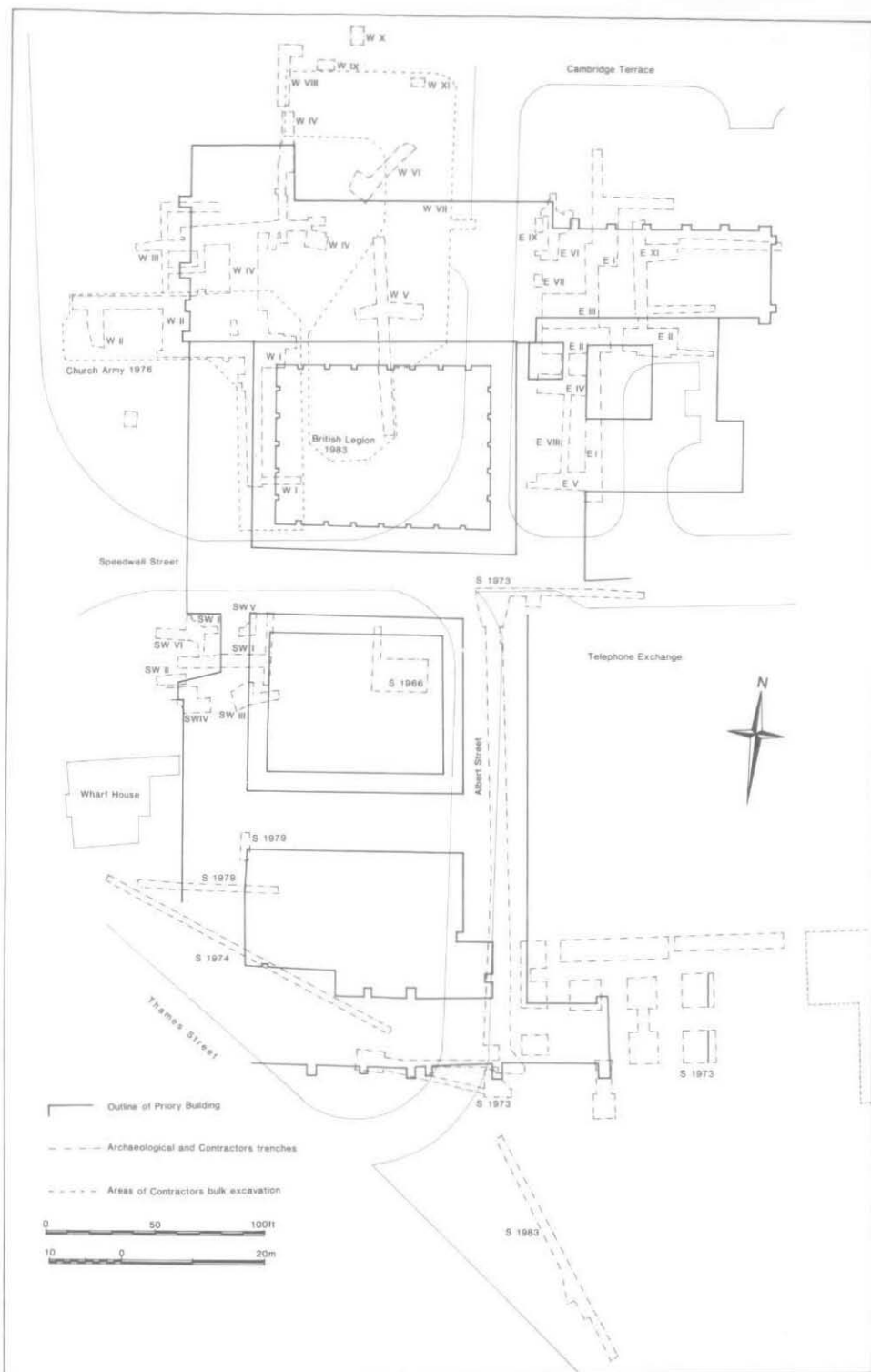


Fig. 2 Trench plan for all excavations 1961-1983 (for original site codes see archive).

deposits in the northern sondage were slightly different, with greyish-brown sandy clay and gravel at the bottom overlaid by blue organic clay, brown organic clay/silt and orange-grey clay with rusty mottles.² The surface of the alluvium here formed a slight hollow *c.* 30 cms. deep. On the south side of the sondage the clay was more oxidized, probably because of the proximity of the south arcade footings.

Other observations were made north of the church, mainly during salvage observations of the construction of the British Legion housing development. A shallow channel or long hollow cut slightly into the top of the gravel, containing dark-brown organic sandy silts, appeared definitely to be sealed by alluvial clay. The channel was aligned WNW to ESE just north of the north aisle. Organic preservation was too poor for identifiable remains to be recovered. On the northern side of the contractors' excavation the gravel rose to a higher level and was sealed by a layer of yellow sandy silt about 20 cm. thick (see below p. 194, Sample A). Prior to development work a trial pit dug by Messrs. Andrews Kent and Stone close to the northern boundary of the site revealed very soft organic snailly clay beneath more recent garden soil. This was rather different from the alluvium seen elsewhere, being softer and more snailly, and was assumed to be a channel or pond; this is borne out by a sample examined for biological remains (see below p. 194, Sample C). Another sample (Sample B) from the top of the alluvium in this general area came from a snailly layer encountered at the north end of Trench W VI (L632) which occupied another slight hollow in the alluvium, possibly caused by one of the underlying channels (see below). Despite the close proximity of these deposits there is no clear indication that they all represent one filled-in channel, and none of them produced any dating evidence, other than being earlier than burials in the Blackfriars cemetery.

In 1967, boreholes on the site of Fr. Fabian Radcliffe's excavation at the corner of Speedwell Street and Albert Street produced organic material from a depth of 8 to 10 feet (2.5–3.05 m.). A sample of coarse peat from one of these holes was examined by Dr. A. Brown, and his results are incorporated (as Sample D) in Dr. Robinson's consideration of the other pre-Priory deposits. Examination of the borehole logs held by the City Engineers Department³ show that four boreholes were made (see Fig. 1). Below 'old foundations', 'made ground' etc. varying from 4 to 7 feet (1.2–2.1 m.) deep, brown organic clay overlay the gravel, which was encountered at between 9 feet and 9 feet 6 ins. (2.7–2.9 m.) deep. Borehole 4 recorded pockets of organic matter in the organic clay, and it is assumed that this was the one sampled. Gravel was at 9 feet (2.7 m.) in this hole. No absolute levels were given, but extrapolating from the level of the modern ground-surface in the South West Area only about 15 m. to the west (see below p. 149, Fig. 9) it appears that the level of the gravel here was similar to that in the trench across the nave and cloister (W V) immediately to the north, being *c.* 54.12 to 54.27 m. OD. Given the distribution of the boreholes, the consistency of the readings for the depth of gravel and its relatively high level (in the eastern area for example, gravel was encountered at between 53.80 and 53.95 m. OD), this is unlikely to represent a channel deposit, and ecologically seems to be characteristic of a marsh. Unfortunately, it is again undated.

A number of other borehole records were examined in the hope of identifying other previously unknown channels, but without very conclusive results. Records of boreholes west of the Blackfriars do not clearly reveal a channel leading to the main culvert of the

² The colour of the alluvial clays in the Eastern Area was not given in the 1976 report. Above bluish or brownish grey clay overlying the gravel there was bright blue to blue-grey clays, often with yellow mottling. The top of the alluvium consisted of brownish-grey clay with orange mottles. This sequence was virtually the same in each of the sondages dug in Trench E I. *Ibid.*, 173, and Fig. 3.

³ I am most grateful to Mr. Brooks for allowing me to consult these records.

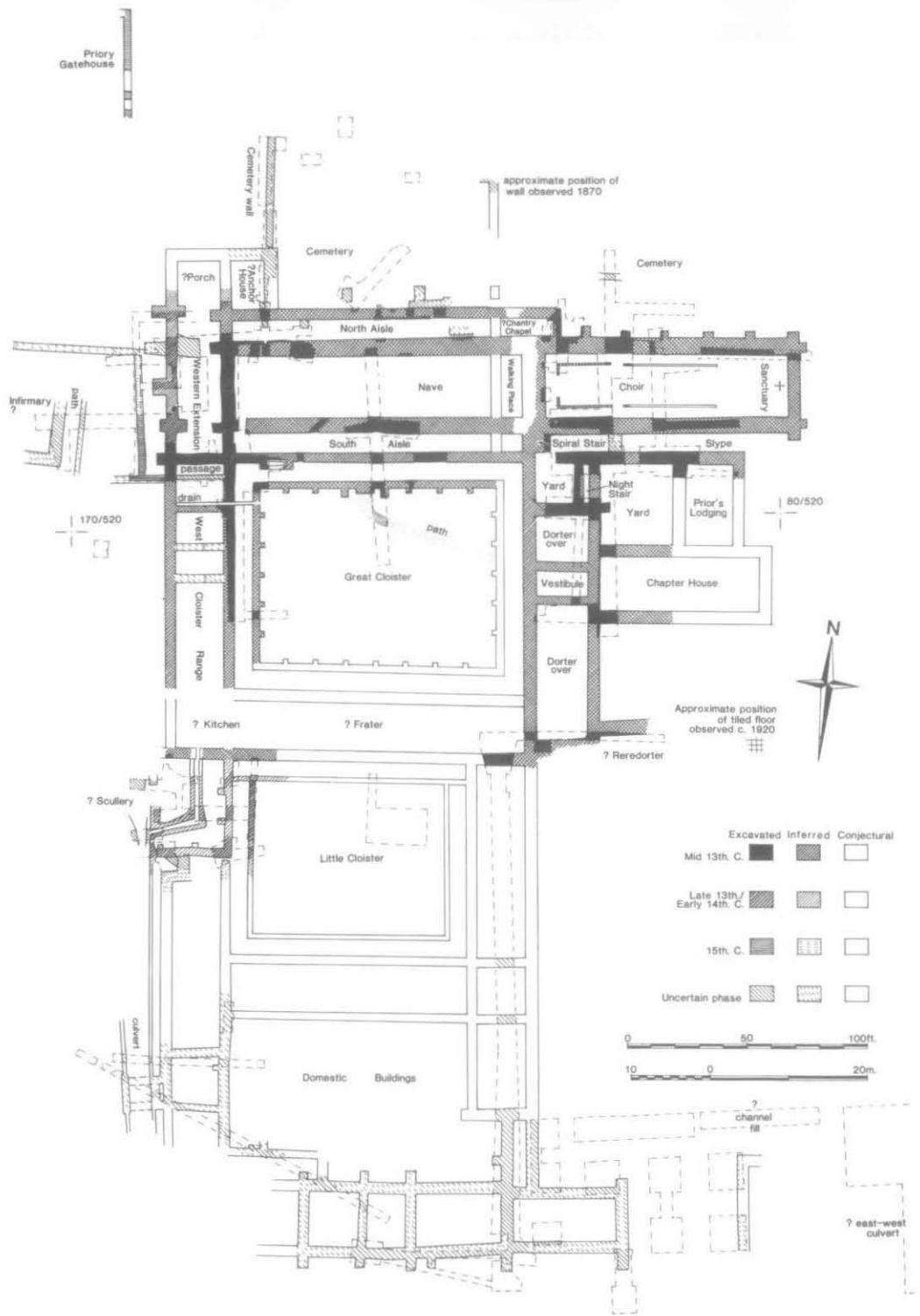


Fig. 3 Overall interpretation plan.

Priory, though one hole was on the edge of where a channel was suspected from dark silty deposits seen in salvage observation (see Fig. 1). In the area of the Telephone Exchange extension much peaty material and blue-black silts and clays were observed near the south-east corner of the development in 1973. A borehold in the middle of the southern boundary also suggests a channel, and this may provide a link between the channel observed north of the Shire Lake ditch in the southern area in 1983 (see Fig. 1 and p. 161, Fig. 11), and a somewhat wider channel encountered under the new Crown Courts building at 65 St. Aldates by Mr Durham in 1979–82.⁴ The difference in size between the two sections of channel might be because of the Blackfriars Mill stream joining it. On the north side of the new Telephone Exchange an area of deep, black organic silts was recorded both by salvage observation and in a borehole, and a possible culvert oriented roughly east–west was recorded just south-east of this (see Fig. 3). In the light of the suspected channel running through to St. Aldates, these very ill-defined deposits might be suspected of indicating another channel, possibly an entirely artificial one serving the reredorter. Two boreholes east of the Magistrates' Court probably located the Blackfriars mill-stream. These observations do not add a great deal to the picture of the land which the friars were given in 1236. There is slightly more indication of variation in the surface level of the alluvium and in its softness, especially where there were old channels. This probably caused some of the problems of subsidence suffered by the north aisle (see p. 145) though in general it is clear that the friars were well aware of the difficulties of building on such material (see p. 204).

The character of the alluvium and the variability of the deposits immediately overlying the gravel are also relevant to the general problem of understanding the pattern of the channels, alluvium and other deposits in the Blackfriars–St. Aldates area⁵. Absolute height is not necessarily the principal factor determining the development or preservation of marsh deposits over the gravel as at 79–80 St. Aldates and in Speedwell Street. The organic preservation on these relatively level surfaces may depend much on the relative input of decaying vegetation and mineral sediment. Of the two, vegetation is likely to vary more, because of its botanical composition and management, particularly with regard to grazing pressure. For instance, a tall reed swamp could probably grow at the southern end of Port Meadow today if it were not grazed, and there could be extremely localized variation.

Unfortunately, the alluvium and channel deposits at Blackfriars remain undated, and as such they provide no fixed points from which deductions could be made to clarify further the complex relationship between man-made developments and natural hydrological processes which have shaped the history of this part of Oxford.

STRUCTURAL EVIDENCE AND INTERPRETATION by GEORGE LAMBRICK

THE WESTERN AREA

The Church

The nave and north and south aisles of the church were examined in 1983. Two trenches, Trench W V across the nave, south aisle and cloister (Figs. 4, 5 and 6), and Trench W VI extending diagonally north-east from the wall of the north aisle (Fig. 7), were excavated and salvage observation was carried out during construction of the British Legion Housing

⁴ B. Durham, 'The Thames Crossing at Oxford: Archaeological Studies 1979–82', *Oxoniensia*, xlix (1984), 57–100.

⁵ For detailed discussion of the problems see *Ibid.*, 79–80, 85–6.

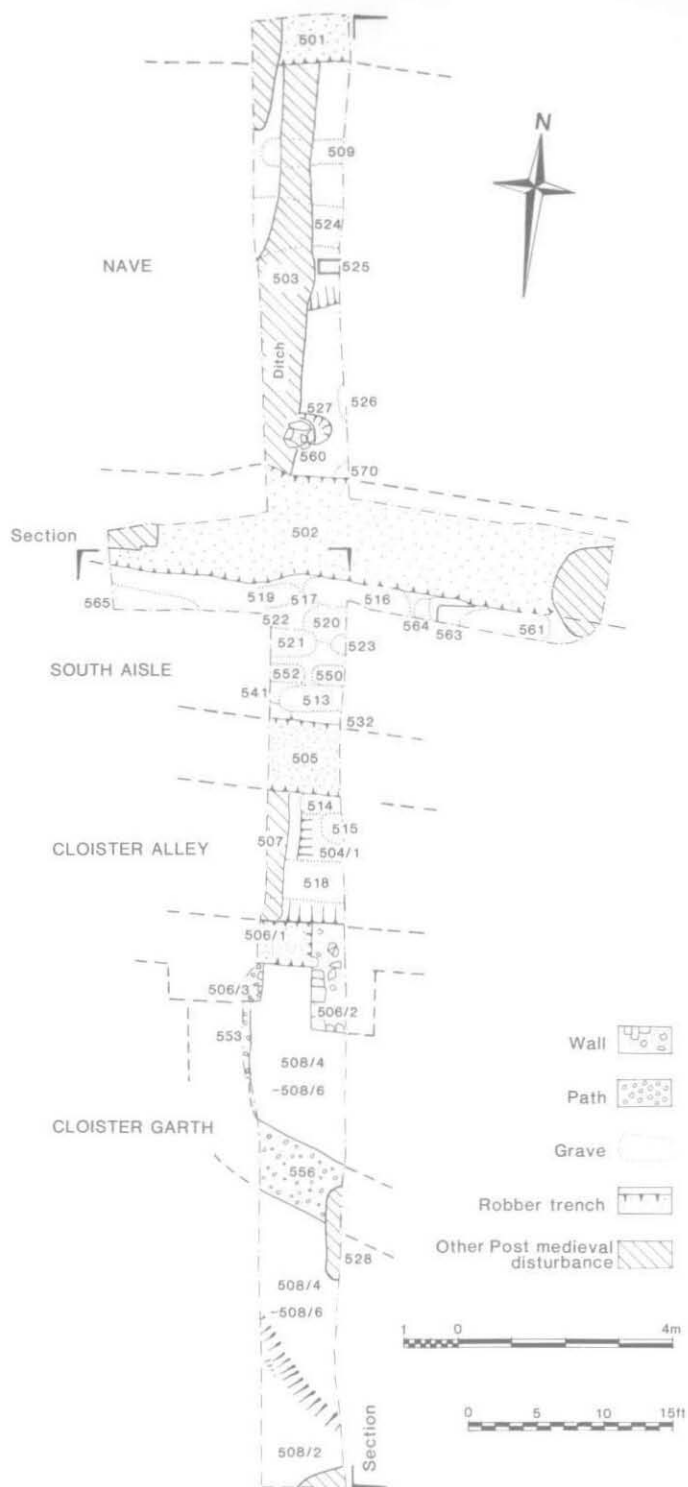


Fig. 4 Trench W V across the nave and north side of the great cloister.

Association flats (Figs. 1 and 2). The scale and speed of the bulk excavation (for reconsolidation with pulverised fuel ash in the latter case) was such that little more than the positions of large footings could be observed. Most detailed information came from the small-scale archaeological excavation. Figure 3 gives the general interpretation.

Trench W V provided a transect across the nave, south aisle and cloister. This picked up the north and south arcade footings (F501 and 502), the south aisle wall (F505) and the cloister alley wall (F506). An east-west extension along F502 was intended to show whether the south arcade was built on a continuous footing or individual piers. In the main body of the nave just north of F502, a shallow hollow in the top of the alluvium was filled with clay and stones incorporating some grey clay loam with gravel and charcoal flecks (L558, 559). On the surface of this was a thin spread of mortary gravel and stone fragments. These deposits were overlain by dumped clay (L511, L557/1, L557/2) which was somewhat gritty but largely free of gravel or stones and presumably represents redeposited natural alluvium. As in the Eastern Area, these layers probably resulted from the construction of the footings of the church, which as with the choir were founded on gravel (this was observed during salvage work). The clay dug out of the foundation trenches seems to have been spread out over the building debris dropped during the laying of foundations, which had accumulated in the hollow next of the south arcade footings (F502). The dumped clay beside the north arcade (F501) was much more gravelly than elsewhere. The absence of similar mortary and stony layers on the surface of the alluvium along the southern side of F502 in the main trench or its eastward extension may indicate that this part of F502 was laid from the north side. However, similar material overlying the alluvium on the other side of F502 in the western extension to Trench V may indicate a variation in the pattern of construction work.

Previous observations had suggested a discontinuous but very substantial footing.⁶ This excavation revealed an effectively continuous robber-trench suggesting a massive sleeper wall foundation. A longitudinal section through F502 (Fig. 6) shows that the footings were not quite continuous: a narrow sliver of undisturbed clay alluvium had survived the robbing and marked a break in the original footings, which must have almost abutted each other. This break coincides with the distinction in the position of construction debris noted above, and though it may mark a division between separate piers for the arcade, it probably more closely reflects the measures taken to overcome the technical difficulty of laying the foundations on gravel below the water-table (which was discussed in 1976). The solution would appear to have been to lay foundations in distinct, almost abutting compartments dug through the clay, which would have remained watertight until gravel was reached. The footings themselves were only seen where the main trench crossed F502: elsewhere robbing had extended well below the present water-table. They were similar to those of the choir.

Unlike the choir and east cloister range, the initial construction debris and levelling-up following the laying of the massive foundations was not covered by distinct layers of building debris from the construction of the walls. Instead, there was a sequence of often quite thick layers of almost black, dark-brown or gingery-brown clay loams and gravelly sandy loams, some of which contained much occupation refuse (L510–L510/4, L545–545/2, L547–549, L573, L575, L579, L581). These layers were variable in thickness, and generally sloped down to the south. There were no distinct horizons of compaction or other indications of definite surfaces within these deposits, and they are best interpreted as dumps of soil and occupation refuse. The upper layers of more gravelly, browner loam (L533, L545 etc.) contained fairly abundant mortar flecks, and quite large lumps of mortar

⁶ Lambrick and Woods, 188–89.

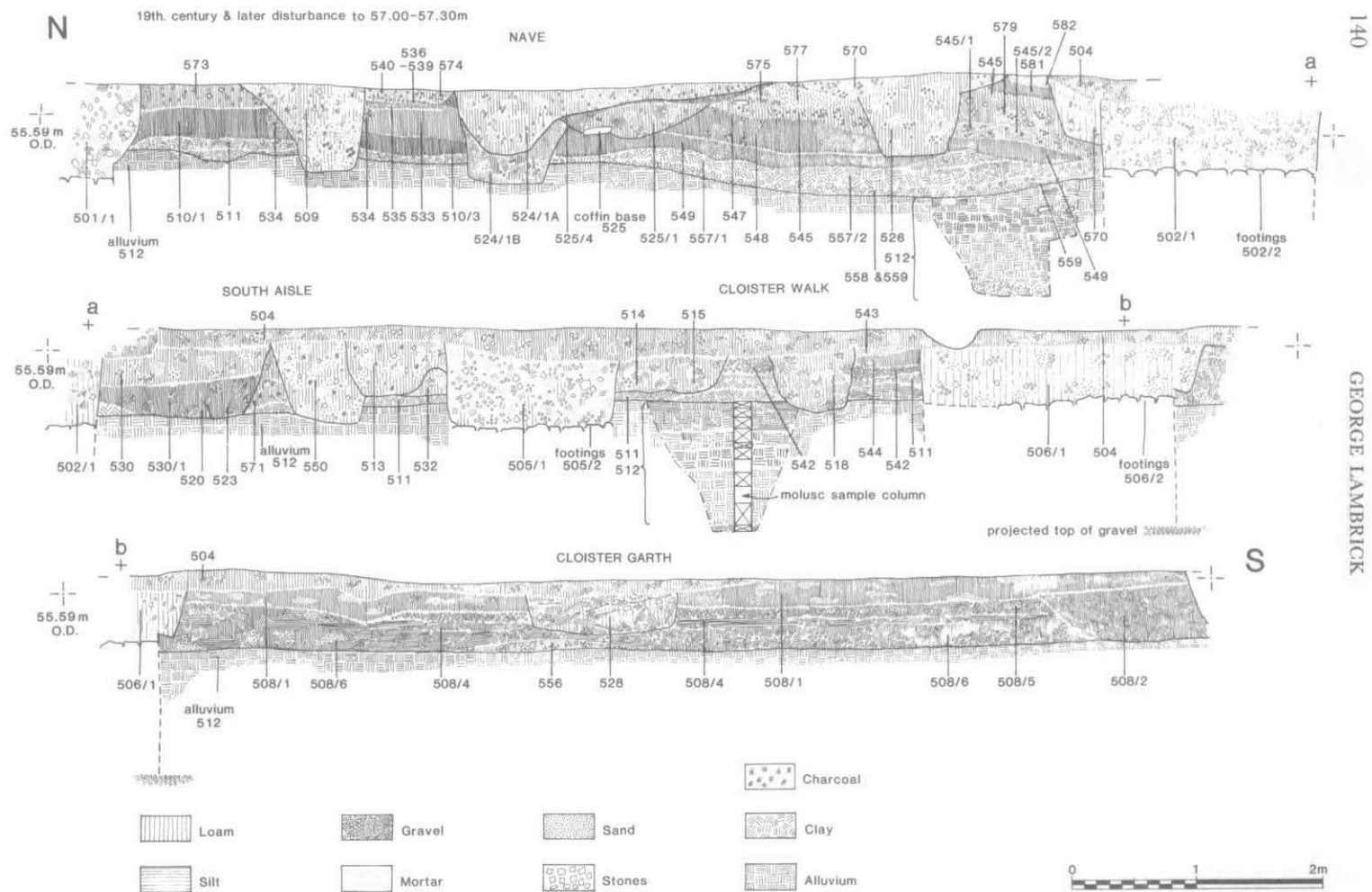


Fig. 5 Trench W V: north-south section.

and stone fragments suggesting that they incorporated a good deal of builders' rubbish.

Layer 549 at the bottom included a few potato-sized lumps of red-brown silty soil, quite unlike the alluvium on this site but closely comparable to the natural silt loam covering of the higher gravel terrace within the town. At first it was assumed that all this material had been brought from the town. There is at least some circumstantial evidence that rubbish from the town was dumped on low-lying areas of the floodplain. There are quite thick layers of dumped soil beside St. Aldates, for example,⁷ and relatively low levels of redeposited pottery in most of the later medieval pits at Church Street⁸ may be because the soil dug out of earlier pits was carted away rather than incorporated into contemporary pit fills.

Despite the suggestive lumps of red-brown soil, however, this explanation is not borne out by the pottery from these layers. There is a negligible number of sherds predating the founding of the Priory in the mid 13th century, and the general quality of the pottery is rather higher than on most tenement sites excavated to date (see pottery report below). The latter point may not be significant, but the absence of redeposited early pottery probably is: it is likely that soil brought from the town would contain a significant proportion of earlier pottery. The rubbish in these layers may therefore have come from the Priory itself. If so, some other explanation is required for the lumps of red-brown soil; presumably they were derived separately from the dark loamy soil in which they were found, and they may represent soil brought specifically to form good earth floors which had then been disturbed in cleaning out. *In situ* earth floors of approximately similar character (and certainly not derived from the underlying alluvial clay on the site) have been observed both in the layers overlying these dumped deposits in the nave (see below) and in the chapter-house and elsewhere.⁹

Above the dumped occupation soil there were thinner layers of gravelly loam and mortar, which on the south side of the nave may simply be further levels of dumped soil. On the north side there was a small area, largely cut away by graves and other disturbances, of definite floors consisting of alternating thin spreads of sandy loam and mortar (L535-539). Other similar layers elsewhere along the trench (L575-579) may be other patches of floor, but much disturbance had been caused by graves (or their robbing). It is clear, however, that these patchy layers did not survive as continuous horizontal floors. This was probably because of differential sinking of the rubbish layers beneath, which may well have contained much organic rubbish which only gradually rotted and compacted in the wet conditions on the surface of the alluvial clay. They also suggest that initially the nave had a simple earth floor. Patches of slightly mortary gravel (L540 and L578) overlying these possibly represent the bedding for a later paved floor, which from the floor tiles in demolition deposits must have existed (see tile report below).

A problem which remains in interpreting this sequence of deposits within the nave is the identification of building debris associated with the construction of the walls above footing level. It is suggested above that the mortar and stones beneath the dumped clay correspond to the relatively thin deposits of such material which in the eastern area were associated with the construction of the footings, not of the walls.¹⁰ If so, the absence of thick mortary layers near the arcade footings between the dumped clay and the dumped occupation soil would suggest that the levels within the nave (and probably the south aisle,

⁷ B. Durham, 'The Thames Crossing', 93-5; B. Durham, 'Oxford: 89-91 St. Aldates, The Trill Mill Stream', *CBA Group 9 Newsletter*, xiii (1983), 138-40.

⁸ I am grateful to Maureen Mellor for this observation.

⁹ Lambrick and Woods, 184 and Fig. 3.

¹⁰ *Ibid.*, 174-5.

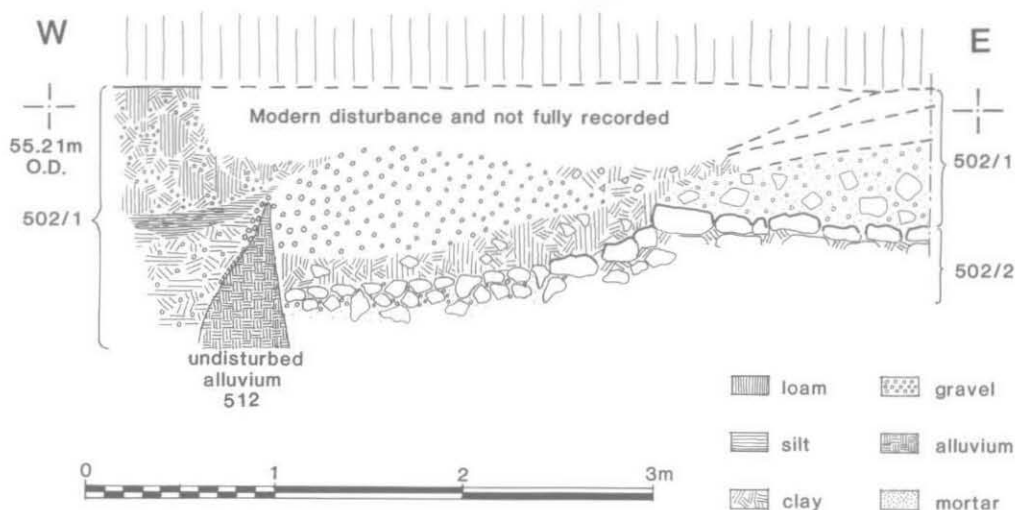


Fig. 6 Trench W V: east-west section showing division between 'compartments' dug for sleeper wall of south arcade of the nave.

where just a wedge of similar stratigraphy had survived disturbance by graves) were dumped before the piers of the arcade and the aisle wall were built. The upper layers of this dumped material were well mixed and are only consistent with being builders' and domestic rubbish brought *in situ* from elsewhere; they certainly did not have the character of mortar droppings left *in situ* from building work. However, a small patch of mortar overlying these layers (L582) which was largely cut away by Grave 570 could represent *in situ* building debris.

It thus appears that the level of the nave was raised by 0.4 to 0.6 m. after the foundations were laid, but before the full superstructure of the building was erected and floors laid. It is suggested above that much if not all the dumped material represents the friars' own rubbish, or at least was not excavated soil brought in from elsewhere. It appears that construction began soon after 1236 and that by *c.* 1245, when most of the foundation work was probably completed, the building work had proceeded sufficiently far for the friars to move in.¹¹ It is likely that construction work initially concentrated on the friars' own accommodation, the choir, cloister and chapter-house. Above ground, work on the nave may not have been begun for several years. It is thus not particularly surprising that a reasonable thickness of occupation debris accumulated. It is uncertain when the nave was completed. Possibly it was by 1250 when the famous 'Mad' Parliament met in the new Priory;¹² but this might have been accommodated within the choir. There would also have been little reason to delay consecration of the church till 1262;¹³ it is much more likely that this date marked the completion of the church. It was also at this time that the Priory finally agreed to become a *Studium Generale* for the Order, reflecting perhaps not only the king's benevolence,¹⁴ but also the feeling that with the major building projects completed

¹¹ W.A. Hinnebusch, 'The pre-Reformation Sites of the Oxford Blackfriars,' *Oxoniensia*, iii (1938), 68. Hereafter Hinnebusch (1938).

¹² W.A. Hinnebusch, *The Early English Friars Preachers* (Santa Sabina Roma, 1951), 465.

¹³ Hinnebusch (1938), 79.

¹⁴ Lambrick and Woods, 208.

the Priory could cope, both physically and administratively, with the extra influx of visiting students.

Burials were found in the nave (F509, F524, F525, F526 and F570). Burial 525, in a stone coffin, was disturbed, leaving only the base of the coffin and one leg-bone *in situ*. The backfill of this disturbance was cut through by the rifling of Grave F524. In this case the burial at the bottom of the grave was not reached, but it is possible that a later one inserted in the top had been disturbed. Disturbed bones were found in the backfill of this hole. The other graves were undisturbed, though F70 had been truncated on the south side by the robbing of the south arcade sleeper wall (F502). Grave F526 was partly covered by a thick lens of mortar and gravel, presumably a floor repair.

The nave burials were fairly well spread out and mostly did not disturb each other. In the south aisle a very much higher concentration of graves was found. Hardly any space was undisturbed by graves and up to four burials had been inserted on top of each other, the later ones often disturbing earlier skeletons. A similarly high concentration of bones was noted further west along the south aisle during salvage observation. There is no indication that the burials do not span the whole of the pre-Dissolution life of the Priory, but the dating evidence is only capable of showing that some post-dated *c.* 1330 because they contained printed floor-tiles. At least twelve of the 22 identifiable burials produced evidence of coffins (see Table X; microfiche pp. C3-8).

As would be expected where it was next to the cloister walk, there was no evidence for buttresses on the south aisle wall (F505), though this was only inferred from salvage observations. The wall's position agrees well with the footings at the west end of the church. Salvage observation showed that like the south arcade this wall was founded on gravel.

Trench W VI (Fig. 7), and more particularly salvage observation of the digging out of the northern part of the British Legion development, revealed part of the north aisle. The scale of the digging-out operation made it difficult to obtain detailed information, though it was clear that the north aisle wall was of similar width to the south aisle and was also founded on gravel. At the south-west end of Trench VI there was a rectangular footing 1.20 × 1.80 m. (F613), surrounded by dumped clay (L606) which formed a bank running parallel to the north aisle and occupying a space of *c.* 0.90 m. between this footing and the north aisle wall. If the dumped clay was again upcast from the construction of the church, the fact that it seemed to be packed round the footing would suggest that this was an original feature. It is conceivable, however, that the footing entirely occupied its construction trench (there was no obvious construction trench in the alluvium under the dumped clay) and had been inserted through the clay upcast.

The footing is best explained as that of a flying buttress. The corner of another (F703) was seen during salvage work *c.* 9.50 m. further east. There was no intervening buttress, nor was there any indication that this wall (F705) originally had conventional attached buttresses, at least along the length between these two footings, though there was a substantial widening of the footings in the area of F703 and to its east. The relationship of this masonry to the rest of the structure was not clear, but it seems most likely to represent repair work counteracting subsidence of the north aisle wall. The spacing of the flying buttress footings would be consistent with two-bay gaps, assuming a third buttress opposite the west side of the presumed walking-place. This may imply that the walking-place was architecturally separate from the easternmost bay of the nave, probably with a masonry partition wall. With the west wall of the choir, this could have supported the small tower or steeple inferred from the possible spiral stair base on the south wall of the choir.¹⁵ It is

¹⁵ *Ibid.*, 180-81.

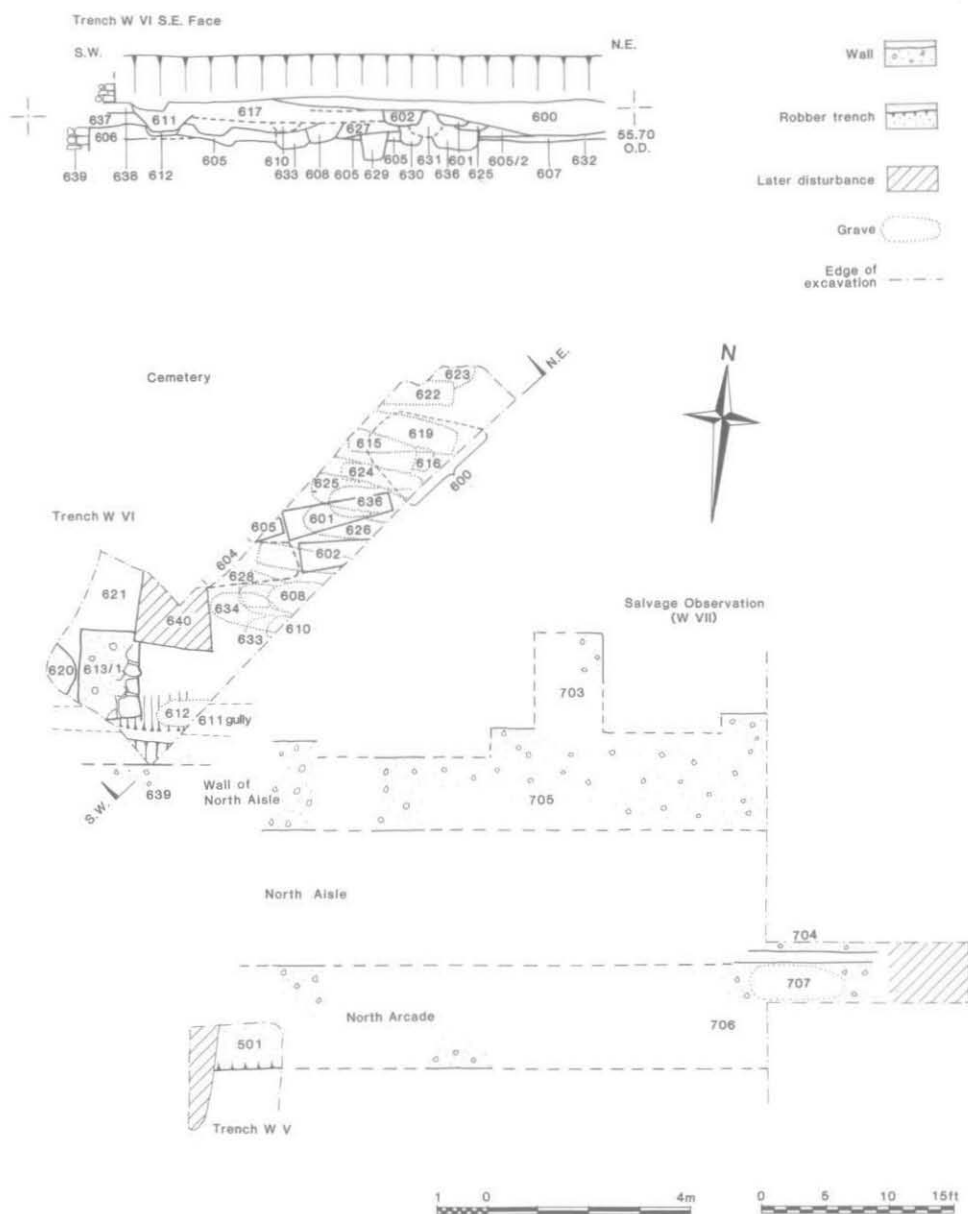


Fig. 7 Trench W VI and VII: plan and section.

conceivable that a fourth flying buttress was placed at the corner of the 'chantry chapel' on the north side of the walking-place, though if the spacing was equal it would have had to be set diagonally. The bay spacing inferred from the flying buttresses seems to be confirmed by two internal buttresses on the north aisle wall further west (Trench IV, F404 and F411).

This gives the original nave seven bays of about the same dimensions as those of the

choir, which had six bays (the westernmost being slightly larger). It thus appears that if the north aisle wall was originally buttressed at all it was with the flying buttresses, though their two-bay spacing would have given an irregular appearance to the seven-bay building. It may have been assumed that the vaulted aisle would adequately buttress the nave, just as it appeared from the 1972 excavation that the slype had been treated as a continuous flying buttress on the south side of the choir, which was buttressed in the conventional way on the north side.¹⁶ On the south side of the nave the cloister walk would have provided extra support, but on the north this was not available. In addition, the gravel on which the north part of the nave was founded may have been less stable than elsewhere. The contractors on the British Legion development found it necessary to dig deeper than expected in places, and a wide band of organic silt occupying a wide, shallow hollow heading roughly for the east end of the north aisle was observed during the watching-brief. A problem of subsidence was noted at the junction of the possible anchor-house and the north aisle in 1974,¹⁷ and this is probably the reason for two internal buttresses in the north aisle. Under the west pavement of Albert Street, during the digging of a service-trench for the new buildings, the southern face of a large footing (F704) was seen immediately north of the nave arcade footings (F706), thus apparently blocking the north aisle. It cannot have extended far westwards, as no wall was seen immediately south of the north aisle wall just behind the back of the pavement here.

Although the contractors' excavation did not allow the relationship between these additional footings to be established, we may infer a series of attempts to prop up the aisle. The flying buttresses may represent the first stage if they were not original features. As a repair measure they are paralleled elsewhere.¹⁸ The general thickening of the masonry perhaps represents a subsequent attempt to strengthen the north aisle wall, effectively converting F703 into an attached buttress. The internal blocking adjacent to the nave arcade presumably reflects the need to buttress a pier in the arcade to ensure that it did not add further stress to the aisle wall, or that if the aisle collapsed the nave would not follow. The contractors reported a burial (F707) just north of F704. If *in situ*, it would presumably have been inserted in the sleeper wall or alongside a pier of the arcade before F704 was added.

The main purpose of Trench W VI was to investigate the possibility of a north nave suggested by the record of a wall observed in Albert Street in 1870.¹⁹ The trench was positioned to pick up a parallel western side of the putative building, while avoiding various services. No trace of a wall was found. Nor was any evidence for a building found in the contractors' excavations, though very shallow footings or robber-trenches could have been missed. It is unlikely that so solid a wall as that noted in 1870 was not seen. The 1870 wall may have been misinterpreted: if only the west face was exposed it is possible that the western return was actually only the beginning of a buttress on a wall which really turned east, in which case the wall in the cemetery north of the choir is relevant.²⁰ Even if this was so, however, there would be insufficient room for a north nave east of this wall.

On balance a north nave now seems unlikely, and some other explanation for the wall in Albert Street is required. Agas's map of 1578 shows a tower-like building which may

¹⁶ *Ibid.*, 174, 180.

¹⁷ *Ibid.*, 195.

¹⁸ Wenlock: R. Graham, 'The History of the Alien Priory of Wenlock', *J. Brit. Arch. Assoc.*, 3rd ser. iv (1939), Fig. opp. 120. Rievaulx: Sir C. Peers, *Rievaulx Abbey* (HMSO Guide 1967). Byland: Sir C. Peers, *Byland Abbey* (HMSO Guide 1930).

¹⁹ Hinnebusch (1938), 78; Lambrick and Woods, 178-9.

²⁰ Lambrick and Woods, 176-8.

have been part of the church, but its position cannot be located accurately and it seems better interpreted as part of the choir than anything to do with the mysterious wall in Albert Street. The wall might have been part of a freestanding building (perhaps the school or the Bishop of Lincoln's lodging:²¹), or possibly a post-Dissolution garden wall. Until further observations of this footing are made it must remain enigmatic.

One positive result of the new observations is to strengthen the conclusion that the north aisle was not an addition dating from *c.* 1426 when Sir Peter Bessels bequeathed £120 for six new windows in the aisle.²² The bay spacing shows that the nave originally had seven bays and was reduced to six by the addition of the anchor house, which thus presumably predates 1426. Despite the new evidence that the south arcade was built on an almost continuous footing, there seems no reason to alter the original conclusion that both aisles were original features of the church. The nature of the foundations is further confirmed as in character with the original policy of providing very substantial footings to overcome the inadequate load-bearing properties of the alluvial subsoil. The subsidence problems encountered with the north aisle demonstrate both the need for such footings and that they could still prove inadequate, especially where buttressing was not used to provide proper lateral support. One may imagine that the Bessels legacy was occasioned by one of the major repairs which involved substantial strengthening or rebuilding of the walls themselves.

The extended west end of the church and the area immediately outside it were observed during contractors' work for the Church Army hostel in 1976 (Fig. 3). An additional buttress in the centre of the west wall was noted, providing further evidence of the instability of the extension.²³ Presumably it would only have buttressed the lower part of the wall, since there was probably a west window. North of this, a pair of opposing buttresses was recorded on the line of the north aisle wall. Only their southern edges were seen in a trench along the northern boundary of the Church Army site, but the apparent absence of a continuous footing for the north aisle wall suggests that a porch formed part of the extension to the nave. It is unclear how this related to the suggested anchor house recorded in previous excavations, though one may suspect that it was the earlier addition.

Outside the extended church a wall ran west from the large buttress for the north arcade of the nave. The end of its robber-trench had been recorded in 1974 as F311. It was robbed at a late stage and need not necessarily be monastic, although it makes sense if it divided off the area of the suggested infirmary west of the church from the main entrance to the Priory represented by the gateway. The robbing of F311 cut that of the galilee wall (F308). A possible robber-trench on this line was seen at the northern edge of the site, suggesting that the galilee²⁴ extended to the north side of the church. The buttress in the centre of the west wall of the extended nave, and the fact that the robbing of this wall cut the floor of the galilee, make it unlikely that the west wall was pierced on a large enough scale to incorporate the galilee into the church. It is clear that its foundations were very poor, and the narrow, shallow west wall of the galilee would not have been adequate to provide significant extra support. In addition to these points it should also be noted that at its southern end the galilee leads directly to a passage through the north end of the west cloister range. While there may have been a door into the nave, the general proportions of the building coupled with these other considerations make it most likely to be a simple covered passage leading from the northern side of the church to the cloister obviating the need to go through the church, rather than it being in any way integrated into the church.

²¹ Hinnebusch (1938), 81, note 8.

²² *Ibid.*, 77.

²³ *cf.* Lambrick and Woods, 189-90.

²⁴ *Ibid.*, 190-1.

The Cemetery

The area north of the nave was a graveyard, and the numerous references to skeletons found in this area²⁵ are now corroborated by a small sample of excavated burials from Trench W VI (Fig. 7). The burials were densely packed, in one case resulting in a succession of six intersecting graves. Four burials produced coffin-nails. Among the latest burials were the remains of probably four stone coffins, all thoroughly robbed (F601, F602, F604, F605). Their immediate juxtaposition, leaving no room for intervening burials, suggests that they may represent a family group. Overall there were probably fewer burials in coffins in the cemetery (31 per cent) than in the nave (55 per cent). The samples (26 and 21 burials respectively) are small, but the figures are very comparable to those for Guildford Blackfriars.²⁶

It is doubtful whether the density of burials encountered in the middle of this trench was a general characteristic of the graveyard. Relatively few were noted during the contractors' excavation, though this must largely be due to the methods of working; but even in Trench VI it is noticeable that there were fewer burials within *c.* 3 m. of the north aisle wall and few around the flying buttress footing (F613). At the NE end of the trench, too, there were noticeably fewer burials cutting into the underlying alluvium, though this area was heavily disturbed by a large charnel-pit (F600). This contained demolition rubble as well as bones; it cut through a general layer of clay loam (L617) which sealed most of the graves except the two better-preserved remains of stone coffins (F601 and 602) whose robbing cut through the layer. L617 was indistinguishable from the fill of a gully (F611) running parallel to the north aisle wall, and these features may represent post-Dissolution gardening. The stone coffins were possibly left undisturbed at first, while the charnel-pit cutting through Layer 617 may be connected with the frequent disturbance of burials which must have resulted from the Victorian residential redevelopment.

Where the burials were not too dense, evidence of the primary deposits sealing the alluvium was recovered. A bank of dumped clay (L606) *c.* 1.5 m. wide running parallel to the north aisle wall (F639) presumably represents spoil from its foundation-trench. This was sealed by an extensive layer of dark gravelly clay loam with charcoal flecks and other occupation debris (L605) similar to the layers beneath the nave and south aisle.

A burial was reported by workmen digging a trench for a foul sewer at the junction of Cambridge Terrace and Albert Street.²⁷

The Great Cloister

During contractors' excavations for the Church Army in 1976 (Fig. 3) two robbed cross-walls within the west range were observed in section, together with some evidence of mortar floor bedding. It is not known whether these partitions were original features of the range. No evidence for the use of the rooms thus created was recovered.

The back wall of the south cloister range was located in the South West Area during excavations prior to residential redevelopment adjacent to the Wharf House (Fig. 8). The main part of the range is beneath Speedwell Street, and only the southern face of this wall could be located, the rest being under the pavement (see below).

The trench excavated across the nave and south aisle (Trench W V) prior to the British Legion development also extended across the north cloister alley, to approximately

²⁵ Hinnebusch (1938), 78.

²⁶ R. Poulton and H. Woods, *Excavations on the Site of the Dominican Friary at Guildford in 1974 and 1978*, Surrey Archaeol. Soc. Research volume ix (1984), 144 and Table 3.

²⁷ I am grateful to Mr. B. Durham for recording this observation.

the centre of the great cloister garth (Figs. 4 and 5). At the point where this trench crossed it the cloister alley wall proved to be relatively complex. On the east side of the trench was the footing of a large buttress (F506/2) founded on natural gravel. This was of a continuous build with the cloister alley wall itself (F506/1) but this wall stopped on the line of the west face of the buttress. The westward continuation of F506 was very much shallower and had very largely been robbed. It was founded on the surface of the alluvium and had left a small upstanding ridge of clay between it and the deeper foundations which it abutted to the east. In the western section of the trench the southern face of F506 protruded about 0.7 m. southwards (as F506/3) and was abutted by a cobbled path (L563). Presumably this was a step. The cloister alley wall was only picked up at one point during the contractors' excavation of the site, about 4 m. east of Trench V. It was only seen in section and it was unclear how deep its footing had been, but the robber-trench (1.35 m.) was considerably wider than the main wall of the cloister alley in Trench W V (*c.* 0.80 m.), and it is assumed that this represents another buttress.

The new excavations have established much more firmly the alignments of the nave, south aisle and north cloister alley, and also that of the back wall of the south range. The shape of the great cloister is thus more accurately known. It was not a perfect rectangle as reconstructed for the 1976 report,²⁸ but a slight trapezium, the narrowest side to the west. If the buttressing of the cloister alley was as regular as possible the wider footing seen in the contractors' excavation coincides with the correct spacing. The larger buttress and step in Trench V may well represent a wider bay in the alley flanked by narrower ones. This reconstruction cannot be checked, and of course some irregularity is inevitable from the slightly trapezoidal plan of the cloister. It is at least plausible.

The cloister alley itself had a layer of dumped clay over the alluvium, and this was covered by gravel and mortar floor beddings (L542, L543). These were cut by three graves of which two contained female skeletons (F514, F515, F518). These suggest that, contrary to the conclusions reached in 1976,²⁹ the cloister alley was not reserved for the burial of the friars themselves. Numerous inlaid and printed floor tiles from the demolition layer (L504) within the alley indicates that it had a tiled pavement.

In the cloister garth the path (F556) abutting the step into the cloister alley ran southwards a short way before swinging east, apparently heading for the chapter house. Whether in fact it branched, with other paths running out to the west, is unknown. The path was laid directly on the surface of the alluvium, and it was obviously made to provide a better surface to walk on than the sticky clay. It was composed of mortar and limestone fragments, quartzite pebbles and gravel. This seems more characteristic of builders' rubbish than material specifically brought in for the purpose. It was covered by a thick deposit of dark gravelly clay loam with domestic refuse in which three horizons were distinguishable on the basis of variations in stoniness and mottling (L508/4 to 508/6). Except for L508/1, which contained one or two late medieval sherds and a buckle (Fig. 12, 1), the pottery was entirely mid to late 13th-century. The path thus seems to have been in use for only a short time, before it was covered by soil. While it is possible that an unmade path continued to be used on the same line no definite trampled surface was noted in the build-up of soil above. The horizontal distinctions within this deposit are not consistent with the gradual accumulation of domestic refuse, and indeed it is most unlikely that the cloister would be used for dumping rubbish. It is more likely that the soil was brought from some domestic area of the Priory and spread evenly over the garth to level it up and provide a better-drained and possibly more fertile surface layer. The different horizons may either

²⁸ Lambrick and Woods, 207.

²⁹ *Ibid.*, 203.

represent different episodes of levelling up or possibly different cultivation horizons. At the south end of the trench, Layers 508/4 to 508/6 were cut through exactly to the surface of the alluvium, the hollow containing very similar but more homogeneous clay loam (L508/2). This might perhaps represent part of a central flower-bed. Layer 508/1 and 529 with its few sherds of later pottery sealed this feature, and since it also contained numerous flecks of mortar well mixed throughout its profile this layer may well be the result of later, post-Dissolution gardening. It was cut by a soakaway filled with stone slates (F528). During salvage work a small gully cutting the alluvium and containing water-laid silt was seen in section near the west side of the cloister. This was probably intended as a drain. As in the small trench excavated in 1974,³⁰ no burials were found in the cloister garth.

Post-Reformation deposits

In Trenches W V and VI (Figs. 4, 5 and 7), two ditches cut through the medieval levels probably belong to the general rectilinear pattern of ditches which was recorded in 1972 in the Eastern Area.³¹ In Trench V Ditch 503 was dug across the nave, while in Trench VI Ditch 611 ran parallel to the north aisle wall. F503 contained 16th-century pottery and was cut through by the robber-trenches of the north and south arcades. It is not clear whether, as in the choir, soil was imported to make gardens within the ruins before the walls were demolished: in this case it is possible that demolition had proceeded to footing level. Nevertheless, there was a secondary phase of robbing, after the mid 17th century, when stonework from the foundations was removed. Certainly robbing was much more thorough than in the Eastern Area, particularly in the case of the south arcade (F502) where the robber-trench contained layers of mortary gravel with relatively little stone, tile fragments or building debris.

In the cloister alley, demolition debris (L504/1) in the hollow which produced the decorated floor-tiles (see above and p. 179–82) also contained a groat of c. 1554–1558 and some window-glass. This was sealed by a more general mixed layer of soil and demolition material which covered the south aisle robber-trench and part of that of the south arcade (L504). This layer probably resulted from gardening activities before the 19th-century houses were built.

It is clear from superimposing the layout of the mid 19th-century roads and property boundaries that they respect existing divisions in the 16th- to 18th-century gardens which, not surprisingly, had been laid out according to the convenient plots and boundaries created by the Priory ruins.

SOUTH-WESTERN AND SOUTHERN AREAS

In 1979 excavations were carried out prior to a housing development around the Wharf House public house, on the block of land bounded by Speedwell Street, Albert Street (south) and Thames Street (Figs. 2 and 8). Enough had been found in a trench south of the Wharf House in the Southern Area in 1974 to show that buildings extended well south of the great cloister, and it was suspected that this might be the site of the little cloister.³² In the new excavations, particular attention was paid to the area just north of the Wharf House adjacent to the south side of the great cloister. Trench I was excavated southwards from the Speedwell Street pavement, and then extended west just south of the 19th-century cellars on the frontage to pick up the medieval buildings where the stratigraphy was

³⁰ *Ibid.*, 194.

³¹ *Ibid.*, 186.

³² *Ibid.*, 195–200.

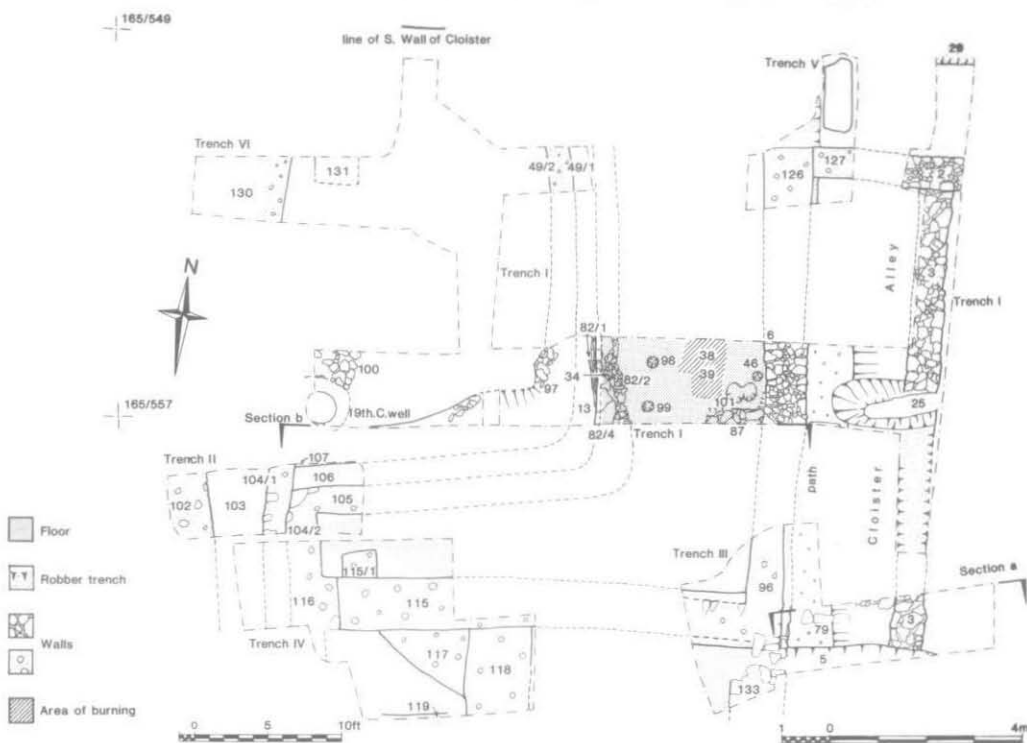


Fig. 8 South West area: plan.

reasonably well-preserved. A small east-west trench was also excavated just south of the initial north-south one. This was later extended (Trench III). The remaining trenches (II to VI) were dug very rapidly, effectively in salvage conditions to clarify particular points when the resources for the excavation had almost been exhausted. Unfortunately it was not possible, given the depth of overburden and the general shortage of resources, to excavate more extensive areas which might have provided a more coherent picture. In the event the design of the foundations for the new houses was changed from a raft of pulverised fuel ash to rather shallower concrete beams of the conventional sort. Consequently there was no further opportunity for salvage observation; while the medieval levels do survive better than they might have done beneath the houses, they were disturbed in places by the hastily dug salvage trenches which were less well-recorded than the rest of the excavation, but had seemed justified in the face of total destruction.

These trenches located the south wall of the great cloister (F29), and part of a building which appears to be the north end of a range running south which was located on the other side of the Wharf House in 1974 and confirmed in further trenches there during the 1979 excavations (Fig. 10). The stone culvert running parallel to the western side of this range, found in 1974, was also located again both south of the Wharf House and north of it, where it was joined by a deep, apparently internal stone-lined drain. Part of the little cloister alley, which originated as an uncovered path, was also revealed by the 1979 excavations north of the Wharf House. This was not picked up further south, but a small trench east of the main 1979 trench south of the Wharf House picked up a junction of two robber-trenches which may represent the junction of the south and west ranges of the little cloister.

The following description and interpretation deals first with the buildings at the north end of the west range, interpreted as a scullery or kitchen annexe, and then with the rest of this range and the remainder of the little cloister. The new evidence, together with a more careful re-examination of the results from a 1966 excavation in the corner of Speedwell Street and Albert Street (south) by Fabian Radcliffe OP, and the evidence already reported in 1976, have allowed a rather fuller account of the little cloister to be given.

These sections are followed by one on the Blackfriars southern water-frontage.

The Scullery and Little Cloister Alley (Figs. 8 and 9).

Phase I

Immediately overlying the natural alluvial clay was a thick deposit of very dark, gravelly clay loam containing domestic refuse. In places distinct layers, varying in their sand and gravel content and colour and sometimes separated by iron pan horizons, were discernible (L92 and L94; L89/1 to 89/3; L85 and L86; L77 and L48). It is unclear how these layers related to the south wall of the great cloister because of the depth of modern disturbances. The pottery from these deposits is mid to late 13th-century, as in the case of the comparable layers in the great cloister garth and under the nave.

Phase 2

In the first phase of building Wall 6 was laid in a shallow construction-trench which the footings almost entirely occupied (though the trench certainly cut through L86). The footings were packed with orange-brown gravel and grey sticky clay, and above this the wall was stepped in c. 10 cm. and its bonding changed to yellow mortar. It was picked up further north in Trench V, but thorough robbing of the wall, and the fact that the junction with the back wall of the south range of the great cloister lay under the Speedwell Street pavement, made its relationship with the great cloister impossible to determine. To the south, in Trench III, a small drain ran through the wall (F96/3). This was found at the west end of the initial excavation, and when the trench was extended it proved to mark a corner where Wall 96 turned west. The wall was relatively well-preserved here, being 0.75 m. wide on a 1.1 m. footing. The corner was all of one build, with yellow and orange-brown mortar. The area within the corner was not excavated. On the other side of the drain a wall continued southwards (F133) on roughly the same line; it was bonded with yellow mortar and seemed to be an addition, though the existence of the drain through the junction made it difficult to be sure.

Wall 96 continued west in Trench IV (F115), and at its west end it abutted a stub wall projecting from the back of the original lining of the main culvert (F116, the continuation of F104/2 in Trench II). This straight-joint may indicate separate stages in the building process occasioned by the different techniques involved in facing the drains and building the wall.

In Trench II the main drain (F104/2) was faced with roughly dressed stones packed with clay, which also formed the lining of the drain joining it from the east (F107 and F105). F105 was of one build with F104/2. Just to the north, the eastern (and unfaced) side of a comparable footing (F100) at the west end of Trench I is probably a continuation of the main culvert lining. In Trench VI a stone footing (F131) was visible in the northern section but not in the southern one, although it was on the same line as F100 and F104/2. The branch drain approached the main culvert at a slight angle. It had initially been found turning a corner in Trench I, where its western lining (F97 and L49/2) was poorly preserved, leaving only the clay-packed rubble core and packing. Its eastern side (F82),

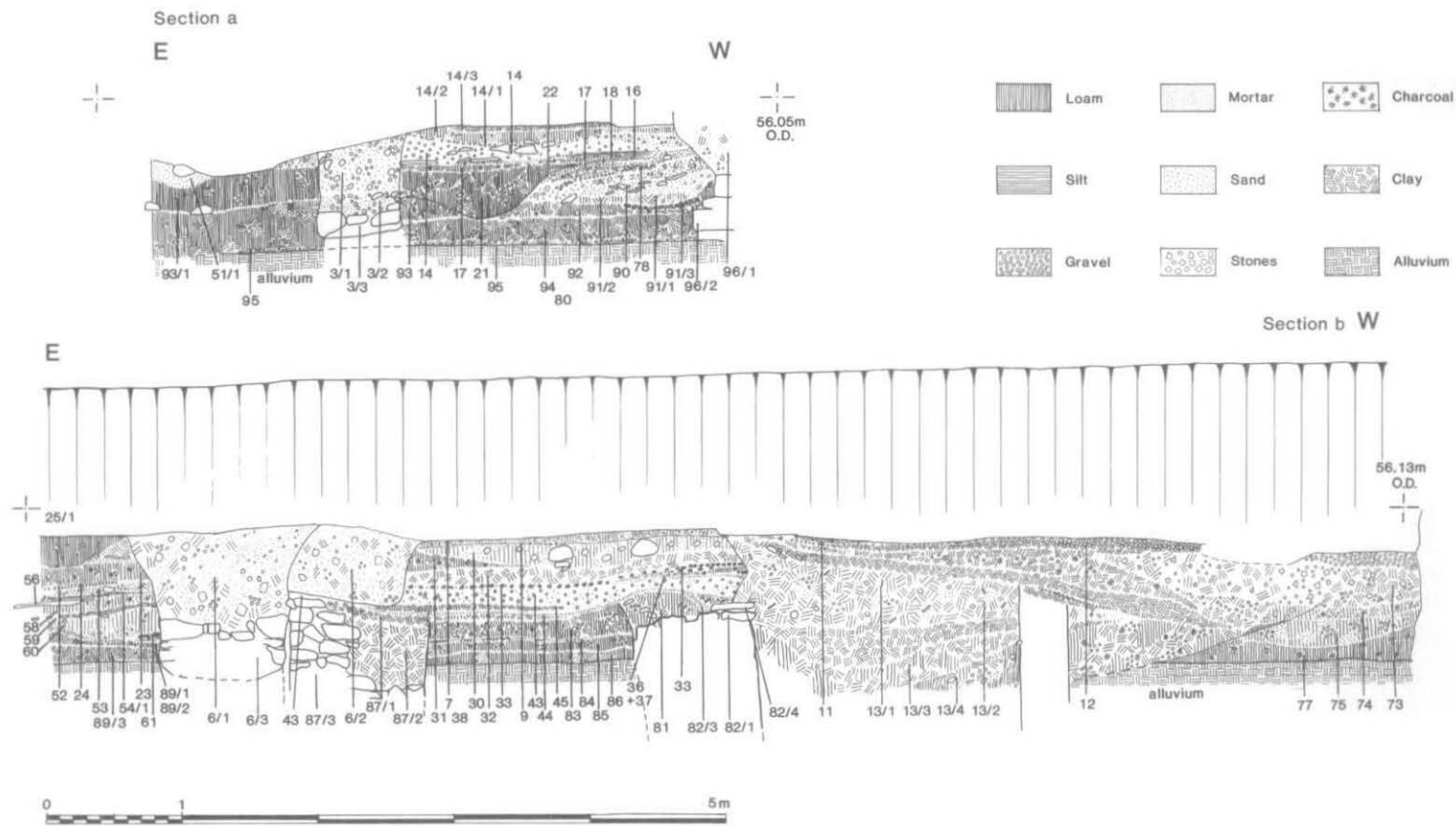


Fig. 9 South West area: sections.

however, was excellently preserved, standing to over 1 m. and with its rendered facing intact in front of the characteristic clay and rubble packing. This appeared to be cut through brown gravelly clay loam (L83) which sealed yellow mortar and orange gravel from the building of Wall 6 (L84). This construction debris had a hard smooth surface like a floor, but this probably resulted from trampling: it was banked up thickly against Wall 6 and the yellow mortar similar to the wall bonding mainly overlay the orange gravel which was like that used for the footings. The banked-up construction debris is not shown in section because of a buttress (F87) placed against the western face of Wall 6. Like the drain lining, this buttress appears to have cut Layer 83: its robbing had made this uncertain, but there was no indication of the construction debris having been banked up round it. This may have been one of four buttresses placed round the wall: one other (F115/1) attached to the north side of F115 in Trench IV was recorded, and others placed half-way between this and the north-south section of Wall 96 in Trench III, and between F87 and the south wall of the great cloister, would give a regular spacing. Layer 83 was also cut by two small post-holes (F98, F99).

The purpose of the wall and the buttresses added to it is not immediately clear. Initially it was thought that the drain was within a building and that it might be the reredorter³³ (despite its not being in the more conventional position at the south end of the east range). However, there is no obvious west wall: the various footings forming the original lining of the main culvert are variable and inadequate. The sides of a reredorter drain would normally be carried up to first-floor level, whereas here they appeared more like revetments than wall-footings. The biological evidence from the drains is not consistent with their being sewers (see below, p. 198–201).

Later floor-layers do respect the drain, but they were preceded only by the soil (L83) which covered the construction debris from Wall 6. Layer 83 had a trampled surface (L45) with softer lenses of occupation debris with numerous fish-bones and egg-shell fragments (L45/1; see p. 192), but it need not have been laid as a floor. These deposits were cut by a double post-hole (F101). Given the addition of the buttresses, and the absence of properly laid floor-layers (as opposed to trampled surfaces), it is likely that this first construction phase represents not a building but an open yard.

The drain must have come through from within the great cloister ranges, as no return was found in Trenches I or VI. From the relationships between F6, L83 and F82, the drain was evidently later than the wall, and the stub wall projecting from the culvert lining may thus have been to link the culvert revetment to the wall. Whatever the precise sequence, it is quite possible that both the drains and the wall were built in effectively one episode of construction.

Phase 3

In the second construction phase, the open yard seems to have been covered in by erecting a building against Wall 6, 96 and 115. The main evidence is a sequence of undoubted floor and occupation layers excavated in Trench I between the drain and Wall 6. Before these were laid the buttress (F87) on Wall 6 was demolished and the drain refaced, or at least its top rebuilt with large flat stones set in yellow mortar (F82/4). The mortar spread back in a thin layer (L44) on the surface of L45 and sealed the robbed buttress (F87) which had been backfilled with clay (L87/1 to 87/2). The mortar spread probably represents spillage during the repairs to the drain: it had no surface and was too soft and thin to be a floor. It

³³ G. Lambrick, 'Oxford, Blackfriars' *CBA Group 9 Newsletter* x (1980), 153–5. Unfortunately this mistaken provisional interpretation has also been perpetuated in the plan of the Priory provided for M.W. Sheehan, 'The Religious Orders 1220–1370', in J.I. Catto (ed.), *The History of the University of Oxford*, i (1984), 193–223.

was covered by a thick layer of orange gravel (L43), which sealed the renovated top of the drain lining but stopped short of its actual face. L43 was covered by layers of mortar and yellow mortar gravel (L38, L39) and then by grey-brown clay loam containing some domestic debris (L42). The most definite floors were above these, where a yellow clay floor (L40) was overlain by dark charcoally occupation material (L36), and this sequence was repeated above with further clay floors (L35 and 37) and another occupation spread (L33). In places the clay floors had been worn away and the layers were thus patchy. About half-way between the drain and Wall 6, an area of the floors about 1.0 m. across had been burnt. The occupation layers were notable for their abundance of fish-bones, and were therefore sampled (see below p. 192). The clayey consistency of the floors seems undoubtedly more suitable for internal surfacing than for an open yard. The burning was not on a deliberately laid hearth, but probably represents the position of temporary fires laid direct on the floor. It is unlikely that a brazier would be capable of discolouring the clay floor to this extent. A post setting (F34) on the edge of the culvert lining and a stake-hole close to Wall 6 cut L38 and L39.

Above the latest of the occupation layers (L33) there was further dumping of clean clay (L32), clayey loam and mortar (L31) and fine yellow-brown loam with stones and pale yellow mortar. These were covered by thinner layers of dark loam and mortar clay loam (L9, L8, L7). None of these was certainly a floor, but they predated the backfilling of the drain and seem likely to be material dumped within the building to raise its floor-level. Another modification at this stage may have been the addition of a thickening to Wall 6, almost doubling its width. Only the robber-trench of this survived (F6/2, see Section b, Fig. 9), cutting through these dumped layers, so it is impossible to say when it was built. It certainly stood at the same time as Wall 6 as its robber trench (F6/2) was cut by that of F6 (F6/1). It is possible that it formed some kind of stone bench, but if so it was wider (0.7 m.) than might be expected (at least for a seat). More likely it was a structural repair replacing the demolished buttress.

A similar sequence to the lower layers (L43–L42) was observed in section during the salvage excavation of Trench II (L109–L111). These overlay brown clay loam (L108) similar to L83, which sealed the drain lining (F105). They were covered by buttery clay (L112) which probably corresponds to a very similar layer (L32) overlying Layer 33 in the main trench. While it thus appears that the more distinctive floors and occupation horizons were missing, this is not very surprising as they were patchy and very thin anyway. It therefore seems likely that the sequence in Trench II corresponds to that in the main trench, implying that the building continued round the east and south sides of the drain, probably to where it met the main culvert. Whether the buttress (F115/1) had been removed like F87 is unknown.

The Phase 3 building was probably of only one storey: unlike the two-storey buildings of the great cloister, Wall 6 and 96 was founded on the surface of the alluvial clay and was narrower above footing level. Moreover, the evidence of burning on the floors suggests only one storey. It is very unlikely that the building covered the whole area enclosed by Wall 6, 115 and 96, the main culvert and the back of the great cloister. The span in either direction would have been greater than the chapter-house. A more modest L-shaped lean-to round the inside of Wall 6, 96 and 115 seems more likely. Its west and north walls were probably timber-framed and may have rested on the stone revetment of the drain (F82 and F105). This would account for the repairs to F82, and for its better preservation than the other side of the drain (F97). In fact the stratigraphy strongly suggests the position of a timber running along the top edge of the drain revetment: the backfill (L82/3) of the disturbance caused by the repair of F82, the mortar droppings (L44) and all the subsequent build-up and floors up to Layer 41 stopped abruptly at a sloping face *c.* 13 cm. in from the edge of

F82 (see Section b, Fig. 9). It seems likely that they respected a timber along the top of F82, and the originally vertical face between them sank when the clayey back-fill of the drain (L13/3) settled.

The dumping and occupation debris associated with this building is datable on the basis of the pottery to the mid to late 13th century. The fish, animal bones and eggshell from the floor of the building, and similar later material and other food remains from Drain 106 and the main culvert to the south, have the character of kitchen waste and plate leavings (see pp. 192, 198–200). The building is therefore interpreted as a kitchen annexe or scullery, perhaps where the washing-up was done. There was probably some direct access to the drain for the disposal of slops. Table XII (microfiche p. C10) gives the proportions of different types of refuse from these deposits.

On the other side of the drain there were no clear floor-levels. Gravel and mortar deposits (L68 and 75) overlay the Phase 1 rubbish and soil layers, of which L75 produced a short-cross penny lost *c.* 1230–1250 (see p. 166). Over this were layers of clay loam, gravelly clay or buttery clay (L64 to 67; L72 to 74 and L76), some of which contained charcoal flecks and occupation debris. Part of Layer 66 in the northern arm of Trench I had been burnt red. These were covered by layers of gravel (L63), gravelly loam (L70) and mortary gravel (L71) which like some of the layers below may have formed one continuous but variable deposit. Layer 63 was again partly burnt red. They were covered by clean buttery clay (L69 and L73). Some or all of these may in fact have been the result of construction work and the digging-out of the drains in the previous phase.

If the coin was dropped *in situ* and was not derived from another context it is valuable dating evidence. It is inherently unlikely to have been dropped before 1236 when the friars acquired the site, while numismatically it is unlikely to have been lost much later than *c.* 1250 (see p. 166). Unfortunately, while its date is very plausible it is impossible to be certain that it was not brought from elsewhere with the gravelly material in which it was found.

There was a doorway to the scullery at the junction of Wall 6 (here F126) and the south range of the great cloister. Wall 126 was abutted by a narrow east–west wall (F127) running parallel to the south range (continuing as F2 in Trench I) which almost certainly represents the position of a covered walk *c.* 2.0 m. wide. A large stone slab formed the threshold for a doorway, and Wall 126 had been more deeply robbed beyond its junction with F127. Since the 19th-century cellars had destroyed everything down to footing level there is no stratigraphic detail of later layers to clarify the sequence.

Alongside Wall 6 in Trenches I and III, and overlying its construction layers (L91–91/4; L61, L63), was a path consisting of numerous layers of gravelly mortar and stones with some intervening layers of loamy and clayey material over hard-packed surfaces (L24, L52–54, L56–59 in Trench I; L22, L78, L79, L90 in Trench III). On their east side was a ditch (F55 in Trench I, F21 in Trench III) which was filled with very dark clay loam including domestic rubbish which was not readily distinguished from the general spread of such material on the surface of the alluvium (Fig. 9). The latest pottery associated with these deposits was of the late 13th to 14th centuries. At the corner of F96 the path was crossed by a drain lined and covered with stone slates (F79). A large roofing-slate under the southern edge of Trench I may have been part of a similar feature.

It is not clear whether the path continued southwards beyond the corner of Wall 96, and whether indeed the range running south existed by this phase, but both seem likely. The path was cut by the drain which ran through the corner of Wall 96. The plan of the range here is again unclear. Its east wall was aligned on the short sections of robber-trench discovered in the Southern Area (see below) but Wall 118 in Trench IV did not similarly correspond to its west wall. The triangular footing (F117) and the east–west wall clipped by the southern edge of this trench (F119) do not clarify the structure. It is conceivable that

Wall 119 extended further eastwards, and was just missed by the unfortunate placing of the south-east corner of Trench IV and the south-west one of Trench III. One possible explanation is that these footings mark the position of a stair to an upper storey in the range to the south; but it is uncertain whether the range had two storeys, and the floor-layers and drain in the corner of F96 do not conform to this interpretation.

No dating evidence was recovered from these deposits. The floor layer (yellow clay with charcoal flecks) overlay brown gravelly loam which covered black sticky loam probably corresponding to the Phase I deposits. The floor also overlay the footings of Wall 96 and extended into the mouth of the drain through the east wall.

Phase 4

Early in the 14th century the drain leading into the main culvert was backfilled with layers of clay and clay loam (L13/4, L13/3, L13/2, L13/1) which contained a reasonably well-dated group of pottery. The top of this backfill in Trench I was a trampled surface, with charcoal flecks, gravel and small stones embedded in the clay (L13). This was covered by a hard-packed gravel floor (L12) and dark charcoally loam (L11), possibly occupation material. North and east of this, the top of the stratigraphy was disturbed by post-medieval cellaring and gardening so that it is impossible to determine the extent of these deposits. In Trench II also, the stratigraphy above L112 was disturbed.

These layers seem most likely to have been within a building, but there was still no masonry wall to form its west side. If the opportunity was taken to rationalise this building to conform with the range running south it was done with another light timber-framed structure, which was not detected.

Also in the 14th century, though not necessarily exactly contemporary with these changes, the path along the east side of Wall 6 was converted into a proper cloister alley, a further reason for assuming that the west range of the little cloister was fairly complete by this stage. The alley was supported by a narrow footing (F3) which abutted F2, the wall of the existing alley along the south side of the great cloister. These footings were as wide as Wall 6 was above footing level, and may have carried a masonry arcade. The slope of the earlier path and the ditch alongside it were levelled up, and further layers of clay loam (L17), mortar, gravel and stone floors (L18, L15, L14, L14/1, L14/2), dark yellow sandy clay (L14/3), and the occasional intervening loamy layers (L16), then accumulated. It is not clear over how long a period this build-up took place, as the sequence was again truncated by post-medieval disturbance. It is likely, given the absence of any 15th-century pottery in any of the stratified deposits, despite its presence in the end of Drain 106 and the main culvert in the Southern Area (see below), that a good deal of later stratigraphy had been destroyed in the 18th and 19th centuries by gardening and building operations.

Probably in the 15th century the main culvert was relined (F104/1), blocking off drain 106's opening. F106 contained water-lain silts (L106/1 to 106/5) with snail- and egg-shells and fish-bones (see pp. 192, 198). There was also a water-washed sherd of Tudor Green. The western side of the culvert was built of large stones and cream mortar (F102) similar to the new eastern side, and it is likely that both sides were relined at the same time. The resulting channel (F103) was much narrower than where the culvert was excavated in the Southern Area (see below), being *c.* 1.2 m. as opposed to *c.* 3.0 m. The slightly oblique angle of F102 may indicate the beginnings of a bend westwards, which would be reasonable if the culvert were to avoid the unexplained block of masonry (F130) on its line further north in Trench VI.

Phase 5

Demolition, and the conversion of the area to gardens, took place during the 16th to 18th centuries. In this area, two relatively distinct periods of activity are discernible. The first (Phase 5a), in the 16th to early 18th centuries, is the initial robbing of Wall 3 and the drain crossing the little cloister alley in Trench III (F4 and F5), together with disturbances in the cloister garth (F50, F51) and the robbing of the thickening of Wall 6 (F6/2). The second stage (Phase 5b) saw the more thorough robbing of Wall 3 and Wall 6, and the excavation of a ditch running east from within the old cloister alley (F25). These deposits contained late 18th- and 19th-century pottery. As with the other buildings of the Priory the walls had probably survived in a ruinous state, or at least as footings (perhaps acting as drains), for some time after the area had been given over to gardens.

The Culvert and West Range of the Domestic Buildings

As part of the 1979 excavations a trench was rapidly excavated across the line of the culvert and west range of the domestic buildings, a little way north of the north-west end of the 1974 trench and *c.* 6 m. south of the Wharf House.³⁴ Another small trench was excavated by the south-east corner of the Wharf House's back yard to establish if there was any evidence for the west and south ranges of the little cloister meeting at this point (Fig. 10).

At the west end of the larger trench the culvert (F202) was *c.* 3 m. wide, with a rough stone revetment to the west (F204) and a robbed revetment (F203) on the east. The culvert contained water-washed gravel (L202/6) and, above this, black organic gravelly silt and stones, including roofing-slates (L202/5), black organic clayey silt (L202/4), and dark brown clayey to peaty silt (L202/3 and L202/2). In the top was soft brown sandy silt and stones (L202/1). All these were below the top of the western revetment. Layer 202/1 contained 18th-century pottery, but Layers 202/3 to 202/5 produced a clearly datable 15th-century group, though this included one probably intrusive later sherd (see pottery report below). Layer 202/5 also produced part of a wooden sand-glass frame. Two turnshoes, a buckle and other pieces of wood were also found, while samples for biological analysis produced much egg-shell and fish-bones as well as other dietary remains and useful environmental evidence (see below).

The line and character of the western revetment (F204) agreed well with what could be seen of the change to coarser masonry immediately north of the fine ashlar facing of the culvert (F47) in the 1974 trench, two or three metres to the south. The eastern revetment also showed a change, despite the robbing, because its eastern edge was not in line with the wider robbed revetment (F44) in the 1974 trench. This trench had also revealed a cross-wall (F43) joining the revetment to the west wall of the domestic range. Combining these indications, it can be suggested that the section of ashlar facing supported a small building projecting from the west range over the culvert, its north limit marked by the change to rougher masonry on the west (inferred on the east from the change in the width of the robber-trench), and its south limit by the cross-wall (F43) joining the culvert to the range. Whether this was a bridge, a projecting chamber or simply a large garderobe is unknown (the size of the structure is perhaps against the last suggestion). Apart from this and any other similar buildings, the culvert was an open channel revetted by non-load-bearing stone walls of the type more clearly revealed in the South Western Area (SW II F104/2 etc.). This is borne out by the biological evidence (see below, p. 198-9), which also suggests that the culvert had quite clean water flowing along it.

³⁴ Lambrick and Woods, 197-200.

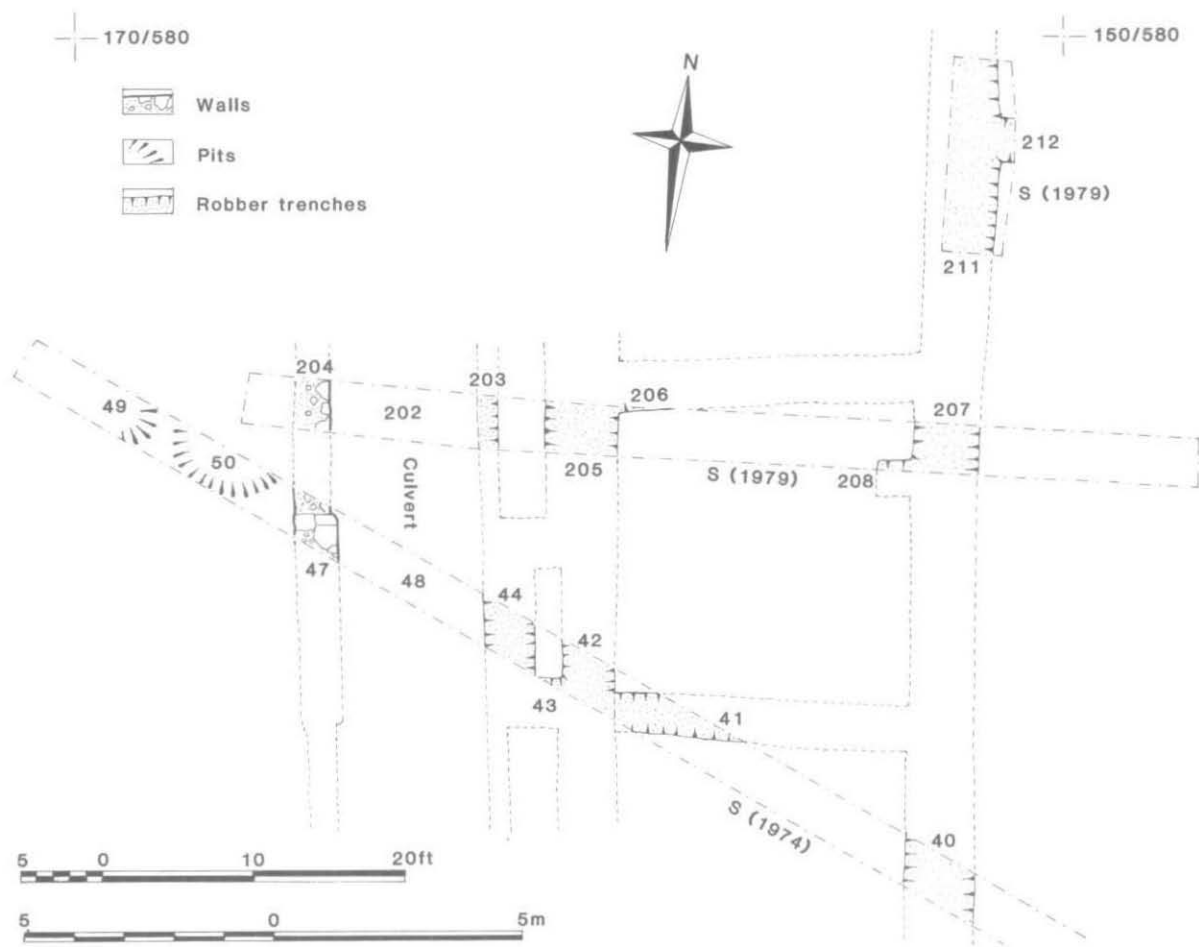


Fig. 10 Southern area (1979): plan showing main culvert and part of the domestic buildings.

East of the culvert the robbed walls (F205 and F207) of the west range of the little cloister were in the right positions for the west wall on the line of F42 in the 1974 trench to the south, and, parallel to it, the east wall aligned on F40 in the 1974 trench and F6 and 96 in the South West Area (Trenches I and III) just described (see above, p. 151). A probable partition wall (F206) joined Wall 205 under the north side of the trench. A small internal buttress against F207 was under the south section. Both these features were also robbed. The east end of the trench had been heavily disturbed, and between Walls 205 and 207 the modern garden soil overlay only two layers; a mixed brownish-orange clayey gravel (L209) on top of dumped clay (L210), which overlay undisturbed alluvium. Floor-layers within the building above this had probably been obliterated.

Just north of the eastern part of this trench, the small sondage revealed the continuation of Wall 207 and a slightly narrower robber-trench joining it from the east. In the overall interpretation plan (Fig. 3) it is conjectured that this may represent the back wall of the south range of the little cloister, aligned on F8 in the 1973 Telephone Exchange trench.³⁵ F7 just north of it may reflect the position of the northern wall: although these are partitions within the presumed east range, their spacing accords with the range width of the west side of the little cloister.

Unfortunately the depth of the west range foundations is unknown, nor was any dating evidence recovered. In the east range and its extension southwards, the walls were founded on gravel and were bonded with orange gravel like the original walls of the church and great cloister. These characteristics, which are similar to the construction-levels of the choir and east range of the great cloister, arouse at least the suspicion that the east range of the little cloister was part of the original building programme rather than being added at some later date. The apparent alignment of the two east ranges, despite the slightly skew south range of the great cloister, may support this. At least the east range, but less certainly the other ranges, of the little cloister seem likely from the quality of their foundations to have been of two storeys.

Re-examination of the records of an excavation in the north-east corner of the little cloister in advance of a Southern Electricity Substation at the corner of Speedwell Street and Albert Street (south), carried out in 1966 by Fr. Fabian Radcliffe OP, has enabled its position to be established (Fig. 2), and in the light of the more recent excavations has clarified what was found. Most of the area was not excavated below post-Reformation levels, but a single machine-trench running north was taken down into the alluvial clay. The edge of a north-south ditch ran parallel to the west side of the trench. It was cut two to three feet into the top of the alluvium, and contained large stones covered by black soil. It is undated, but may be part of the rectilinear grid of ditches connected with the post-medieval gardens. Its line is approximately that of F503 in the trench across the nave (Western Area Trench V). This would explain the absence of evidence for the alley along the back wall of the south range of the great cloister.

The Waterfront

The demolition of the Oxford Archaeological Unit's former offices in Luther Terrace prior to redevelopment provided the opportunity to investigate the Blackfriars southern river-frontage. The 19th-century course of the river, at this point the beginning of the Shire Lake Ditch, is shown on the first edition O.S. 25-inch map, and earlier maps show (less accurately) a long eyot in approximately this position. The bottoms of the Luther Terrace gardens marked the 19th-century river-bank. About 40 m. north of this, a long east-west

³⁵ *Ibid.*, 196-7.

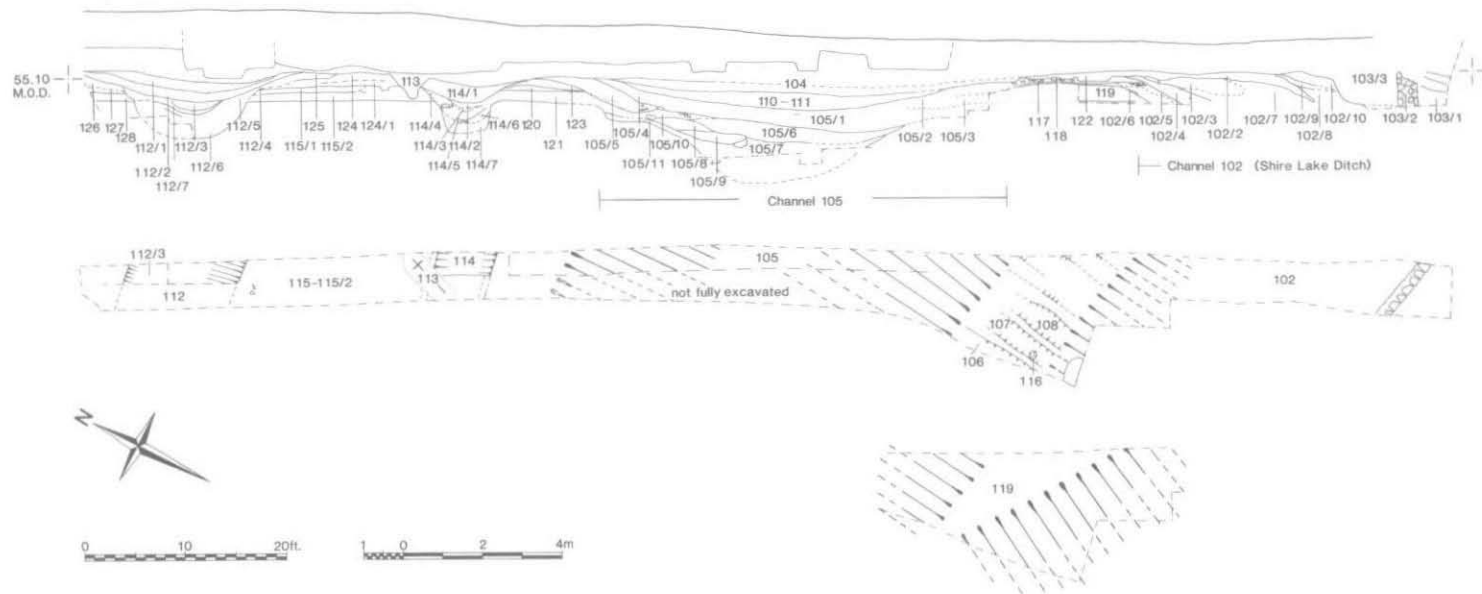


Fig. 11 Southern area (1983): plan and section of trench across river channels and ? flood defences.

building observed in 1973 during work on the new Telephone Exchange³⁶ was interpreted as a possible waterfront range (perhaps a barn or other outbuildings) belonging to the Priory. In 1237 the friars were given two oaks by the King to make a barge³⁷, and although this was probably only connected with building operations it suggests a waterfront, presumably with at least a landing-stage for the transhipment of building materials.

There was thus a reasonable chance that a medieval waterfront structure would survive somewhere between the east-west range of buildings and the 19th-century river-channel. In 1983 a trench about 35 m. long was excavated obliquely across this area, running north-west from the 19th-century river-frontage. Its siting was controlled by the positions of the existing streets and various services (see Figs. 1, 2 and 11).

Two river-channels running west-east, F102 to the south and F105 in the middle of the trench, were encountered. North of Channel 105 the alluvium was cut by two ditches (F114 and F112). Both the ditches and at least the northernmost channel largely silted up naturally, but then were levelled up by extensive dumping in the 17th and again in the 19th centuries.

The two channels (F102 and F105) were probably both open before any other deposits accumulated, though this cannot be proved because neither was fully excavated or dated. In F102 only the post-medieval dumping in the top of the channel was recorded. The lower part of F105 contained very dark brown to black organic clay merging to blue-grey buttery clay (L105/7) at the northern edge of the channel. Dumping of gravel and stones (L105/9, L105/8) and further silting with very snailly organic silt (L105/6) occurred before further clay with a few stones (L105/10) accumulated. Layer 105/8 produced one sherd of 16th-century Surrey Ware.

The relationship between these deposits and the layers overlying the alluvium to the north of Channel 105 is uncertain. There was no clear distinction between Layer 121 and L105/10. L121, L115/2 (north of Ditch 114) and L128 (north of Ditch 112) can be seen as one horizontal layer of gritty clay to very clayey loam fairly uniform in thickness, gradually getting darker and more friable to the north. A layer of grey-brown loamy clay (L115/1) in the top of L115/2 occupied a shallow, flat-bottomed scoop and possibly represents disturbance of 115/2 by cultivation. Layers 126 and 127, overlying L128, were of similar material. The pottery from Layers 115/1 and 115/2 is late 14th- to 15th-century. The origin of these deposits is uncertain, but they may be disturbed alluvium with an admixture of domestic rubbish, or dump representing a 14th-century cultivation horizon. It may be noted that it is not very clear whether it is the top or the bottom of these layers that is level with the top of the alluvium on the south side of Channel 105 (beneath L119). Rather similar deposits overlying alluvium along much of the 1974 trench (L46) to the north-west were interpreted as dumped material, and might be reconsidered in this light, but neither interpretation is certain. A layer similar to these deposits was also seen west of the main Priory buildings during salvage work in 1983 (see Fig. 1).

On their north sides Ditches 112 and 114 clearly cut these layers, but on the south the relationships were unclear because the ditches' secondary fillings (L112/5 and L114/6) merged with L115/2 and L121. The relationships could only be different if there had been a sequence of ditches with upcast banks on their south sides, each ditch cutting the upcast of the previous one. The horizontal surfaces, uniform thickness and similar composition of Layers 128, 115/2 and 121 do not support this interpretation.

The Layers above L115/1, L115/2 and L121 were gravelly clay and rubble (L124/1, L124 over L115/1 to 115/2; L120 over L121). The gravel and stones in them shows that

³⁶ *Ibid.*

³⁷ Hinnebusch (1938), 68.

much of this material was brought from elsewhere to be dumped. It seems to have formed the core of banks heightened and sealed with clay (L125 and L123), presumably dug out of Ditches 112 and 114 respectively.

It is unlikely that the two ditches and banks were contemporary. Dating evidence is not good, and a post-medieval grave (F113) destroyed the relationship between Ditch 114 and the bank formed by L124, L124/1 and L125 south of F112. On balance F114 seems to be later. Both ditches were cut *c.* 0.4 m. into the clay alluvium, and were filled largely by natural silting ranging from fine sandy silt to buttery clay with much organic material (especially L112/4 and L112/3 and L114/5, L114/3 and L114/2). However, occasional stones occurred (often very decayed), and a distinct layer of stones and grey gravelly clay loam (L114/4) probably represents collapsed material from L124. In addition, an early 17th-century cloth-seal came probably from L120 (the presumptive bank associated with Ditch 114), whereas 15th-century sherds came from L112/6 and L112/5, and late 15th- to 16th-century pottery from L112/3.

Between channels 102 and 105 there was another deposit of gritty clay (L119) overlying decayed stones on the surface of the alluvium. The fills of F102 clearly overlay this, but on the north it merged almost imperceptibly with the upper filling of F105. The slightly grittier texture of the top of this upper silting (L105/1 to L105/3) seemed to be a continuation of L119, but the distinctions between this and the layers above and below were far too indistinct to allow a reliable interpretation. If L119 did overlie part of the upper silting in Channel 105 it would post-date the features north of the channel already described, since this merged with 105/4 which overlay the rubble (L105/5) on the north side of the channel. The only dating evidence, 8 very abraded 14th- to 15th-century sherds from L118 overlying L119, and a single very abraded rim of similar date from L105/3, is of little help.

Layer 119 sloped down towards both channels, and thus formed a bank which became distinctly narrower to the west as the two channels converged. This artificial bank was further built up by the addition of gravel spreads (L118) which seem to have become mixed into the top of L119 or included some extra clay. This may have been intended as a sort of path. It was immediately overlain by sandy clay and gravel (L102/5) and grey clayey gravel (L102/6) dumped on the northern edge of Channel 102. These deposits were sealed by a layer of friable clay with numerous stones and a few tile fragments and bones (L117), which thus enlarged the bank between F102 and F105.

Layer 117 was cut by a stake-hole (F116) and by a series of slots (F106, F107, F108 etc.) running at right-angles to the new edge of Channel 102. The filling of F107 overlay stake-hole 116. The dark-brown gravelly loam, stones, large charcoal flecks, pieces of slag etc. which filled these slots did not continue across the upper fill of F102 on the west side of the trench (L102/2).

A layer of dark-brown clay loam (L104) was not readily distinguished from the fills of the slots immediately beneath it. All these deposits contained mid 17th-century material, L104 in particular having a reasonable quantity of material. It overlay L110 and L111, which produced a small group of clay pipes dated 1620-1640 (see Fig. 23). In section, L104 and the fills of the slots were not obviously distinct from L122 and L102/2, but the latter sealed other deposits in the top of Channel 102 (L102/3, L102/4) which produced 18th-century sherds.

Layer 104 extended northwards over layers of rubbly sandy loam (L110 and L111) which sealed the clay silting in the top of Channel 105. These too were mid 17th-century, as was a layer of black organic sandy silt (L109) also sealed by L104 and possibly part of L110 or L111. The topmost fills of Ditches 114 and 112 (L114/1, L112/2, L112/1) were similar both in composition (though with less rubble) and in date.

Layer 114/1 was cut by a grave containing an adult woman buried face-down. The

grave contained three 16th- to 17th-century sherds, but these may have been derived from 114/1. The grave was sealed by 19th-century deposits. Perhaps the woman had been murdered.

Although no evidence for a constructed waterfront was recovered from this excavation, despite its promising position, the existence of some kind of riverside quay elsewhere cannot be excluded. One possibility is that the end of the main culvert was used. The 1973 excavation showed that it was *c.* 3.0 m. wide a little further north, and its outflow into the river is hardly likely to have been narrower. This would have been quite large enough for a decent barge.

The converging lines of Channels 105 and 102 suggest that the bank between them was the tip of an eyot (islands were a common feature of this stretch of river until the 19th century) or the point at which two streams divided (multiple channels are also a feature of the river system in Oxford). In the latter case the northern channel may have continued under the south-east corner of the new Telephone Exchange, where organic deposits were seen in 1973, into the channel recorded by Mr Durham at 65 St. Aldates. This was somewhat larger and was being backfilled and silting up in the 14th century, but its western end, close to the river, might have taken much longer to silt up. The clayey texture of the silting indicates that it took place in virtually still water. The likelihood that F105 represents a diverging channel is enhanced by the evidence of dumping and possibly surfacing between it and Channel 102: this seems less likely to have occurred on a small eyot. These deposits, and possibly the shallow slots (F106, F107, F108, F126, F127) which seem likely to have held wide boards, probably represent the building-up of the river bank, eventually with a small landing stage. This may have begun before the Dissolution but the remains were too slight to be interpreted as a proper waterfront. In any case, access across Channel 105 would have been unnecessarily awkward when uninterrupted access would have been possible a little further west where the culvert flowed into the river, as suggested above.

The two ditches north of Channel 105 and their banks may represent flood defences. If the clay-capped banks were overtopped by floodwater the ditches behind them could have provided drainage for water ponded up. In 1367 the king gave the friars permission to construct a floodbank to control recurrent flooding of the precinct.³⁸ The presence of Surrey Ware in Layer 115/1 beneath the bank material would be surprising at this date; it has not been found elsewhere in the area in deposits earlier than the first part of the 15th century, although it was reaching London in the third quarter of the 14th century (see below, p. 176). Possibly this bank was a later part of the friars' flood defences; or their completion may have been delayed for a long period. The flood-bank seems to have been remade after the Dissolution, when the area was given over to extensive gardens. It was made redundant by the dumping of rubble and soil to level up the ground surface in the later 17th century. David Loggan's map of Oxford (1675) shows gardens stretching down to the river.

THE FINDS

References to site contexts are given by the area of the site (E, W, SW, or S), by trench number (I, II, III, etc.) or date, and by context (L2/1, F202, etc.). This is followed for small finds by the Small Find (SF) number and museum accession number (ODMS Acc. No. 75.42.1-24).

³⁸ *Ibid.*, 73; there is also a reference to the Greyfriars and Blackfriars making dykes and walls and enclosing part of the Thames in 1247 (*Ibid.*, 76).

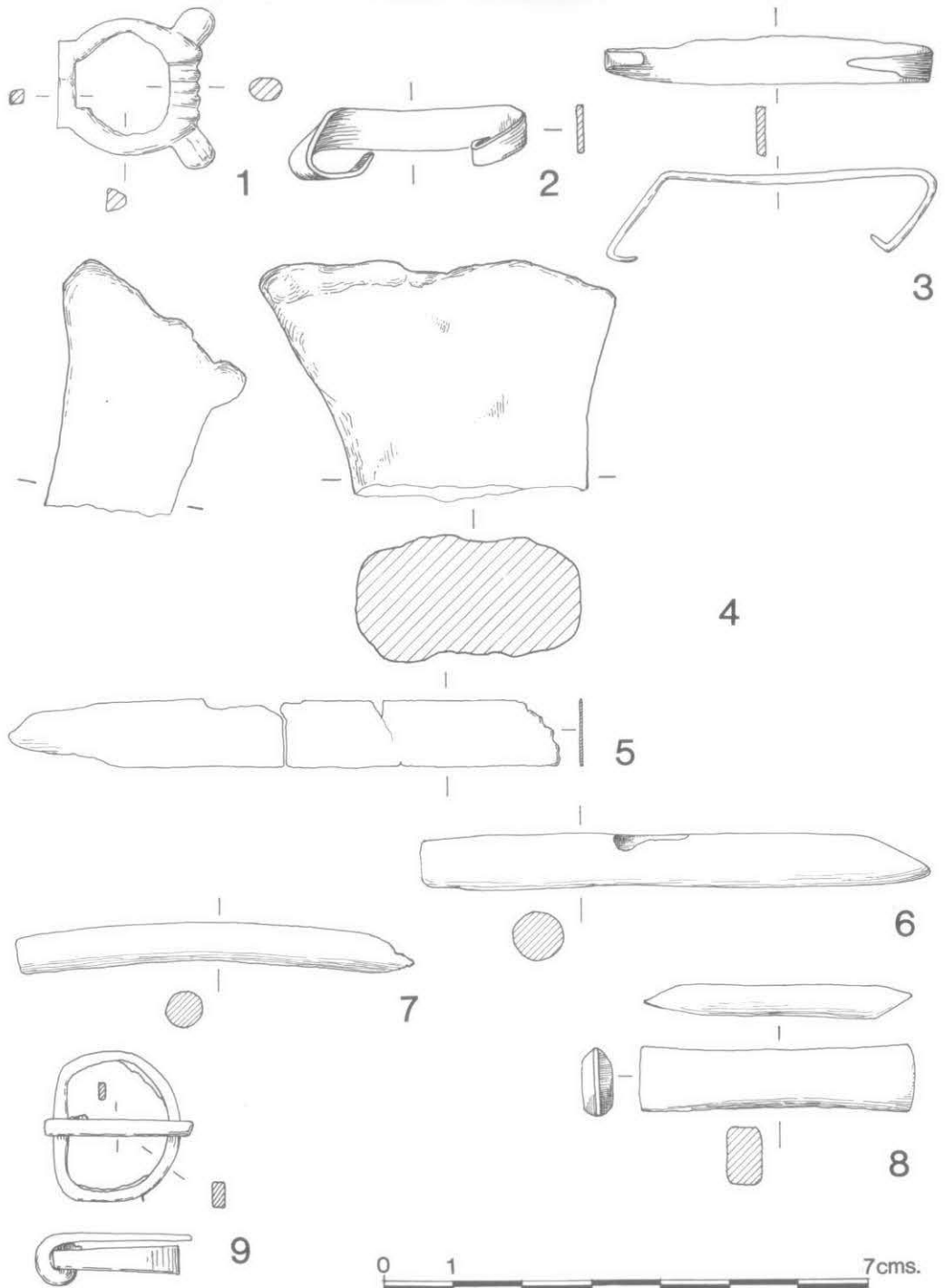


Fig. 12 Small-finds. Copper Alloy: 1, buckle; 2, 3, staples; 4, cauldron leg; 5, strip. Lead: 6, 7, pencils; 8, ? pencil. Iron: 9, brooch.

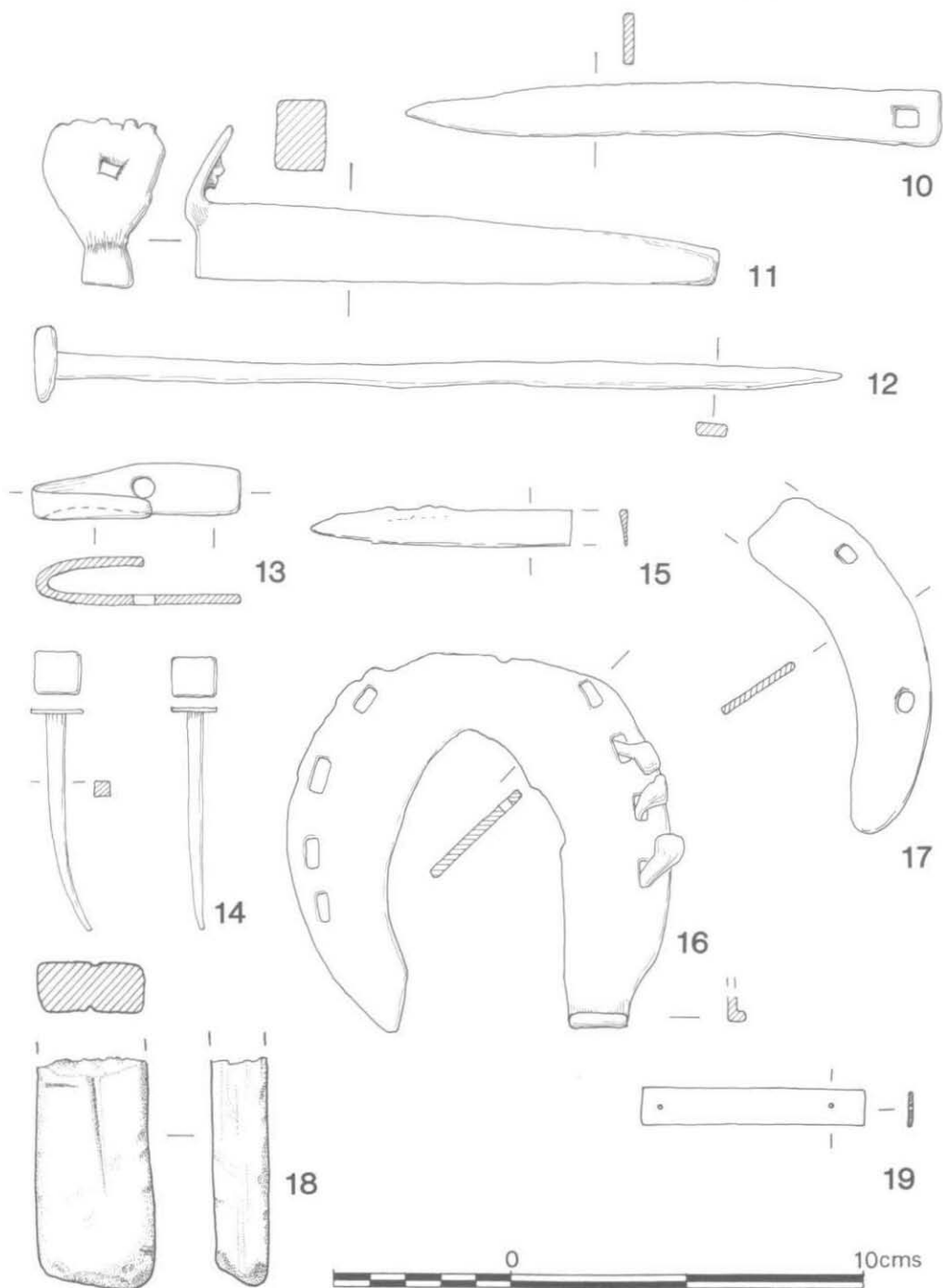


Fig. 13 Small-finds. Iron: 10, 11, building spikes; 12, nail; 13, 14, ? coffin fitting and nails; 15, knife blade; 16, 17, horseshoes. Stone: 18, hone. Bone: 19, comb or knife-handle plate.

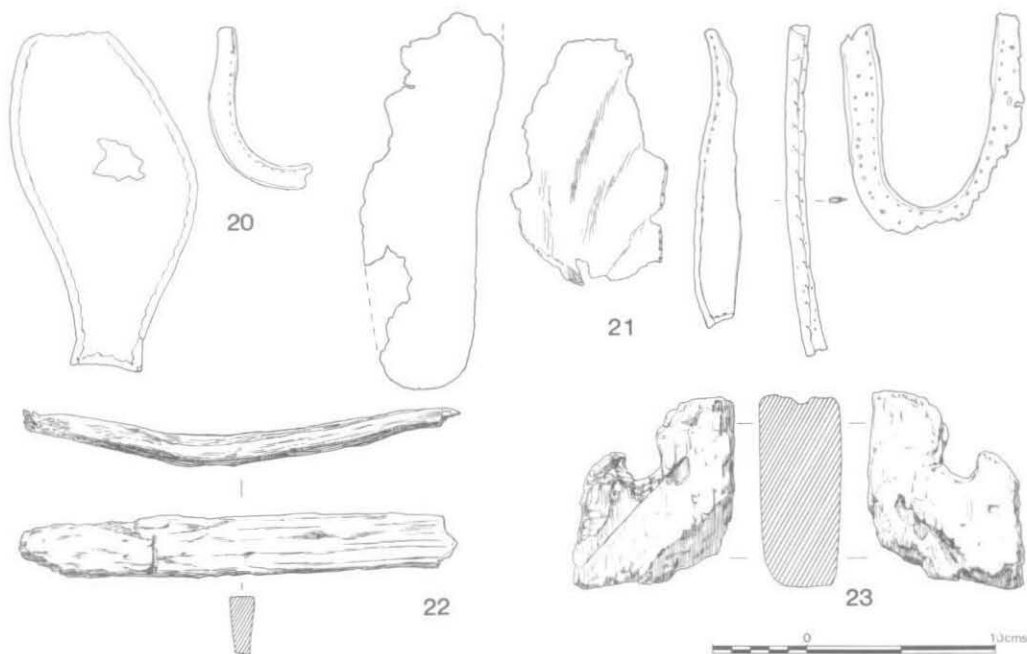


Fig. 14 Small finds. Leather: 20, 21, shoes. Wood: 22, lath; 23, tenon. (Drawing by Wendy Page).

THE COINS by MARIAN ARCHIBALD

1. Henry III, 1216-72
Short-Cross penny, Lawrence Class VII (?b)
Mint: Canterbury Moneyer: Henri
Rev.: +hENRI ON CANT
wt.: 0.48g (7.4gr)
The internal dating of the sub-groups of class VII which was produced between 1217/8 and 1242 has not yet been established. The Short-Cross coinage was rapidly superseded after the introduction of the Long-Cross type in 1247. In view of the corroded state of this coin, it is difficult to estimate the amount of wear it exhibited at the time of its deposition. It was probably lost some time within the bracket c. 1230-50. From build-up beneath 'scullery' overlying midden deposit (SW I, L75, SF15, ODMS Acc. No. 75.42.25).
2. Philip and Mary, 1554-8
Groats; initial mark, lis, 1557-8³⁹
wt: 2.03g (31.3gr), broken in half
Despite its present battered appearance, this coin was almost unworn when deposited. If it had seen normal circulation, it is likely to have been lost by c. 1580, and probably before that. From demolition layer, north cloister walk and south aisle (W V, L504, SF 501, ODMS Acc. No. 75.42.1).

SMALL FINDS by NICOLA HARRIS and GEORGE LAMBRICK

A detailed catalogue of the illustrated small finds (Figs. 12 to 14) is given in the microfiche (p. A3). We are extremely grateful to Dr. and Mrs. I. Goodall for help with the identification of some of the Iron and Bronze objects. Two finds of intrinsic interest, part of

³⁹ J.J. North, *English Hammered Coinage*, ii (1960), No. 1973. Groats struck after Mary's marriage to Philip name both but continue to use only the Queen's portrait.

a medieval sand-glass frame (Fig. 15) and a 17th-century cloth-seal (Fig. 16), are reported and discussed in detail below, and are not included in the microfiche catalogue.

The objects from the post-1976 excavations are generally less informative than those from the earlier excavations. The only objects which may be regarded as at all reflecting the existence of the Priory as a religious and academic institution are the lead pencils (Fig. 12 Nos. 6-7 and ?8), the coffin-nails and possible fitting (Fig. 13 Nos. 13-14), and the wooden disc interpreted as part of a sand-glass frame (Fig. 15).

PART OF A MEDIEVAL SAND-GLASS FRAME by GEORGE LAMBRICK

The wooden disc shown in Fig. 15 came from 15th-century silts in the main culvert (S (1979) L202/5, SF 226, ODS Acc. No. 75.42.18). The deposit is dated by a group of 15th-century pottery, most of it from the organic silts above (L202/4, see p. 176). Other medieval objects from the culvert silts include painted window-glass and shoes (Fig. 17, Nos. 35 and 36; Fig. 14, Nos. 20 and 21).

The disc was identified as part of a sand-glass frame simply by attempting to account for all features of form and decoration exhibited by the object.⁴⁰ No other explanations in terms of pulleys, rope-twisters or other objects satisfactorily account for all these features,⁴¹ and comparison with later extant sand-glasses shows the identification to be reasonable. Unfortunately no well-attested medieval sand-glasses seem to be known,⁴² so that comparison with contemporary examples is not possible.

The disc is 15.7 cms. in diameter and up to 2 cms. thick, made of oak.⁴³ It has a central hole (diameter 3.3 cms.) and four smaller holes (diameters c. 1.0 cms.) placed round it forming a rough square. In the edge of the disc there are five short holes (diameter 0.5 to 0.7 cms.) placed roughly equidistantly round the circumference. One retains a broken-off wooden peg. The central hole is roughly bevelled on both sides and has a rather rounded profile which shows no sign of abrasion from rotation of the disc. One side of the disc is slightly dished, and decorated with rather crudely cut grooves forming two zones of angled rays, the outer ones delimited by two concentric circles. A continuous slight groove runs round the edge of the disc. The other face is not dished or decorated, and the bevel for the central hole is rather more pronounced. There are few clear signs of turning marks, but it is likely that it was turned rather than hand-shaped. The object is in generally worn condition.

The disc is interpreted (Fig. 15) as the top or bottom of a sand-glass frame. There would have been an identical disc at the other end, the two being joined by four uprights (possibly turned) to hold the twin ampoules of the sand-glass itself. The mouths of the glass ampoules would have been separated by the pierced diaphragm to control the flow of 'sand', the join being bound together and sealed in the manner common to all pre-18th-century sand-glasses. It seems likely that the ampoules had rounded bottoms which were held by the bevel of the central hole. The central hole would have left the shiny rounded end of the ampoule visible, and this may have been part of the decorative scheme. If so, one may tentatively suggest that the design represents the sun and its rays. The five holes round the edge of the disc probably held decorative knobs. It is possible that the ends of the four upright stays protruded and were also finished with decorative knobs which acted as feet when the sand-glass was turned over. Decoratively, however, this arrangement would not have accorded well with the five knobs round the edge (although they are at least roughly symmetrical), and instead unobtrusive small wedges may have been driven into the split ends of the uprights to hold the disc in position. The size of the glass ampoules can be inferred approximately from the diameter of a circle fitted within the four uprights (allowing a little extra thickness than that of their fixing holes) and from a guess at the sand-glass's overall proportions. However, this gives no idea of how long the sand-glass was timed to run since that depends entirely on the size of the aperture in the diaphragm and the 'sand' grains used. Although the disc comes from a relatively large sand-glass, similar-sized glasses at the National Maritime Museum run for anything from a quarter of an hour to four hours.

Most of the other suggested interpretations involve pulleys, windlasses or other devices rotating on an axle through the central hole. Apart from the fact that most of these do not satisfactorily explain the decoration and the

⁴⁰ I gratefully acknowledge the help of Mr. F.R. Maddison, Curator of the Museum of the History of Science, Oxford, Mr. A.N. Stimson of the National Maritime Museum, Greenwich, and Mr. A.J. Turner who confirmed my identification and provided much guidance and fruitful discussion on the subject of sand-glasses.

⁴¹ I am grateful to Dr. A. MacGregor and Mrs. Carole Morris for suggesting and discussing with me some of the other possibilities.

⁴² A.J. Turner, "The Accomplishment of Many Years": Three notes towards a History of the Sand Glass', *Annals of Science*, xxxix (1982), 161-72. An example said to be circa 1450 is illustrated in C.K. Aked, 'Italian tour - 1973', *Antiquarian Horology*, viii.4 (September 1973), 393.

⁴³ I am grateful to Dr. Mark Robinson for identifying the wood.

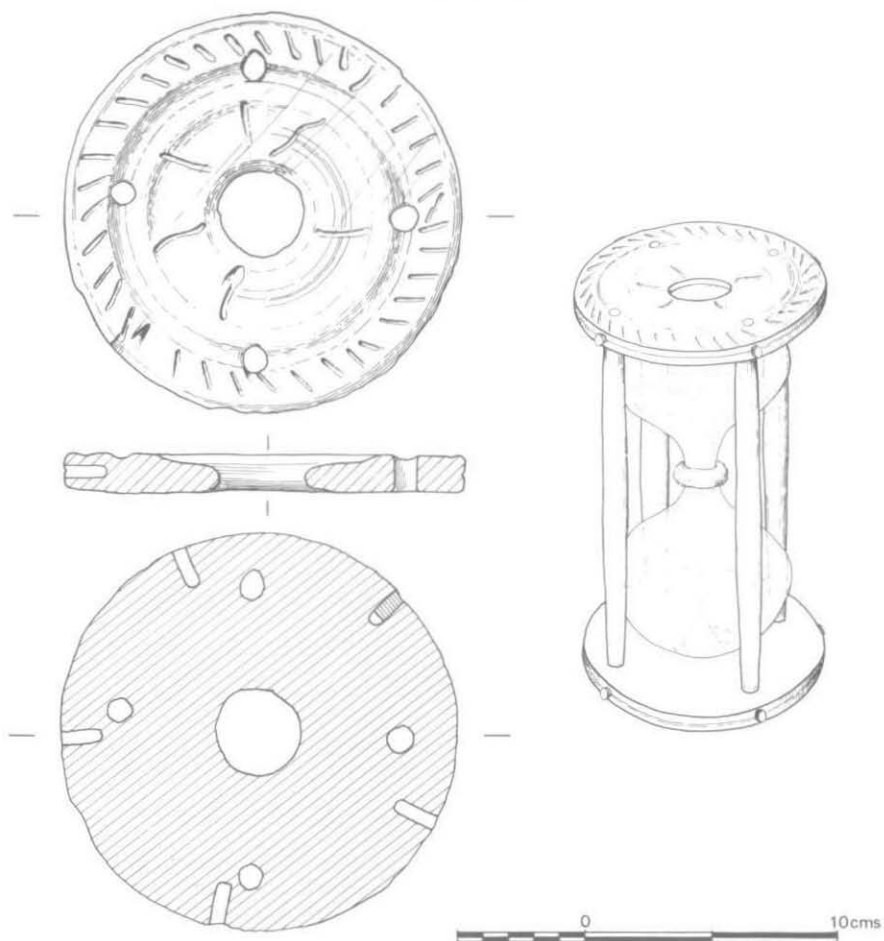


Fig. 15 Wooden disc from a sand-glass frame, and suggested reconstruction of the complete glass.

five holes in the edge of the disc, they seem to be ruled out by the lack of any obvious abrasion or polishing of the central hole resulting from such rotation.

While the associated finds show that the Blackfriars sand-glass is almost certainly no later than the 15th century, they do not actually date it: it may have been used for many decades before it was finally broken and discarded, and in theory (given that three-hundred-year-old sand-glasses survive in working order to this day) it could date from any time after *c.* 1245 when the friars took possession of the site, even though this would predate the earliest clear reference to sand-glasses by a hundred years.

A.J. Turner has pointed out that the history and origin of sand-glasses is remarkably obscure.⁴⁴ They certainly existed by the mid 14th century in a nautical context in England, while the first illustration, the frescos in the Palazzo Pubblico in Siena depicting good and evil government with Temperance holding a sand-glass, is also mid 14th-century. The Siena fresco may imply more general usage, as do the other 14th-century references cited by Turner. Another depiction which he reproduces and describes, a miniature from a German-Hebrew Pentateuch of 1395,⁴⁵ illustrates well the sort of use to which the Blackfriars example (which was obviously not for nautical purposes) may have been put. The Oxford Dominicans played a prominent part in the teaching and

⁴⁴ A.J. Turner, 'Notes towards a History of the Sand Glass'.

⁴⁵ British Library, Add. MS 1976 f. 72 v.

lecturing of the young University from the 1220s onwards,⁴⁶ and the timing of lessons, as depicted here, or of lectures, disputations and examinations, may have been standard practice. The Blackfriars were famous for their preaching, and while the abundant documentary evidence for English churches purchasing hour glasses for their pulpits dates from after the Reformation, when sermons played a greater part in the liturgy, it is not inconceivable that the medieval preachers *par excellence* also used sand-glasses in a similar way.

Turner emphasises the lack of evidence that sand-glasses were specifically developed for nautical uses, as has tended to be assumed in the past. Despite the unequal hours of the monastic day, it is possible that they developed in a monastic context for the kind of purpose mentioned above. Unfortunately, the vague dating of the Blackfriars sand-glass to the later Middle Ages means that it adds nothing to these general problems: it can only be hoped that more archaeological evidence for early sand-glasses will materialize.

LEADEN CLOTH SEALS FOR AUGSBURG FUSTIANS by GEOFF EGAN

A leaden seal found at Blackfriars (Fig. 16, No. 1) has a near parallel discovered a few years ago in topsoil at Kings End Farm, Bicester (Fig. 16, A).⁴⁷ These seals are of the type attached to textiles to indicate that the fabric was of satisfactory quality and to show its place of manufacture.⁴⁸

One side of the Blackfriars seal has an ornate letter A, and the other has a version of a pinecone in a discontinuous tressure of ten arcs, with trefoils at eight of the points. Only one disc of the original two of the Bicester seal was recovered, but other seals struck with the same devices provide details of the missing and abraded parts of the designs; these parts are given in brackets. The complete disc has an ox passant on a ground, with A(V) above, and (AVGSBVRG) across the beast's body. The other stamp, the central part of which is registered on the rivet, is a pinecone, as on the Blackfriars seal.

Among a number of Augsburg seals recorded in Britain (some of which have different devices), there are several parallels for both these types in the Museum of London and in private collections, of which Fig. 16, B is an unprovenanced example from the D.G. Varley Collection.⁴⁹ A complete seal with the same stamps as the Bicester example came from Dorchester in Oxfordshire.⁵⁰ The pinecone is the heraldic badge of Augsburg, while the ox may indicate a particular quality of fabric. Presumably the A and AV stand for the city name, which also appears in full on the stamp with the ox. The precise significance of the different stamps is unknown.⁵¹

Although none of the Augsburg seals found in this country is from a closely datable deposit, the import of fustian – a mixed fabric with a linen warp and a cotton weft⁵² – from Augsburg is recorded in the early 17th century.⁵³ Several Augsburg seals similar to the Blackfriars example were excavated on a colonial site in Virginia from deposits perhaps as closely datable as 1619–22; these may provide a further indication of the likely date of both the present seals.⁵⁴

⁴⁶ M.W. Sheehan, 'The religious orders 1220–1370', in J.I. Catto (ed.), *The History of the University of Oxford*, i (1984), 193–223.

⁴⁷ Blackfriars: S (1983) L120, SF 101, ODMS Acc. No. 75.42.21; Bicester: ODMS Acc. No. 82.22.1.

⁴⁸ For details of this operation, see G. Egan, 'Cloth Seals', in *London Archaeologist*, iii.7 (Summer 1978), 177. More generally on this system of regulation in the textile industry, see W. Endrei and G. Egan, 'The Sealing of Cloth in Europe', in *Textile History*, xiii.1 (1982), 47–75. Augsburg seals are dealt with on p. 67.

⁴⁹ I am grateful to Mr. D.G. Varley for allowing the seal in his collection to be published. Other examples: Museum of London acc. nos. 80. 133/1 and 81. 522/30. An unstratified incomplete seal with the 'A' stamp from the Aldgate site in London (AL 74, find no. 77) will soon be published; G. Egan in *Post-Med. Arch.* (forthcoming). The ox is on a disc in Moyses Hall Museum, Bury St. Edmunds (ex Stutters collection) and is recorded at Ipswich Museum (1948. 236.c, ex Carthew collection, description only).

⁵⁰ Ashmolean Museum, Heberden Coin Room, drawer 11 (ex Barnard collection). I am grateful to Mr. N. Mayhew of the Coin Room for his help and for allowing this seal to be mentioned here.

⁵¹ W. von Stromer, *Die Grundung der Baumwollindustrie in Mitteleuropa* (Stuttgart, 1978), 21–2, mentions the widespread use of lion and ox marks in the South German fustian industry to indicate the best quality fabrics. I am grateful to Ms. N.M. Fryde for providing and translating this reference.

⁵² R. Patterson, 'Spinning and Weaving', in C. Sinder *et al* (eds.), *A History of Technology*, iii (Oxford 1979 reprint), 179.

⁵³ R.H. Tawney, *Business and Politics Under James the First* (1958), 43 and 47. These references are to the years 1601–3.

⁵⁴ I. Noël Hume, *Martin's Hundred* (1982), 190–1 and 272.

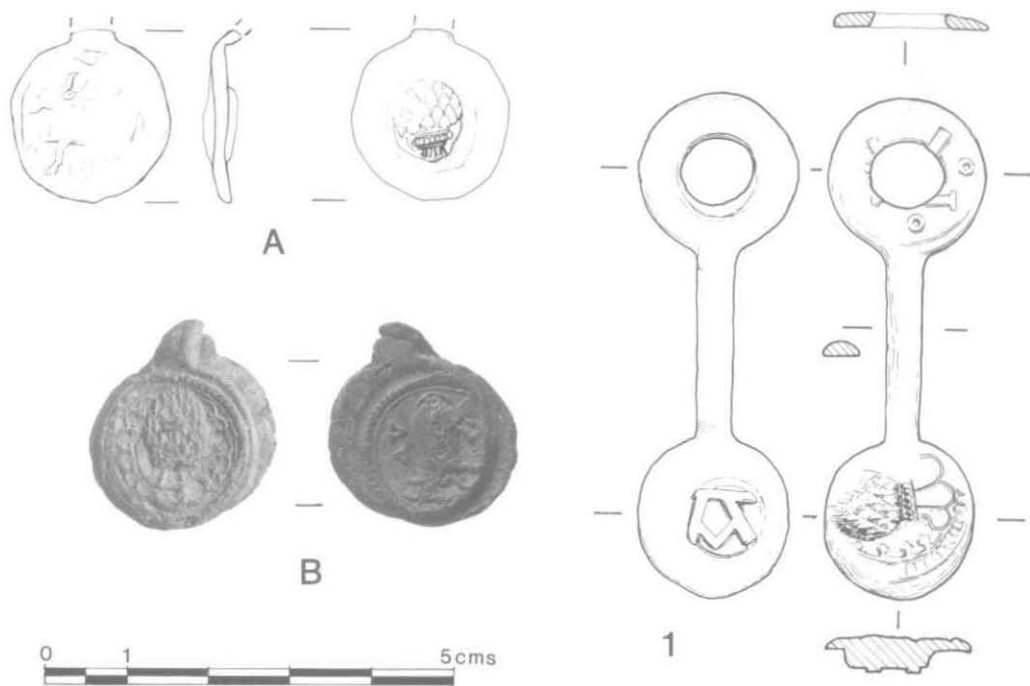


Fig. 16 Seals for Augsburg fustians.

THE PAINTED GLASS by JILL KERR

About 180 fragments of medieval window-glass were found during the various excavations at Blackfriars from 1967 onwards. At least 50 were painted. The vast majority of the glass was found in definitely post-medieval contexts, usually robber-trenches or demolition layers in the area of the church. The only exceptions were from other non-contemporary contexts: the dust beneath the choir stalls (E I L18) (Nos. 1-5) and undated graves in the galilee passage (W II F246) and the south aisle of the nave (W V F514) (not illustrated).

The painted pieces illustrated (Fig. 17) are arranged according to area of the Priory where they were found (see list below). They are so fragmentary (only No. 25 has two distinct grozed edges, the rest are very small pieces) that little can be said about the original overall designs. However, small details, round leaves and cross-hatched backgrounds, suggest that Nos. 1-10, 12, 14-16, 18-21, 23-29, and 35-36 are from white geometric grisaille designs of the second half of the 13th century, or possibly the early 14th century. This type of design is very common in the later 13th century. The best local example is found in two chancel windows at Stanton St. John, albeit somewhat restored in the 19th century. The distinctive design of Nos. 6 and 12 and the overlapping stems of Nos. 3, 15, 16 and 31 are somewhat unusual. It is likely that this glass was from original windows which must date after *c.* 1240-50.

Nos. 11, 13, 17, 22, 30, and 32-4 are rather later; 33 has ?fruiting foliage with poor cross-hatching; 22 has open beading executed in redder paint, comparable to designs at Stanton Harcourt; 34 also has redder paint; 30 and 32 are characteristic of late 14th- to 15th-century designs. Of these later pieces 30, 32, 33 and 34 are from the west end of the church where alterations took place in the 14th and 15th centuries.³⁵

In general, the distribution of the glass suggests that the church and perhaps the chapter-house had painted glass windows, but that the other claustral buildings probably did not - as might be expected.

The following list gives the contexts of the illustrated fragments:

- 1- 5 Dust beneath choir stalls.
- 6-12 North choir wall R.T.
- 13-17 17th-century wall, north side of choir.

³⁵ Lambrick and Woods, 190-3.

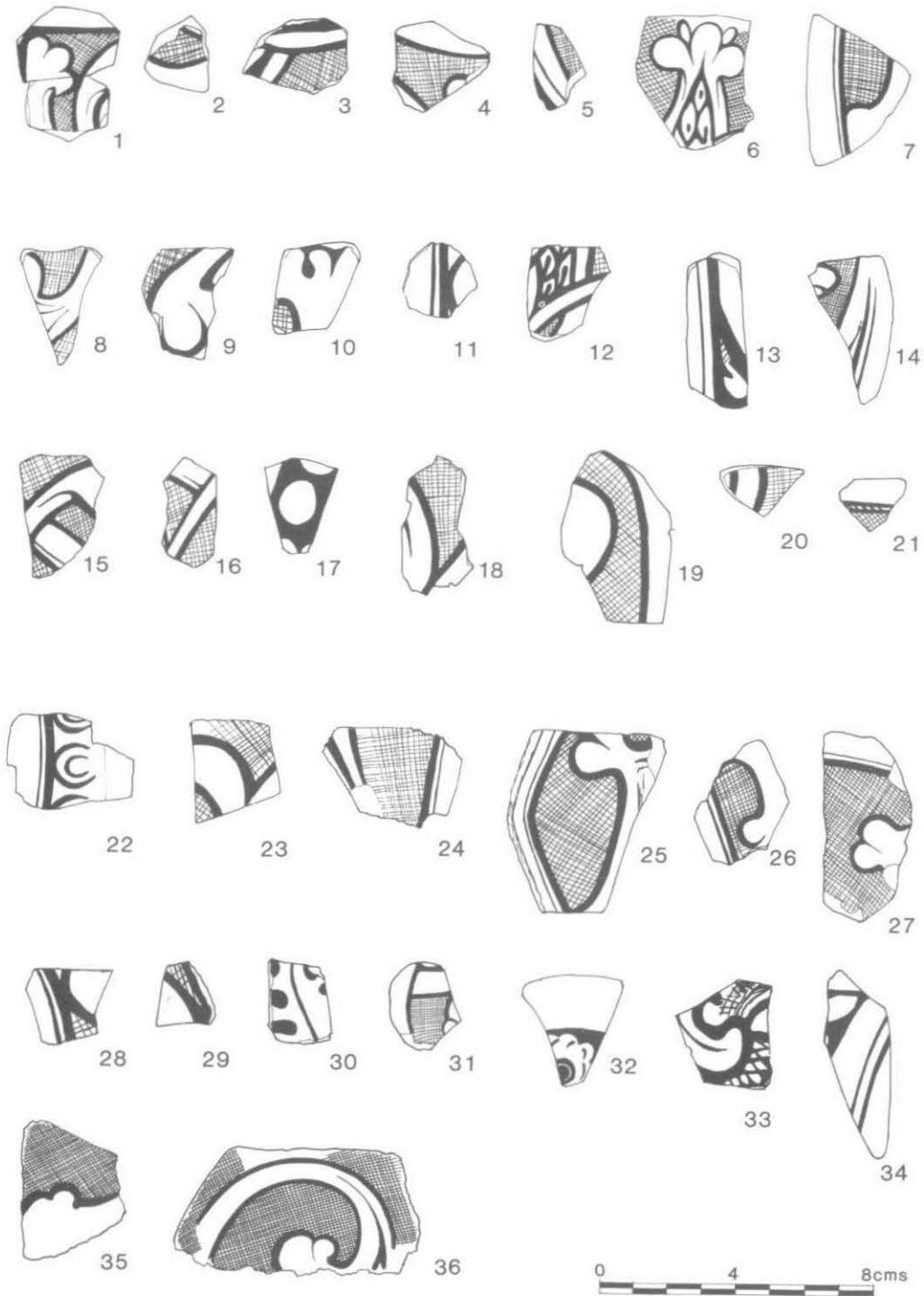


Fig. 17 Painted window-glass.

- 18-21 17th-century wall, south side of choir.
 22 17th-century gully, north side of choir.
 23 South vestibule wall R.T.
 24 Middle east cloister range wall R.T.
 25 Demolition layer, east cloister range.
 26-27 Unstratified, eastern area.
 28 Middle west cloister range R.T.
 29 Disturbance in north cloister alley floor.
 30-33 Demolition layers, western area.
 34 Unstratified west end of church.
 35-36 Southern area, main culvert.

THE MEDIEVAL AND POST-MEDIEVAL POTTERY by MAUREEN MELLOR

This report deals with pottery from excavations since 1976. About 2,400 sherds were recovered. The majority of these date from the mid 13th to early 14th century (Western, South-Western and Southern Areas), a smaller proportion from the 15th to 19th centuries (silting of the main culvert in the Southern Area; demolition levels, post-medieval gardens and filling of the old channels in the Western, South-Western and Southern Areas). As in the previous excavations of the Dominican Priory, the number of sherds recovered from any one context was small and made dating on ceramic evidence alone tentative. The report follows the format of that published in 1976;⁵⁶ detailed records are deposited in the site archives.

Jugs and pitchers were the most popular wares from the medieval contexts (Fabrics *AM* and *AW*, Oxford Late Medieval Ware made in the vicinity of Brill and Boarstall); cooking-pots, jars, shallow dishes, a bowl and a double-shelled lamp were also recovered. The domestic wares were largely made by two production centres, one situated to the north of Oxford (Fabric *Y*) and the other possibly in east Wiltshire (Fabric *AQ*). Other regional imports include a sherd from Potterspurty (Northants.) (Fabric *CZ*), the only other such sherd from recent excavations in Oxford being recovered at Oseney Abbey.⁵⁷ A 15th-century jar was found at Seacourt, 2 miles west of Oxford, and Potterspurty types are known in north-east Oxfordshire at Bicester, Deddington and Banbury.⁵⁸ Fragments of Tudor Green (Fabric *BN*) from Surrey were also found. The Tudor Green included a round-bodied jug from beneath a possible flood bank in the Southern Area (see above). The medieval levels produced no sherds of Continental origin.

WESTERN AREA

Dumped soil beneath the nave

304 sherds were recovered from the soil dumped in the area beneath the nave at the time of construction (W V L510/2, L510/3, L527, L534, L545, L546, L547, L548, L549, L567). Wares in Fabric *AM* were dominant, some from highly decorated jugs (Fig. 18, P548/0/1 *AW*; P548/0/2 *AW*), with other wares in Fabric *Y*; the latter included an unusually long pod from a tripod-pitcher (Fig. 18, P510/2/1), glazed light green.

⁵⁶ *Ibid.*, 211-3.

⁵⁷ M. Mellor, 'The Pottery' in J. Sharpe, 'Oseney Abbey, Oxford: Archaeological Investigations 1975-83,' above, pp. 117-18. Potterspurty ware has also tentatively been recorded by E.M. Jope, 'Medieval Pottery Lids and Pots with Lid-seating', *Oxoniensia*, xiv (1949), 78.

⁵⁸ Seacourt: M. Biddle 'The Deserted Medieval Village of Seacourt,' *Oxoniensia*, xxvi/xxvii (1961/2), 163 and Fig. 27 No. 1 (pot examined in the Department of Antiquities, Asmolean Museum). Bicester: from excavations by Robert White - R. White, 'Bicester, The Causeway', *CBA Group 9 Newsletter*, xi (1981), 115. Deddington: R. Ivens, pers. comm. Banbury: A.M. Robinson 'The Pottery' in P.J. Fasham, 'Excavations in Banbury 1972: Second and Final Report', *Oxoniensia*, xlviii (1983), 99-100, 113.

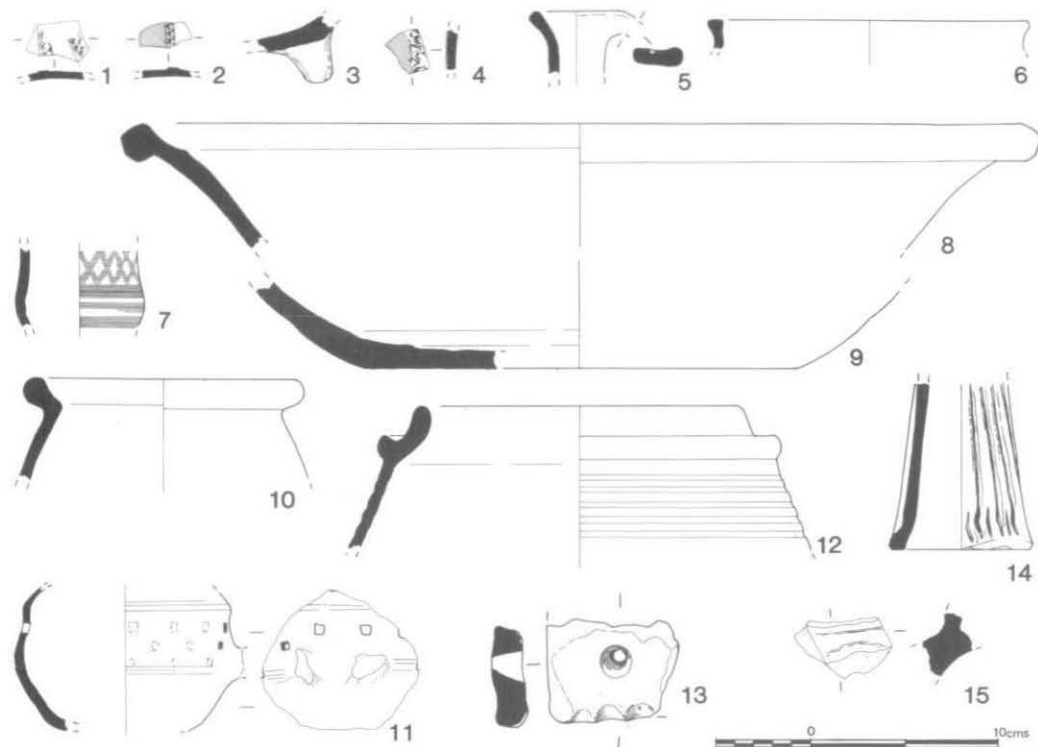


Fig. 18 Pottery and roof-tile. Medieval pottery: 1, P548/0/1 Fabric AW. 2, P548/0/2 AW. 3, P510/2/1 Y. 4, P614/0/1 AW. 5, P617/0/1 AW. 6, P630/1/1 BH. Post-medieval pottery: 7, P111/0/2 TN. 8, P112/2/2 REW. 9, P112/2/3 REW. 10, P111/0/3 REW. 11, P112/2/4 WHW. 12, P119/0/2 WHW. Roof-tiles: 13, T49/1/1 IIIA. 14, T47/1/1 IIIA. 15, T111/0/1 MISC.

Burials in the nave and south aisle of the church

The number of sherds in any one grave ranged from 1 to 16 (W V F509, F513, F516, F519, F524, F525, F526, F531, F541, F550 and F565). Much of the pottery was similar in date to that found dumped beneath the nave, and most was probably redeposited.

Cemetery north of the nave

Only one sherd (Fabric Y) was found in the dumped soil pre-dating the burials (W VI 605). Again, the individual graves yielded few sherds (W VI F604, F608, F614, F617, F619, F622, F624, F625, F627, F628, F629, F630, F633, F634, F635, F636). The majority dated from the second half of the 13th century and included a type of rouletted stamp unparalleled locally (Fig. 18, P614/0/1 AW), and a narrow-necked jug, possibly a copy of a metal ecclesiastical ewer (Fig. 18, P617/0/1 AW). One of the regional imports included a cooking-pot possibly from South Bucks. (Fig. 18, P630/1/1 BH). Both F614 and F617 were disturbed, and contained fragments of Tudor Green. Tudor Green in Oxford is normally associated with 15th- and 16th-century levels, but is known in London during the last quarter of the 14th century.³⁹

Dumped soil in the great cloister garth

110 sherds were recovered from the dumped soil (W V L508/2, L508/3, L508/4, L508/5 and L508/6). The proportions of Fabric AM to Y (Oxford Late Medieval Ware to Oxford Medieval Ware) had increased in comparison to pottery found in the dumped soil beneath the nave. The proportion of domestic wares in Fabric AQ was also greater, but the jugs and pitchers were still highly decorated suggesting a date in the later 13th century.

³⁹ I am grateful to Dr. A. Vince for this information.

Post-Reformation levels

153 sherds were recovered from these levels (W V F501, F502, F503, L504, F505, F507, L508, F528, L529). The ditch across the nave (L503/1) contained residual, highly decorated 13th-century pottery, together with some 16th-century pottery including a fragment of Rhenish stoneware from Siegburg. The robber-trenches (L501/1, L502/1, L505/1) included local red earthenwares and a Rhenish stoneware flagon from Raeren. The few sherds from a pit (L507/1) included a fragment of Cistercian-type ware.

The general demolition layers (L504, L508/1 and L529) were disturbed; they included 16th-century Brill/Boarstall types, but also a 19th-century red earthenware flowerpot, while a soakaway (L528/1) contained only residual sherds. In the cemetery the robbed stone coffins (W VI F601, F602, F603) yielded only residual 13th-century sherds as did the charnel-pit (F600).

SOUTH-WESTERN AREA

The South-Western Area provided a stratified sequence of deposits which may be considered phase by phase. Table I summarises the proportions of different fabrics and glazed sherds recovered.

Phase 1

467 sherds were recovered, representing 13 cooking-pots, 1 item of kitchen-ware, 1 bowl, 1 shallow dish, 1 double-shelled lamp and 9 jugs. Oxford Late Medieval Ware (Fabric AM) was dominant; a number of regional imports were also present, from the south (Fabric AQ and AG), from the east (Fabric BK) and from the north-east (a Potterspurty type, Fabric CZ).

Phase 2

183 sherds were associated with this area. The general ceramic trends as illustrated by the fabric-types (Table I)⁶⁰ were similar to the previous phase. Vessels included 5 cooking-pots, a kitchen-ware item and 4 jugs. A slight preference for mottled green glaze over clear glazes was noted along with a slight increase in applied rouletted strips, some of which paralleled those in the earlier phase and at the Hamel.

Phase 3

255 sherds were associated with this phase. The fabric-types, dominated by Oxford Late Medieval Ware (Fabric AM), were very similar to the previous phases. 7 cooking-pots, 6 jugs and a double-shelled lamp were recovered, the same ratio of cooking-pots to jugs as in the previous two phases. The underglaze decoration was also similar to the previous phase, and a slight preference for mottled green over clear lead glazes was still evident, but it was more popular than in the earlier phases. This preference for mottled green glaze was noted at the tenements in the Hamel, Phase BII (c. 1265–1280).⁶¹ Cross-joins were evident between F57, F58, and F93.

Phase 4

414 sherds were recovered, and included 16 jugs, 2 cooking-pots and one kitchen-ware. The ratio of jugs to cooking-pots was double that of the earlier phases. The further backfilling of the internal kitchen drain yielded 12 jug-rims but only 5 bases, whereas the number of rims to bases in earlier phases correlated very closely. Highly decorated sherds from probable tripledecker or stout baluster-type jugs were recovered from the area of construction and reflooring of the covered alley (F15) and from the initial and subsequent backfilling of the internal drain (F13/2). Cross-joins were noted between F13/2 and F13/3–4, perhaps indicating that the dump material came from the same place.

The decoration also displayed new characteristics, with an unusually high proportion of red slip and orange-coloured glaze. This type of decoration and clear orange glaze is typical of baluster-type jugs and was recovered largely from F13/2, which also produced a number of very abraded sherds, suggesting perhaps that some if not all the pottery from this feature was redeposited.

The proportion of mottled green glaze was the same as in the previous phase (Phase 3), but hardly any sherds had applied rouletted strips. A decline in the use of such decoration was also noted at The Hamel, Phase B II 2 (late 13th to early 14th century).⁶²

⁶⁰ For fabric types see R. Haldon and M. Mellor, 'Late Saxon and Medieval Pottery', in B. Durham, 'Archaeological Investigations in St. Aldates, Oxford', *Oxoniensia*, xlii (1977), 111–39; M. Mellor, 'Pottery', in N. Palmer, 'A Beaker Burial and Medieval Tenements in the Hamel, Oxford', *Oxoniensia*, xlv (1980), 160–82; T.G. Hassall, C.E. Halpin and M. Mellor, 'Excavations in St. Ebbes, Oxford 1967–76: Part II', *Oxoniensia*, xlix (1984), 153–275.

⁶¹ M. Mellor, 'Pottery' in N. Palmer, 'The Hamel', 178.

⁶² *Ibid.*

TABLE I

Pottery fabrics and glazes from the South-Western Area and main culvert in Southern Area

Fabrics Group	Type	SW Phase 1 No.	SW Phase 1 %	SW Phase 2 No.	SW Phase 2 %	SW Phase 3 No.	SW Phase 3 %	SW Phase 4 No.	SW Phase 4 %	S Culvert No.	S Culvert %	SW Phase 5a No.	SW Phase 5a %	SW Phase 5b No.	SW Phase 5b %
Medieval															
IA	<i>R</i>	1	+	1	+			2	+	1	+				
	<i>BK</i>	2	+	1	+	2	+								
IB	<i>AC</i>	9	+	10	5	6	+	2	+	2	5	1	+	1	+
II	<i>AQ</i>	85	20	23	13	29	11	22	5	5	12	2	3	3	4
	<i>BF</i>	1	+	4	+	1	+								
III	<i>Y</i>	59	13	25	14	26	10	10	+			1	+		
	<i>AG</i>	7	+	10	5	2	+								
	<i>AH</i>	1	+												
	<i>AM</i>	237	51	94	51	171	67	354	86	27	66	43	66	39	55
	<i>AP</i>									1	+				
	<i>BG</i>									1	+				
	<i>BN</i>									3	7	1	+		
	<i>ST</i>													3	4
	<i>CZ</i>	1	+												
Post Med															
	<i>TN</i>													1	+
	<i>EST</i>													1	+
	<i>REW</i>											13	20	9	13
	<i>WHW</i>									1	+	3	5	3	4
	<i>CHIPO</i>													1	+
	<i>CRM</i>													3	4
	<i>PW</i>													3	4
	<i>WHEW</i>													1	+
Misc.		30	7	15	8	18	7	23	6			1	+	3	4
GLAZES															
Internal		8	+	6	3	8	3	20	5	7	17	9	14	15	21
External		202	43	54	30	118	46	264	64	25	61	26	40	30	42
Totals		467		183		225		414		41		65		71	

It was felt that some of the pottery in this phase was slightly residual, perhaps from Phase 3, while some was obviously contemporary as Oxford Late Medieval Ware (Fabric *AM*) had increased slightly and some of the regional imports were no longer present (Fabric *BK* and *AG*). The area of construction and reflooring of the covered alley produced 2 sherds of St. Neots type (10th or early 11th century) which were obviously residual and were probably brought from a more central town site.

Phase 5

65 sherds were from deposits representing initial robbing and gardening (Phase 5a). These included pottery of the 15th century (F3/2), the 16th to 17th centuries (F50) and the late 17th to early 18th centuries (F6/2 and F5/1). The only pottery associated with the robbing and filling-in of the main culvert dated from the 15th to the early 18th century.

Deposits representing further robbing and the gardens (Phase 5b) produced 72 late 17th- to early 18th-century sherds (F6/1 and F28/1); these must be residual, for the level below contained pearlwares which post-dated 1780. F6, however, contained pottery of c. 1800. Mid 18th- to 19th-century material was found in F3/1, and a blacking-bottle later than 1815 in F29/2.

The first three phases of this site are ceramically very similar, and Phase 3 may be contemporary with B II 1 at The Hamel (c. 1265-1280) and Phase 10 at 79-80 St. Aldates. Phase 4 is similar to B II 2 at The Hamel (after 1280-1320), but with a considerable quantity of material from c. 1265-1280.⁶³

⁶³ *Ibid.*, 178-9.

In addition to these main phases, 5 sherds came from the silts trapped in the end of the internal drain (L106/2-106/5) by the relining of the main culvert (F104). These included pottery similar to that in the deliberate backfilling further east (L13/2-13/4) but also one water-worn sherd of Tudor Green (Fabric *BN*) suggesting a late medieval date.

SOUTHERN AREA

The culvert

41 sherds came from the organic silts in the main culvert (S (1979) 202/3 to 202/6), mostly found in soil-samples taken from L202/4. Fabric *AM* was dominant (see Table I), but the group also contained Surrey Wares including a Tudor Green lobed dish glazed internally and externally mottled green. 17 per cent of the sherds had internal glaze; 61 per cent were glazed externally. Two sherds of Fabric *AC* and one of *R* are residual. Assuming that one sherd of post-medieval white earthenware is intrusive, this group is clearly of 15th-century date, comparable to Phase B II 6 at the Hamel.⁶⁴

The waterfront area

The dumped or disturbed soil on the surface of the alluvium produced 28 sherds, some very abraded (S (1983) L115-115/2). Oxford Late Medieval Ware (Fabric *AM*) was dominant and one fragment of Tudor Green (Fabric *BN*) was also present in L115/1. The lack of earlier local and regional imports suggests a late 14th- to 15th-century date for the assemblage.

In the early silting of River Channel 105 only two sherds were found, one from a round-bodied Tudor Green jug with very blistered mottled glaze (L105/8). Such vessels are known in London in assemblages c. 1380,⁶⁵ but might be considerably later.

The silting of Ditch 112 produced 13 sherds, including a tall cup in Tudor Green⁶⁶ from the earliest silts. A fragment of Rhenish Stoneware from Raeren, red earthenware and Brill types of probable 16th-century date came from higher in the silting.

The dumping on the bank between Channels 105 and 102 produced 30 sherds (L117, L118). Brill types accounted for over 50 per cent of the total, but a Farnborough Hill (Surrey-type) sherd was present as was a flagon of Rhenish stoneware and a red earthenware pancheon, glazed orange internally. These last two vessels probably date the assemblage to the first half of the 17th century.

126 sherds were associated with the levelling-over of Ditches 112 and 114 and of Channel 105, and the partial filling of Channel 102 (L102/2 etc., L104, L109, L110, L111, L112/1-2, L114/1). The majority were post-medieval, red earthenware being the most frequent followed closely by Rhenish stonewares and Surrey Whitewares. Only 4 tinglaze earthenware sherds were found, but they include an albarello with blue geometric design (Fig. 18, P111/0/2). The vessels included large open wares in red earthenware (Fig. 18, P112/2/2 and P112/2/3); a Brill jar with bifid rim and internal light-green glaze (Fig. 18, P111/0/3); a Fiechen bellamine; and stoneware vessels from Westerwald. The Surrey Whitewares included a fuming-pot with a horizontal loop handle and lustrous mottled green glaze (Fig. 18, P112/2/4), and a large porringer (Fig. 18, P109/0/2).⁶⁷ These Surrey-type vessels were not recovered from the St. Ebbes excavations north of Blackfriars.

CONCLUSIONS

This site was particularly interesting as it produced a much larger stratified assemblage in the Southern Area than the earlier excavations at the Priory.⁶⁸ It also allowed the chronology of the mid 13th century to be more closely defined. Unlike the previous excavation there were no exotic ceramic finds.⁶⁹

The stratified pottery from the Southern domestic buildings reported on previously⁷⁰

⁶⁴ *Ibid.*, 179.

⁶⁵ I am grateful to Dr. Alan Vince for this information.

⁶⁶ F. Holling, 'Reflections on Tudor Green', *Post-Medieval Archaeology*, xi (1977), 63 and Fig. 1 No. 3.

⁶⁷ J. Haslam, 'The Excavation of a 17th-century Pottery Site at Cove, E. Hampshire', *Post-Medieval Archaeology*, ix (1975), 179 and Fig. 8 No. 89.

⁶⁸ Lambrick and Woods, 168-231.

⁶⁹ *Ibid.*, Fig. 10, P 201/0/1, P 201/0/2, P 119/0/1, P 206/1/1.

⁷⁰ *Ibid.*, 213.

contained Oxford Late Medieval Ware (Fabric *AM*) and included baluster-type jugs with red oxide slip; there are very reminiscent of the material from the infilling of the scullery drain (SW Area, Phase 4), and may well be contemporary. Certainly the baluster-types would appear to be the most popular jugs on this site, and may have served other purposes such as bathing as well as being used in the kitchen/scullery by the friars. The only other recent Oxford site to yield a high proportion of baluster-types was the Castle ditch.⁷¹

The friars were in possession of the site by 1245. The dumped soil in the South Western Area Phase 1 probably accumulated in the early years of their occupation and may date from *c.* 1250 (a coin lost *c.* 1250 came from a layer overlying these deposits, see above, p. 166). The pottery from this phase parallels the infilling of pits at The Hamel (Phase B I 0b, 1250–65) and the transition of Phase 9 to Phase 10 at 79–80 St. Aldates.⁷² It was argued at The Hamel that the transition from St. Aldates Phase 9 to Phase 10 was in *c.* 1270, but the evidence from this site suggests that it might be as early as *c.* 1250–1260.

The lack of occupation on the site before 1245 means that there is little risk of residual pottery, and this is evident in the assemblages. The two earlier major traditions, Oxford Early Medieval Ware (Fabric *AC*), and Oxford Medieval Ware (Fabric *Y*), represented less than 5 per cent and 14 per cent respectively in the first three phases of the stratified sequence in the South Western Area. At The Hamel the earliest medieval activity was mid 12th-century, and the first houses were of *c.* 1200. Thus in the mid-13th century (Phase B I 0b, equivalent to the earliest Blackfriars levels), Oxford Early Medieval Ware (dominant before *c.* 1150) accounted for only 2 per cent or less, but Oxford Medieval Ware (dominant before *c.* 1250) for some 40 per cent, suggesting a possible residual factor for the latter of about 20 per cent. This is unsurprising in the case of pit-fills.

The Blackfriars material suggests that the Brill industry was well-established by *c.* 1250 and was producing its most elaborate jugs – the triple-decker and stout baluster-types – at this period. The presence of these jug-types suggests that the mendicant friars were not particularly conservative nor austere in their choice of household goods.

THE TILES by GEORGE LAMBRICK and MAUREEN MELLOR

Over 3,000 ceramic tile fragments were recovered from all the excavations to date. Over the years, recovery has been uneven. Only decorated floor-tiles were kept from some areas, all tiles from others. The original recording by David Ganz of tiles from the pre-1972 excavations was only concerned with floor-tiles, though there is also a record by Derek Keene of the roof-tiles recovered from the choir area in 1967. Although Dr. Ganz also examined the floor-tiles from the 1972–1974 excavations no detailed record is available, though his summary report was useful in the compilation of this account of the tiles. Maureen Mellor has re-examined the tiles from the 1972–76 excavations, as well as dealing with the more recent material. This analysis covered both floor-tiles and roof-tiles, and has involved systematic recording of the fabrics, as well as the glazes and other attributes. George Lambrick drew up most of the quantification and distribution of different types and styles of tile on the basis of these identifications.

Apart from a small quantity in construction layers, graves etc., the vast majority of the tiles were unstratified in destruction deposits. Nevertheless, the distribution of different types around the site provides some helpful evidence of the buildings' character and

⁷¹ M. Mellor, 'The Medieval Pottery', in T.G. Hassall, 'Excavations at Oxford Castle', *Oxoniensia*, xli (1976), 261.

⁷² M. Mellor, 'Pottery' in N. Palmer, 'The Hamel', 178.

appearance, while useful new information has also been obtained from the study of fabric and other intrinsic attributes of the tiles.

FABRICS

Fourteen different fabric types were identified. They included four types not encountered at the Hamel (Fabric IVb, IVc, VIIA and VIIB). Fabric IV was first recognised at Chalgrove moated manor, and is described in detail in the Hamel report.⁷³ It was subdivided at Blackfriars into three types, IVa, which is the same as IV at the Hamel, and IVb and IVc which are described here (microfiche A7) for the first time; VIIA and VIIB were also found at 65 St. Aldates, a site lying a few hundred yards to the east of Blackfriars, and at sites in St. Ebbes, where they are described in detail.⁷⁴

GENERAL DISTRIBUTION OF FLOOR- AND ROOF-TILES

Except where recovery was restricted to decorated floor-tiles (which largely affects the area of the west end of the church), the excavations provided some evidence of the character of the Priory floors and roofs. The quantification (Table II) gives only general indications:

TABLE II
Distribution of different types of tile fragments

	Floor		Roof		Misc.	
	No.	%	No.	%	No.	%
Primary dumping	0	0	136	33	282	67
Choir	351	83	72	17	1	+
Slype	208	72	80	28	0	0
East range	50	42	66	55	4	3
Mid nave	202	53	31	8	151	39
North cloister walk	236	82	2	1	48	17
Cemetery north of nave	11	14	40	51	28	35
Little cloister etc.	63	72	24	28	0	0
Scullery/kitchen	9	3	290	95	6	2

It is not known whether less obvious biases in recovery affected these samples as well the others, nor whether earlier salvage of building materials has distorted the figures.

The primary dumped make-up deposits beneath the nave, scullery area and the cloister garth are striking in containing no definite floor-tiles. This is not surprising, since even if they do not entirely pre-date the laying of tiled floors in other parts of the Priory, they almost certainly predate their disturbance or repair.

It is likely that the whole of the church, the chapter house, possibly parts of the east range of the great cloister, and more certainly the galilee, the cloister walks and the slype, all had tiled pavements. It is also possible that many of the buildings in the little cloister and the southern area of domestic buildings had tiled floors. The scullery or kitchen buildings (South West Area) certainly did not, an indication borne out by the excavated remains of mortar floors with occupation deposits on their surfaces (see p. 154).

It is more difficult to establish what types of roofing material were used in different parts of the Priory. At the Dissolution the choir had a lead roof, while apparently 'slates' covered most other parts of the Priory.⁷⁵ Unfortunately, as the stone slates were collected even less reliably than the tiles, their relative importance in different areas is unknown. In any case there may again be biases from differential salvaging of second-hand building materials after the Dissolution, and in addition the demolition debris from the roofs is less likely to have been tightly restricted to the structures they covered. Certainly no obvious dumps of tile or slate fragments were

⁷³ S. Robinson, 'Tiles', in N. Palmer, *ibid.*, microfiche 2 D09.

⁷⁴ S. Robinson, 'The Tiles', in T.G. Hassall, C.E. Halpin and M. Mellor, 'Excavations in St. Ebbes: Part II', 263 and microfiche V D1-D2.

⁷⁵ Hinnebusch (1938), 80 quotes a letter of Dr. London's at the Dissolution stating that 'Their choir was lately newly builded and greatly covered with lead. It is likewise a big house, and all covered with slate saving the choir'.

found which might have resulted from stripping an adjacent roof.⁷⁶ In some instances stone slates were reused for drains (see p. 155) and, after the Dissolution at least, as soakaways. It is unlikely that second-hand slates were deliberately brought in for these purposes. There is no evidence for whether shingles were used on any buildings; for the most part the ubiquitous presence of tiles makes it somewhat unlikely.

FLOOR-TILES

The general character of tiled pavements

From the figures given above it is clear that all the more important parts of the Priory, and possibly also some of the less important areas such as the little cloister and domestic buildings, had tiled floors. Hinnebusch's mention of a tiled pavement being found in Speedwell Street⁷⁷ in an otherwise unknown building also reflects the extensive use of this type of flooring. Table III gives the numbers and percentages of two-colour decorated tiles, lozenge tiles and plain floor-tiles from the areas where recovery was least biased.

TABLE III
Proportion of two-colour, lozenge and plain floor-tile fragments

	Two-colour		Lozenge		Plain		Total
	No.	%	No.	%	No.	%	
Choir	183	52	20	6	148	44	351
Slype	39	19	11	5	158	76	208
East range	20	40	6	12	24	50	50
Mid nave	72	36	2	1	128	63	202
North cloister walk	62	26	0	0	174	74	236
Little cloister etc.	24	38	0	0	39	62	63
Scullery/kitchen	5	—	0	—	4	—	9

Fig. 19 gives an idea of the decorative themes, and the relative proportions of the earlier inlaid tiles and the later printed⁷⁸ ones. Table IX (microfiche, p. B7-12) gives the occurrence of particular designs. The area divisions used (microfiche gives details) are somewhat artificial, as many of the tiles come from robber-trenches of walls which actually divide two areas and which thus probably contain tiles from each. Thus the tiles from the robber-trench of the south choir wall were included with the choir, even though they probably include tiles from the slype immediately south of it. The analysis, therefore, only gives the broadest indication of the variability of the pavements in different parts of the Priory. Nevertheless, the figures are illuminating.

The choir produced the highest proportion of two-colour decorated tiles (52 per cent), and since these were recovered in the same excavations as those from the slype, where only 19 per cent were decorated, this is likely to be a genuine contrast. The east range and middle of the nave produced smaller proportions than the choir (40 per cent and 36 per cent), while the 26 per cent from the north walk of the cloister is more comparable with the slype. In the Southern Area's domestic buildings the proportion of decorated tiles is comparable to the east range, but it is uncertain here whether there may have been more bias in recovery because of salvage conditions. Almost all the

⁷⁶ Despite the problems of quantification, there is certainly no clear patterning of the type noted at Leicester Austin Friars, nor was there a high preponderance of ridge-tiles which might have been used on slate roofs as was recorded there. C.E. Allin, 'The Ridge Tiles', in J.E. Mellor and T. Pearce, *The Austin Friars, Leicester*, CBA Research Report xxxv (1981), 52-70.

⁷⁷ Hinnebusch (1938), 78, note 1.

⁷⁸ The term 'printed' is used here in full knowledge of the problems of identifying the actual technique by which white clay slip was transferred onto tiles instead of inlaying solid clay. In discussing this problem Mrs. Eames considered it appropriate to abandon the distinction, referring to both types of tile as 'two-colour' decoration. Nevertheless the basic technical development is an important one, and in the absence of a widely accepted alternative the old terms 'inlaid' and 'printed' are retained here, following L. Haberly, *Medieval English Paving Tiles* (cf. E. Eames, *Catalogue of Medieval Lead-glazed Earthenware Tiles in the Department of Medieval and Later Antiquities, British Museum* i (1980), 45-8). The question of the technique used in decorating the 'printed' tiles at Blackfriars could not be studied adequately through lack of resources. It was therefore not appropriate formally to adopt another term here, but a suitable alternative might be to call them 'slip-decorated', thus avoiding too close a technical definition.

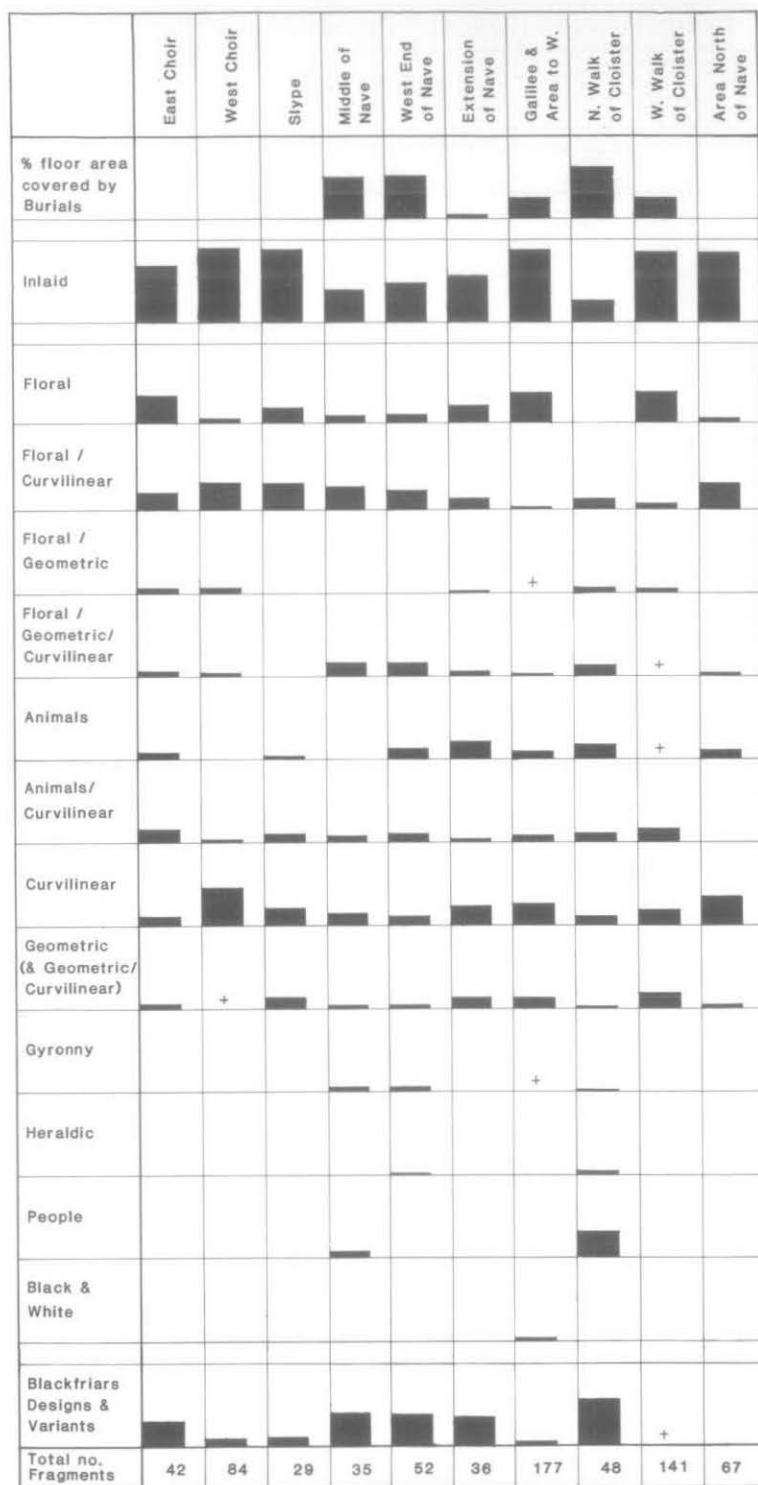


Fig. 19 Histograms showing proportions of different types and designs of two-colour floor-tiles in different parts of the Priory.

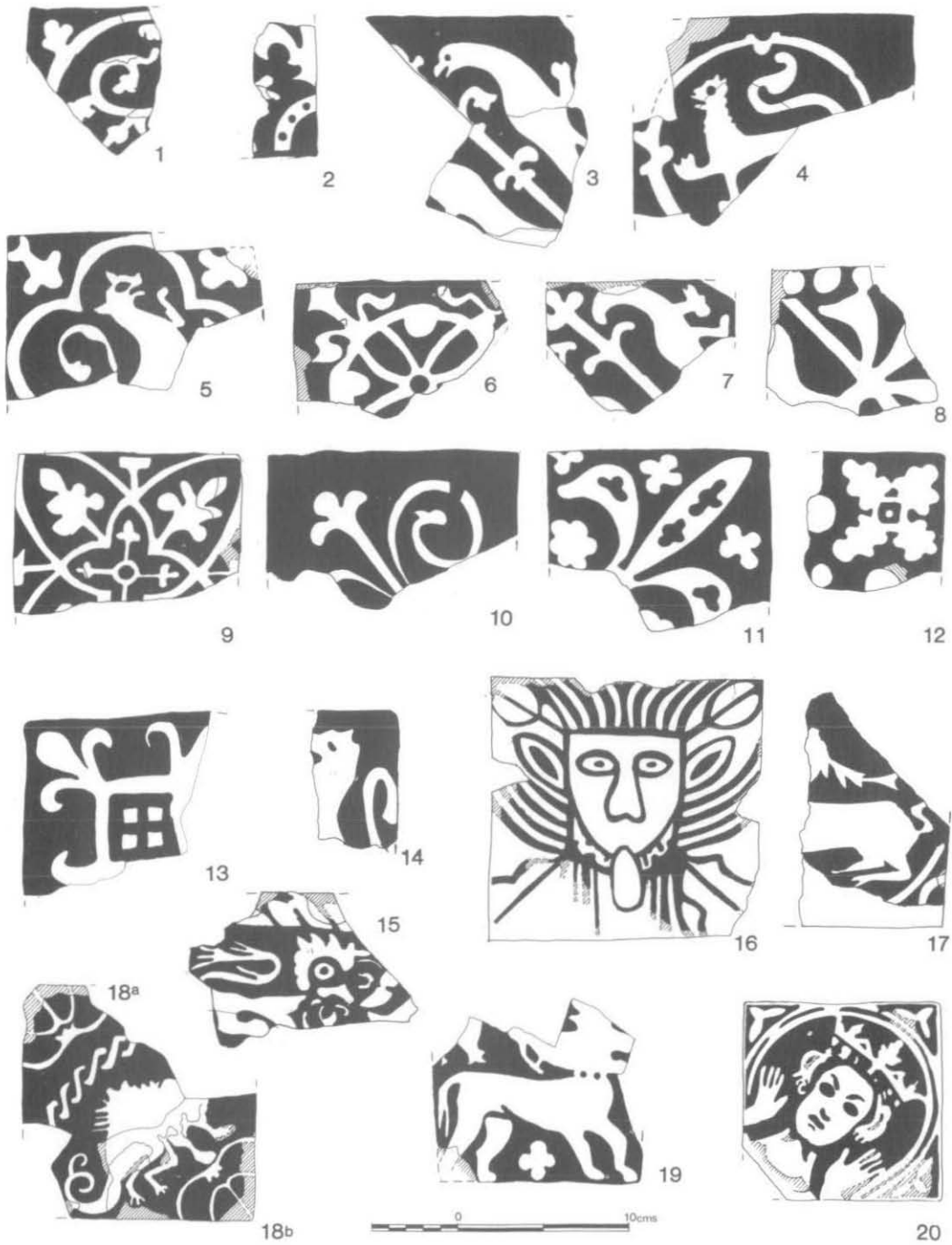


Fig. 20 Two-colour floor-tiles: 1-4, 'Wessex' types; 5-14, 'Stabbed Wessex' types; 15-20, 'Printed' types.

lozenge mosaic tiles came from the Eastern Area, particularly the choir and slype. Proportionately, they were commonest in the east range of the cloisters near the chapter house. One example came from the Western Area and five from the cemetery north of the nave.

In general these figures reflect what might be expected of the relative status of different parts of the Priory.

Two-Colour Decorated Tiles (Figs. 20-21)

Some indication of the decorative themes of different pavements is given by Fig. 19. Designs incorporating animals tended to be commoner at the west end of the nave and its extension and in the north cloister walk. Animals may be over-represented in the latter case, and under-represented in the middle of the nave immediately adjacent, as tiles from a general demolition layer covering the south aisle and north cloister walk (W V 504) were incorporated in the figures for the cloister. Tiles with partly or entirely floral designs were more evenly distributed. The geometric, heraldic and chequer-board or gyronny designs were sparse everywhere. The only human figure represented in the tiles was the one design of the crowned king (Fig. 20, No 20) which dominated the small area of the north cloister walk that was excavated. A very small number of 16th-century black-and-white designs were found in the area of the galilee.

The proportion of inlaid to printed tiles varied quite markedly from one area to another. On the whole, the figures correlate well with the proportion of the excavated floor areas of the relevant buildings occupied by burials (see Fig. 19). This suggests that the later printed tiles were used very largely to repair existing (i.e. pre-c. 1330) pavements. The main exceptions are the eastern end of the choir and the western extension of the nave. In the choir, graves may have occurred east of the excavated floor area. Alternatively, repairs (or conceivably more extensive reflooring) were occasioned by other types of disturbance, such as the insertion of tombs above floor level. All the Purbeck marble fragments and brass letters from the choir were from its eastern half,⁷⁹ where the proportion of printed tiles is higher. The same trend is evident at St. Peter's-in-the-East, where printed tiles accounted for 1 per cent at the west end and 10 per cent at the east.⁸⁰

The distribution of individual designs is also of some interest. In Table IX (microfiche, p. B7-12), the dominant design, and any others accounting for 10 per cent or more of the tile fragments in each area, are listed in bold type. It is noticeable that Loyd Haberly's type XXIV-XXV is common in every area, and was dominant in the western choir, slype and west end of the nave and its western extension. It may originally have been dominant in the middle of the nave and the north cloister walk, where it is outnumbered only by later printed designs assumed to be used for repairs. Not surprisingly, given the unstratified origin of the tiles and the arbitrary division of areas, the designs attributed to immediately adjacent areas tend to reflect a similar range, and if anything differences between areas will have been masked. Within buildings too there is likely to have been much variation, assuming the pavements to have been made up of large panels incorporating different designs. Thus it is not surprising that the group from the middle of the nave is rather different from those at the west end; or that similarly the north and west walks of the cloister produced different ranges of designs, and there is comparable variation in the choir.

If one considers the number of designs present in each area in relation to the number of fragments (see Table IX, microfiche, p. B7-12), it appears that major areas of pavement tended to incorporate up to about 25 individual designs, and that groups of about 60 to 70 fragments adequately provided a fairly complete representation of these. All the area groupings, however, incorporate some printed designs which it has already been suggested may represent repairs. Considering just the inlaid tiles in the same way, the area groupings tend not to incorporate more than 14 to 16 designs. Not too much should be read into these figures, however, as they do not directly represent the composition of the pavements. Their value is merely to give an overall impression of the diversity of designs represented in the pavements, and an indication of the size of assemblage required to give that impression.

It is interesting, however, that similar trends are paralleled at St. Peter's-in-the-East, where the west half of the church produced 21 designs among 411 tile fragments (18 designs among 406 inlaid tiles) and the east half produced 17 designs among 49 fragments (14 among 43 inlaid tiles). The University Lenten sermons were transferred to St. Peter's from the Blackfriars and Greyfriars in the early 14th century, the time when the pavements are thought to have been laid.⁸¹

The tiles illustrated in Figs. 20 and 21 are almost all designs not previously published for the area, or variants of ones which have been. Most are printed types and not very numerous (Table IX, microfiche p. B7-12), but in the eastern choir, the middle of the nave and the north walk of the cloister such designs (notably No. 6, No. 27 and No. 20 respectively) formed a significant part of the pavements (Fig. 19). A detailed catalogue is included in the microfiche (p. A11-B3).

⁷⁹ Lambrick and Woods, 222.

⁸⁰ A.B. Emden, 'Medieval Floor-tiles in the Church of St. Peter in the East, Oxford', *Oxoniensia*, xxxiv (1969), 29-44.

⁸¹ *Ibid.*, 32-3.

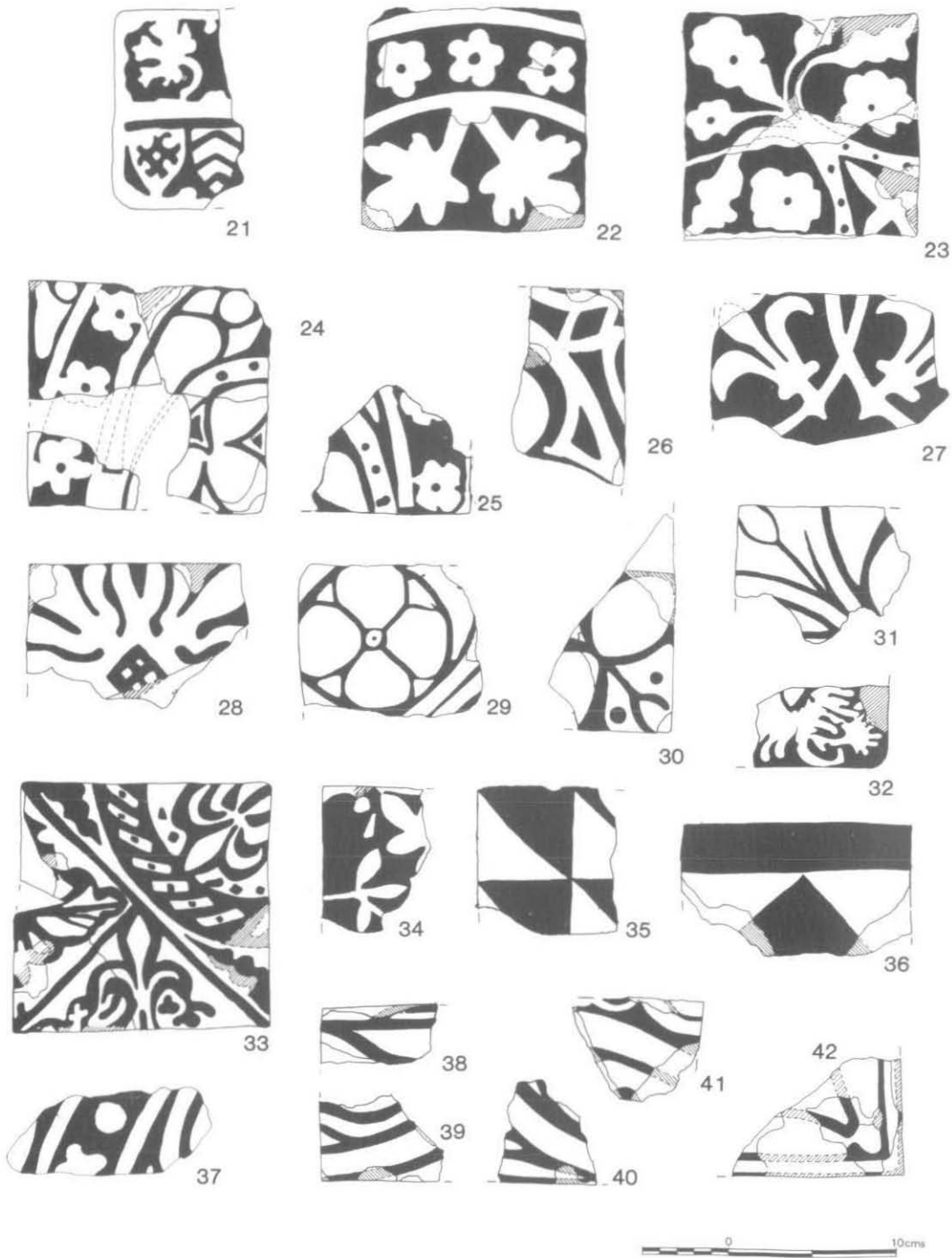


Fig. 21 Two-colour floor-tiles: 21-42, 'printed' types.

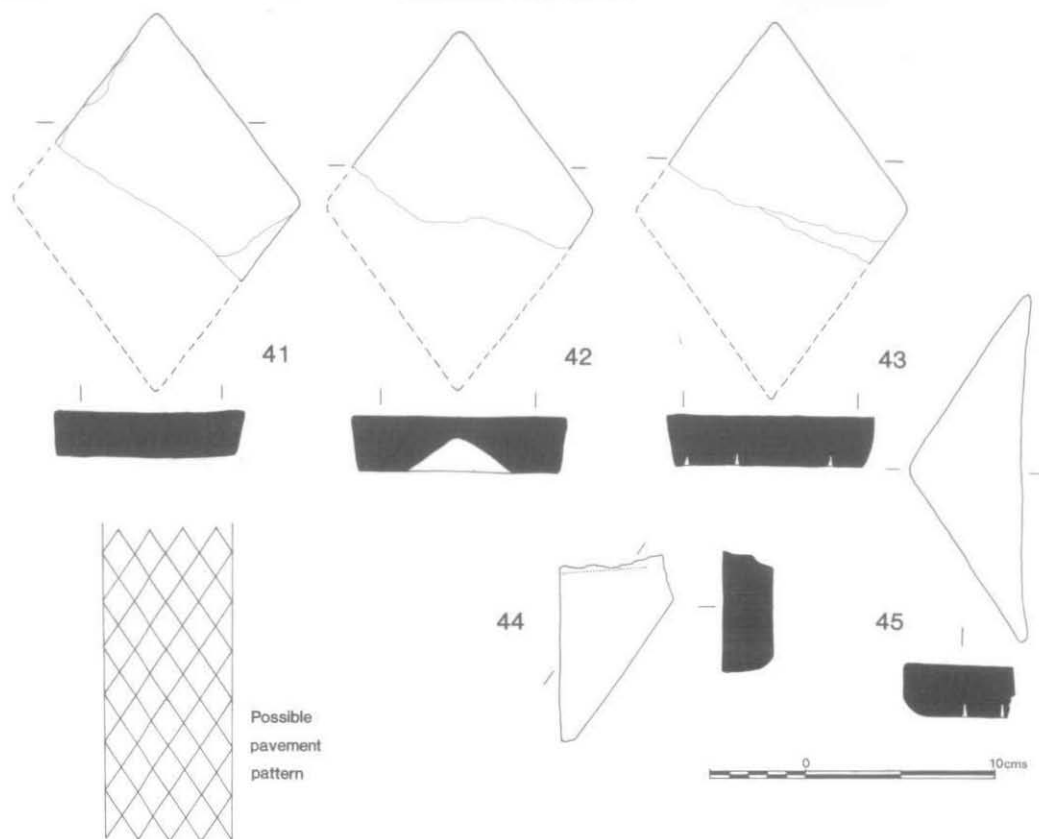


Fig. 22 Lozenge-shaped floor-tiles.

Lozenge mosaic tiles (Fig. 22)

About 50 fragments of plain, glazed, lozenge-shaped mosaic tiles were found, all but eight being from the eastern area. Only one basic shape was present (Fig. 22). At least ten had been scored and broken longitudinally to form triangular pieces; one of these had been scored and broken again to form a half-triangle (Fig. 22, No. 44). No transversely triangular examples were found, but many of the fragments were too incomplete to be sure that these were not present. The design formed from these tiles is uncertain. Their sharp angle is about 72 degrees and so it is possible to make five pointed stars from them, but this would be much less satisfactory than the six pointed star and hexagon arrangement represented at Eynsham⁸², with which it is much easier to form a continuous pattern. The simple lozenge pattern shown in Fig. 22, which incorporates the triangular pieces, is the most straightforward reconstruction (the proportion of lozenges to triangles reflects the numbers found). Most of the fragments were very worn, but several had been well glazed, usually in pale to strong green but occasionally dark-brown. One had a pale slip beneath the glaze, two others had had a coating of soot applied before they were glazed. When new, this pavement must have made a very pleasing effect.

Plain tiles

The analysis of the distribution of two-colour tiles above could have been extended to deal with plain tiles, but the chronological changes of technique are less well-established, and recovery in some areas was biased or non-existent. Only a few general comments, therefore, seem appropriate.

⁸² E. Eames, *Catalogue of Medieval Lead-glazed Earthenware Tiles in the Department of Medieval and Later Antiquities, British Museum*, i (1980), 10; and ii, mosaic arrangement xxxix.

There is much variety in the quality and appearance of the plain tiles. A wide range of colours was achieved by the use of different glazes, sometimes applied over a white slip coating. This varied from being thick and very well-preserved to being thin or almost entirely worn away. Narrow rectangular or square border tiles and triangular tiles were usually formed, as with a few of the two-colour tiles, by partly cutting the tiles before firing and then breaking them.

Dating

The Blackfriars excavations provide no new direct dating evidence for the types of floor-tile recovered. Two well-established chronological distinctions, however, are evident in the assemblage as a whole. The more important is the change from inlaid to printed tiles in c. 1330–50;⁸³ the other is the introduction of black-and-white designs in the 15th or 16th century.⁸⁴ Only very few of the latter types were found. From the distribution of inlaid and printed tiles it has already been argued that virtually all the Priory's tiled pavements represented by the excavated material were laid before c. 1330–50, even though they were repaired to a greater or lesser extent thereafter. Chronological distinctions within the main groups of inlaid and printed tiles are much more tenuous, and, coming from unstratified assemblages already exhibiting much evidence of repairs, are difficult to assess. Some of the Wessex tiles (Fig. 20, Nos. 1–4, Loyd Haberly IV) are paralleled in a general way from the mid 13th century until at least the 1280s at Clarendon Palace and Salisbury.⁸⁵ The mosaic lozenge tiles may also be 13th-century.⁸⁶ Mrs. Eames suggests that the introduction of 'Stabbed Wessex' tiles (which account for over 95 per cent of the inlaid designs here) had occurred by c. 1280.⁸⁷ Whether their use can be dated any earlier is more doubtful. In the case of Blackfriars, the 1280s dating would imply that the friars waited nearly 20 years after the consecration of their church before laying any tiled pavements. In the chapter house and nave, where evidence of a build-up of earth floors was recorded,⁸⁸ such a conclusion is possible, but in the choir the only evidence of a floor was a thick mortar bedding layer resting directly on dumped clay from the construction of the foundations, and overlain directly by post-medieval deposits. The mortar bedding incorporated tile fragments presumably disturbed during demolition. It is very unlikely that on a site known to be subject to flooding⁸⁹ an existing build-up of floors was later removed, and we must assume that this mortar bedding represents the remains of the original and only floor of the choir. While the absence of *in situ* remains leaves it uncertain exactly how it was originally tiled, it seems reasonable from the tiles recovered to assume that it was a pavement using two-colour tiles in the 'Stabbed Wessex' tradition. It is thus likely that 'Stabbed Wessex' tiled pavements were being laid at Blackfriars from 1250 or 1260 onwards, though this must remain open to question until *in situ* pavements of this date are found. The early pavements may also have incorporated panels of lozenge mosaic.

The extension to the nave was dated to the late 13th or early 14th century⁹⁰, and the predominance of inlaid tiles in this area accords with this. The presence of black-and-white designs reminiscent of Little Brickhill types⁹¹ in the area of the galilee passage is also in agreement with its 15th- or 16th-century dating based on a moulding from its southern wall (W II F240)⁹². However, it should be noted that in general the tiles from here and the area west of the main body of the church were again dominated by inlaid designs. Most of the material came from a general demolition layer (W II L219) and thus may not clearly reflect the character of a pavement in the galilee passage, or this may mostly have been laid with tiles re-used from elsewhere. It is also just possible, however, that the south wall of the galilee was a later blocking, the original construction not much post-dating that of the nave extension, and with the row of graves (notably W II F247 with its early 14th-century porringer) being dug in the galilee rather than predating it.

Within the range of 'printed' designs are a few from the Newbury area which at Winchester have been dated to the early 15th century⁹³ (see below).

In general, it is clear that the Blackfriars were obtaining tiles for their floors throughout the life of the Priory, though it is doubtful whether any entirely new pavements were laid after the early 14th century.

⁸³ *Ibid.*, i, 222–3.

⁸⁴ *Ibid.*, 267–9.

⁸⁵ *Ibid.*, i, 186–91.

⁸⁶ *Ibid.*, i, 72–81.

⁸⁷ *Ibid.*, 206.

⁸⁸ Lambrick and Woods, 184 and Fig. 3; see above, p. 11 and Fig. 5.

⁸⁹ Hinnebusch (1938), 73.

⁹⁰ Lambrick and Woods, 189–90.

⁹¹ E. Eames, *Catalogue of Medieval Tiles in the British Museum*, i, 267–9.

⁹² Lambrick and Woods, 190–1.

⁹³ E.C. Norton, 'The Medieval Paving Tiles of Winchester College', *Proceedings Hampshire Field Club and Arch. Soc.*, xxxi (for 1974), 38.

Sources

The analysis of fabrics of the floor-tiles at Blackfriars was useful in throwing further light on the sources supplying tiles to the area. Some of the distinctions in fabrics only emerged during the analysis, and the results should be regarded as provisional until resources permit a more detailed study of this type for the area. Distinctions between fabrics were not always easy, especially where tiles were overfired, and for these reasons exceptions to the general pattern should not be given too much weight (for details of the fabrics see p. 178 and references).

Examples of five 'Wessex' types (Fig. 20, 1-4 and Loyd Haberly IV) which have scooped keys are all in Fabric III, possibly from the Newbury area (see below). Over 90 per cent of the 'Stabbed Wessex' types (with stabbed keys) are in Fabric IIIB, which is comparable to pottery fabric AG probably from the Newbury-Reading area.⁹⁴ This reinforces Mrs Eames's basic distinction between the Wessex and Stabbed Wessex schools. It also supports the likelihood that the Stabbed Wessex series represents the output of definite production centres, not itinerant tilers.⁹⁵ A source in the Newbury-Reading area for Stabbed Wessex tiles in Oxford also suggests direct contact with the parent Wessex school, which would accord with the relatively early dating suggested for the choir pavement. Perhaps the Stabbed Wessex tradition spread to other areas from Oxford. Most of the Loyd Haberly 'printed', unkeyed types recorded were in Fabric IV from south-east of Oxford, possibly around Nettlebed. Other fabrics are also represented.

Among the illustrated designs new to or rare in the area (Figs. 20 and 21) Fabric III is again represented by a group of thick tiles, several paralleled at Berkshire and Hampshire sites (Nos. 22-24, 27-28, 30-31, 34-36), which probably came from the Newbury area. Nos. 16 and 29 are thick tiles in a somewhat similar style. They occur in Fabric IVc which has similarities to Fabric III. The surface of these tiles tends to be reduced though they are otherwise oxidized. This was probably intended to create a more-or-less black-and-white design, although this could only be partially achieved by the firing method. One thick example of Loyd Haberly CCXXV was recorded in Fabric IVc and may also belong to this group, being generally comparable to Nos. 34 and 35 in design.

The other main fabric represented among the illustrated pieces is IVb. This includes the black-and-white designs reminiscent of the Little Brickhill types (Nos. 38-42). Nos. 15, 17, 18, 26 and 32 are also in this fabric. Among the Haberly types examples of CLXXXVIII occur in this fabric, though most are Fabric IV. The exceptions may be the variant represented by No. 32. About half the 13 examples of CCXLVI whose fabric was recorded are IVb, the others being IV. Perhaps there is similarly a subtle variant of this elaborate design which has not been recognised. A probable example of Haberly's CLXV is the type-*sherd* of Fabric IVb. This has a black slip between the white impressed design not dissimilar to Nos. 38-42. No. 15 has a largely reduced surface which creates a similar effect. It is not clear where these tiles originated; the designs are not matched by those attributable to Little Brickhill⁹⁶. The lozenge mosaic tiles (Fig. 22) make a very distinctive group, occurring almost exclusively in Fabric IIIA from the Brill area⁹⁷. They display a high quality of workmanship. It is interesting to note that while there is a very high correlation between the type of keying and fabrics of the 'Wessex' as opposed to the 'Stabbed Wessex' tiles, the lozenge tiles represent a completely different source in which both scooped and stabbed keys as well as no keying were employed. The plain floor-tiles largely reflect the same sources as the two-colour tiles.

ROOF-TILES

The stratified sequence of deposits in the south-west area provided an opportunity to assess chronological developments in roof-tile fabrics for the second half of the 13th to the early or mid 14th century, with a few post-medieval deposits in addition. The results are given in Table VIII (microfiche p. A9-10).

Fabrics VIIA and VIIB were present at the beginning of the 65 St. Aldates sequence,⁹⁸ and where they occur at Blackfriars it was again in the earlier phases in the south-western area.

Types IB and IIID were barely represented on this site, and this was also the case at 65 St. Aldates. Type IB, generally thought to be early medieval, only occurred in the later medieval phases at 65 St. Aldates, and at Blackfriars it occurred in the post-medieval period (Phase 5) where it was almost certainly residual. At the Hamel Type IIID only occurred in the early post-medieval phases, a period which is not well represented on this site.

Fabric III, which has no apparent inclusions, was common throughout Phases I-4 but particularly so in Phase 2. It was also common in post-Reformation levels (Phase 5) but presumably in a residual context. Fabric

⁹⁴ M. Mellor, 'Pottery', in N. Palmer, 'The Hamel', 181.

⁹⁵ E. Eames, *Catalogue of Medieval Tiles in the British Museum*, i, 205.

⁹⁶ D. Mynard, 'The Little Brickhill Tile Kilns and their Products', *J. Brit. Arch. Assoc.* xxxviii (1975), 55-90.

⁹⁷ S. Robinson, 'Tiles', in N. Palmer, 'The Hamel', microfiche D09.

⁹⁸ M. Mellor, 'Tiles', in B.G. Durham, 'The Thames Crossing at Oxford: Archaeological Studies 1979-82', *Oxonienia*, xlix (1984), microfiche E12-13.

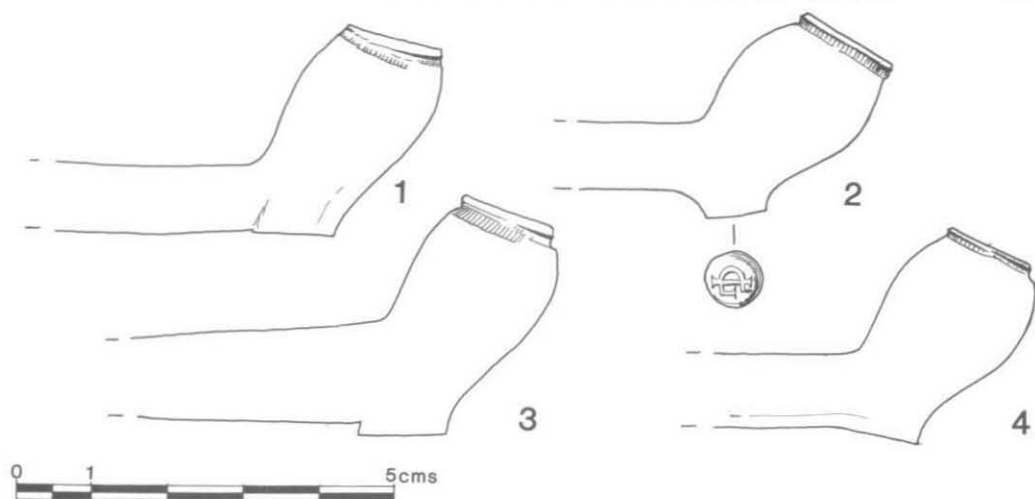


Fig. 23 Clay pipes.

IIIa from the Brill area became more common in Phases 3 to 4 than it was earlier, a pattern repeated by Fabric IV. At 65 St. Aldates Fabric IV became dominant in Phase 6, and at Chalgrove it was present in considerable quantities in the demolition levels of the moated manor. It is dominant at Blackfriars in the two-colour floor-tiles with printed designs usually dated to after *c.* 1330–50. The stratified sequence probably stops too early for the dominance of this type among the roof-tiles to be evident.

The dominance of Fabric III is of interest as it shows that different sources supplied the Blackfriars with their floor-tiles and roof-tiles. Whether the Fabric III roof-tiles represent the same Wessex source as the floor-tiles could only be established by detailed mineralogical analysis. Later, the source south-east of Oxford represented by Fabric IV may have been more important in supplying both types of tile.

Form

A high proportion of the roof-tiles were plain and flat, with peg-holes. One such peg-tile was decorated along the outer edge with thumb impressions (Fig. 18, No. 13 from SW Area). A very small proportion were ridge-tiles. Many bore traces of mortar. Two curious fragments, possibly from roof finials, were found. One, conical in shape with deeply incised grooves and rich mottled green glaze (Fig. 18, No 14 from SW Area), was probably made in the vicinity of Brill. The other (Fig. 18, No 15 from S Area), from post-medieval dumping over the river channel in the Southern Area, almost certainly originated in Surrey. It has a white fabric with rich dark-green glaze, similar to Tudor Green vessels, and was fired onto a ridge tile, made in contrasting iron-rich red clay.

THE CLAY PIPES by MAUREEN MELLOR

Clay pipes were recovered from the South Western and Southern Areas. In the stratified South Western Area clay pipes were found in Phase 5, but only one datable bowl, an Oxford Type A (1630–55),⁹⁹ was recovered. A larger group came from the dumping in the top of the silted-up river channel to the south (S (1983) L110, L111). They date from *c.* 1620–40 (Fig. 23).¹⁰⁰ Few pipes of this period were found at the nearby St Ebbes sites. The Blackfriars pipes included one with a hitherto unrecorded mark, JG (Fig. 23 No. 2), dating from *c.* 1630–40. A detailed catalogue of the illustrated pipes is given in the microfiche (p. B13).

⁹⁹ A. Oswald, 'Clay Pipes', in T.G. Hassall, G.E. Halpin, and M. Mellor, 'Excavations in St. Ebbes: Part II', 251–62.

¹⁰⁰ I am very grateful to Adrian Oswald for this information.

THE HUMAN REMAINS by MARY HARMAN

Most of the bones were well-preserved, though some were broken. Since the burial areas had been re-used repeatedly many of the skeletons had been disturbed and most individuals are incomplete; there are also some disarticulated bones from the fillings of graves. It is not possible to re-unite these bones with their skeletons except in a few instances. Some may be from burials outside the excavated area. A relative chronology can be established for most of the burials, but they cannot be dated absolutely, though all are later than 1236, and almost certainly earlier than the Dissolution (1538).

The sex of adult individuals was decided where possible from the conformation of the skull and the pelvic girdle and the size of the bones, using the criteria recommended by Ferembach, Schwidetzky and Stloukal.¹⁰¹ Age was assessed from the state of tooth eruption and wear using the charts published by Ferembach et al. and also by Miles.¹⁰² Adult height was calculated from the total length of long-bones, using the regression formulae of Trotter and Glesser.¹⁰³ Details of pathological conditions, skeletal anomalies and dental health were recorded.

Table X (microfiche p. C3-8) shows the sex, age and height of the individuals recognised, with the notes on the parts of the skeleton recovered, briefly giving any other details of particular interest. Further details of individual skeletons and lists of the redeposited bones are in the site archive.

Table XI (microfiche p. C9) shows the general picture of dental health in this group. Compared with the late Romano-British population in the Oxford area¹⁰⁴ there is consistently a lower incidence of caries, abscess and loss, except for the surprisingly high figure of caries in the 25-30 age group: this is partly caused by a single individual (W V F516/1) who had an unusually large number of caries for his age group (17 of 28 teeth affected).

Some of the normal variations observed include 11 cases of lambdoid wormian bones of 26 instances where the lambdoid suture was preserved; no inca bones were seen; an open metopic suture was present in four of a possible 27 cases. The young man in W V F520/1 had sacral spina bifida occulta and a sixth lumbar vertebra; while the older man in W VI F608/2 also had an extra lumbar vertebra, partly joined to the sacrum.

Several people lacked one or more of the third molars; the adolescent in Grave W V F509 was more unusual in lacking both upper second incisors. The man in W V F513/1 had an impacted upper right canine, while the one in W V F519/2 had 'dental pearls' (small nodules of enamel) on the medial aspect of the upper second molars and on the distal aspect of the upper third molars. The person in W VI F636/2 had a small supernumerary tooth by the lower left premolars.

Only a few people showed any evidence of degenerative disease in the spine, but this is not surprising, in a group with few individuals of over 35 years. Osteophytes were observed on the vertebrae of the men in W V F524/4, W V F634/2 and E VI F603. Details of the pathological bones are included in the microfiche (p. C1-2).¹⁰⁵

Any general considerations of this group must include the people studied by Edwards.¹⁰⁶ Overall the average height of 18 men was 5'8" (1.725 m.). Table IV shows the distribution of individuals according to age and sex in the different areas of the church and precincts. Compared with the number of men, there are very few women, and the identification even of these remains as female is almost always accompanied by some doubt. There are no children of less than five years of age, and those of less than 15 years are almost entirely confined to the chapter-house. No other trends in segregation according to age or sex are evident, but the number of people in each group is fairly small. This is clearly not a normal civilian cemetery, though the presence of some women indicates that it was not used solely by the Blackfriars themselves. Any further conclusions about the people buried here are, therefore, not necessarily applicable to the contemporary population in the region. Table IV shows that of those adults to whom an age other than 'adult' could be attributed, over half died before reaching 30 years, and only a quarter survived beyond the age of 40 years, though some of these were undoubtedly considerably more than 40.

Two other medieval sites in Oxford have yielded largish groups of skeletons: the Greyfriars, also monastic,

¹⁰¹ D. Ferembach, I. Schwidetzky and M. Stloukal, 'Recommendations for Age and Sex Diagnosis of Skeletons', *J. Human Evolution*, ix (1980), 517-49.

¹⁰² A.E.W. Miles, 'Assessment of the Ages of a Population of Anglo-Saxons from their Dentitions', *Proc. Royal Soc. Medicine*, lv (1962), 881-6.

¹⁰³ D.R. Brothwell, *Digging up Bones* (London, 1981).

¹⁰⁴ M. Harman, T.I. Molleson and J. Price, 'Burials, Bodies and Beheadings', *Bull. British Museum Natural History*, xxxv.

¹⁰⁵ I am extremely grateful to Dr. Price for providing these notes.

¹⁰⁶ E. Edwards, 'The Human Bones', in Lambrick and Woods, 226 and Table 1.

TABLE IV

Numbers of burials in different parts of the church and precincts, arranged according to age and sex.

Place	Sex	Age in years								Totals	
		0-10	10-15	15-20	20-25	25-30	30-35	35-40	40+		Adult
Chapter House	♂				1						1
	♀	5	3								8
Galilee	♂			3					1		4
Nave	♂				1	1			1	1	4
	♀			1						1	2
South Aisle	♂			1	1	1	1	1		3	8
	♀					1			1	3	5
	?		1			1					2
	?									2	2
North Aisle	♂				2					1	3
	♀			1						1	2
	?							1		1	1
	?							1	2	3	3
	?						1		4	5	5
Cloister Alley	♂				4	1		2	2		9
	♀					1				1	2
Outside Church	♂				1	4		1	2	1	9
	♀			2	4	2					8
	?				2						2
	?									3	3
Totals	♂			4	10	7	1	4	6	6	38 (46%)
	♀			3	4	3				4	15 (18%)
	?							1		1	1 (1%)
	?	5	3	1	2	2		1	3	9	20 (24%)
	?							1		1	1 (1%)
	?	5	4	8	16	12	1	5	9	23	83
		6%	5%	10%	19%	14%	1%	6%	11%	28%	

and All Saints, a parish church, in which some of the burials may be as late as the 17th century. The human bones from both sites have been studied by Edwards;¹⁰⁷ slight adjustment has been necessary to some of the ages he assigned in order to make the figures from the three sites comparable. Table V shows the numbers of people buried inside and outside the churches at all three sites (excluding the chapter-house and galilee at Blackfriars) arranged according to age and sex. The dearth of women at Greyfriars is again striking. There is no obvious difference between those persons buried inside and outside the church. At All Saints, the relatively small number of women, compared with the number of men, is similar to the Blackfriars, and unexpected considering that All Saints was a parish church. Mr. Durham suggests¹⁰⁸ that the small number of women buried inside may result from the reluctance of families to incur extra expense, though nearly half the memorials suggest that wives were buried with their husbands. He also notes that memorials suggest that some Lincoln scholars were buried inside the church. There are more child burials than at the other sites (excluding the Blackfriars chapter-house), including two of less than five years, but this is still rather a small proportion of the total. The larger group of burials, inside the church, shows a trend towards survival to a greater age: only a quarter of the adults died before the age of 30, while half survived beyond 40. The burials outside were more similar to the pattern seen at the Blackfriars; this might reflect a wealthier, healthier population burying inside, but the numbers are very small and a few more burials might destroy this impression.

There are not many burials from any of these sites, and all conclusions must be regarded as tentative. One burial, not related to the Blackfriars graves, was found at Luther Terrace (S (1983) F113/1). The

¹⁰⁷ Records held by Oxford Archaeological Unit.

¹⁰⁸ I am grateful to Mr. Durham for these comments.

TABLE V
Numbers of burials inside and outside churches at three sites in Oxford, arranged according to age and sex

Site	Sex	Age in years					Adult	Total
		0-10	10-20	20-30	30-40	40+		
Blackfriars	Inside		2	7	2	2	9	22
			1	1		2	2	6
			1		1		7	9
	Cloister Alley				5	2	2	9
					1		1	2
				2	11	1	2	17
Outside				2			2	
						3	3	
							70	
Greyfriars	Inside		2	6	2	4	2	16
				1				1
	Outside		7	8	8	6	2	31
				1				1
							49	
All Saints	Inside		3	3	5	9	2	22
				1		1	1	3
	Outside		1	2	1		1	5
				1	4	3	2	10
			3	1	1		1	3
							3	
							46	

skeleton is that of an adult woman about 5' 2" (1.58 m.) in height. She was buried face down, at some time between the late 17th and 19th centuries. The neck went into the section and the head was not recovered. There is nothing about the skeleton to suggest why this person was buried prone in an irregular place.

THE ANIMAL AND BIRD BONES by MARY HARMAN
with identifications of wild birds by D. BRAMWELL

Much of the animal bone from the excavations at Blackfriars came from demolition levels and post-medieval deposits, and to a much lesser extent construction levels, none of which seemed likely to be reliable in reflecting the meat consumption of the Friary. None of the deposits was large enough to be of much intrinsic interest, nor was there an adequate stratified sequence to provide a comparison with sequences elsewhere. The analysis was, therefore, confined to a series of deposits, selected by the excavator, which were most likely to be informative about the Priory's meat consumption. The deposits were grouped on a broad basis reflecting their general character and date-range. The first group consisted of the dark loamy soils dumped on the surface of the alluvium under the nave, in the great cloister garth and in the area of the scullery (W V, see pp. 139-41, 147; SW I phases 1 and 2,

see p. 151). These rather similar deposits were all mid to late 13th-century and seem to reflect much the same depositional process. The second group consisted of a more amorphous range of deposits in the area of the scullery and little cloister walk (SW I, phases 3 and 4). These were late 13th- to 14th-centuries. They unfortunately contained too few bones to be subdivided into more coherent groups of similar deposits. A third very small group is from 15th-century silting in the main culvert in the southern area (S (1979) L202/3-202/6), and a fourth was from 14th- to 15th-century dumped or disturbed soil just north of the river-channel at the southern end of the site (S (1983) L115/1-115/2). Only five other medieval deposits were worth considering for inclusion in the analysis (three from the eastern area, two from the western area) and these proved to have very small numbers of bones (if any at all) and were excluded. Unlike the very small groups 3 and 4 they do not even come from the general area of domestic activity in the Priory. For a detailed list of contexts within each group see microfiche p. C11.¹⁰⁹

The condition of the bones was generally fairly good, and apart from small fragments most of the pieces were identifiable. All these were listed, together with any evidence regarding the age of the animal, and complete bones or parts of bones from mature animals were measured. The assessment of age is based on the criteria published by Silver.¹¹⁰ Most of the bone is derived from group 1 contexts (see microfiche p. C12, Table XIII for details of group 1).

Almost all of the bones are from the commoner domestic animals: cattle, sheep and pig. There are bones from all parts of the body, and as this is probably mainly domestic refuse, it suggests that complete carcasses, part carcasses, or live animals were received, and butchered on site.

TABLE VI

Summary of bone fragment numbers (excluding loose teeth, vertebrae and rib fragments)

	Group 1		Group 2	Group 3	Group 4
Cattle	213	(47%)+	32	5	5
Sheep	194	(43%)+	21	10	1
Pig	42	(9%)+	13	9	3
Horse	4		—	—	—
Dog	1		—	1	—
Cat	5		—	1	—
Rabbit	—		1	5	—
Hare	2		—	—	—
Roe Deer	1*		—	—	—
Fowl	65		34	30	—
Goose	72		4	9	—
Duck cf. Mallard	1		—	3	—
Other birds	2*		1†	2‡	—
Total	602		106	75	9

+ = percentages of total fragments of three main domestic species only.

* = antler fragment

★ = 1 duck cf. wigeon, 1 moorhen (*Gallinula chloropus*)

† = 1 starling (*Sturnus vulgaris*)

‡ = 1 red kite juvenile female (*Milvus milvus*), 1 woodcock (*Scolopax rusticola*) and several bones of small passerines not included.

¹⁰⁹ This explanatory introduction has been provided by Mr. G. Lambrick.

¹¹⁰ I.A. Silver, 'The Ageing of Domestic Animals', in D.R. Brothwell and E.S. Higgs (eds.), *Science in Archaeology* (1963), 250-68.

Most of the cattle and sheep bones are from mature animals: there are three bones from calves less than a year old, and several from animals of less than about three years, but most of the cattle jaws and bones are from mature animals, with all their adult teeth and fused epiphyses: animals which were probably of four years or more. The sheep present a similar picture, there being only two bones from young lambs. Several are from sheep of less than three years, but most of the jaws and teeth are from animals of more than three or four years. Two of the pig bones are from very small piglets. Of the jaws three are from animals of about a year and a half, three of about two years, one pig was about three years old and another older, but none of the bones could definitely be attributed to old animals.

The numbers of sheep and cattle bones are not dissimilar, but there are considerably fewer pig bones, just 9 per cent of the total (see Table VI). While pork would have provided only a small proportion of the diet, the quantity of the beef would have been several times that of the mutton, which would have been less significant in the diet than the numbers of bones might suggest.

The bones of other animals (horse, dog and cat) commonly occur in small numbers on medieval sites. The two hare bones and absence of deer, other than an antler fragment, suggest that game was an unaccustomed luxury.

The number of bird bones is small. The total numbers identified from different species in different groups are shown in Table VI. The goose bones are comparable with the wild greylag goose, but it is assumed that most if not all are from domestic geese, which are derived from the greylag. The few duck bones, which are similar to mallard, could be from either domestic or wild ducks. Among the fowl bones are several from immature birds.

Despite the small numbers involved, there appears to be a real difference between group 1 and groups 2 and 3 in terms of the relative numbers of bones from fowl and goose, the latter being slightly more numerous in group 1, while in groups 2 and 3 fowl are more numerous.

Most of the wild birds were identified by Dr. D. Bramwell.¹¹¹ The edible species (duck, moorhen and woodcock) would all be available locally. Some of the small passerines may also have been eaten. The red kite, though now a rare bird, was more common in medieval times and known as a scavenger in cities.¹¹²

THE FISH REMAINS by M.R. WILKINSON

Fish bones were found in the soil dumped beneath the nave floor (Trench W V) and beneath the 'scullery'. They also came from floor and occupation levels in the 'scullery' and the path of the little cloister (SW I). The main groups are from sieved samples of occupation deposits in the 'scullery' (SW I L45/1, L33, L36), the drain there (SW I F106), and the main culvert to the south (S (1979) F202). The deposits range in date from the mid 13th to 15th centuries. The assemblage contained over 2,400 identifiable elements, mostly vertebrae, of which over 98 per cent came from the series of sieved samples. At least 13 species are present, although three-quarters of the identified material belongs to one species (herring). With the exception of vertebrae few complete bones were recovered and so no measurements were recorded; most species exhibit a marked range in the size of individuals represented. Detailed lists of identified bones from each context are given in the microfiche (p. C13-D5).

Species represented

Shark or Ray species: At least some of the shark/ray material is Thornback ray (*Raja clavata*) identified by its distinctive enlarged denticle (buckler). A common inshore fish.

Sturgeon *Acipenser sturio*: A large fish that was once much more common than today. Spends most of the year in the sea but ascends rivers to spawn. Easily identified from its bony plates or scutes that cover its head and body.

Eel *Anguilla anguilla*: Common freshwater fish although it migrates to the sea to spawn; often caught during this migration. Well-represented in the samples although its small size and large number of bones means that it would not have been so important as a source of meat.

Conger *Conger conger*: Large marine eel. Because of its size its bones are commonly recovered during excavation, but the presence of only three bones in the sieved deposits suggests that it was not eaten in large numbers.

Herring *Clupea harengus*: Abundant smallish marine fish; lives in large migratory shoals that are fished extensively.

¹¹¹ I am extremely grateful to Dr. D. Bramwell for identifying the wild bird bones.

¹¹² D. Bramwell, 'Bird Remains from Medieval London', *The London Naturalist*, liv (1975), 15-20.

The dominant species in the assemblage, represented mainly by vertebrae.

Salmon or trout *Salmo* sp.: Identified from a small number of vertebrae and a jaw fragment. Both species are found in freshwater and the sea but were probably caught in the river.

Cyprinid sp.: The carp family forms the largest group of freshwater fishes. Not very common in the sample although a number of elements were identified. Species identification is usually based on the tooth structure of the pharyngeal bones. These were normally incomplete, but some are probably chubb (*Leuciscus cephalus*). Gudgeon (*Gobio gobio*) (a small cyprinid so it is questionable whether it was eaten as food) was certainly present.

Cod *Gadus morhua*: Very important commercial sea-fish; the second most important species in the assemblage. Represented by a number of different elements and a size-range of individuals.

Haddock *Melanogrammus aeglefinus*: Also an important member of the cod family but less frequent in the sample. Identified from its vertebrae and cleithrum; some large fishes present.

Whiting *Merlangius merlangus*: A smaller cod-fish present in some of the sieved deposits. Recognised from its vertebrae and otoliths.

Red gurnard *Aspitrigla cuculus*: At least some of the gurnard material comes from this species; identified from its jaw-bones. The gurnards are a family of common inshore marine fishes.

Plaice *Pleuronectes platessa*: Some or possibly all of the flatfish remains are of plaice. Identified by its jaw-bones. An abundant inshore species.

Mackerel *Scomber scombrus*: Abundant small shoaling marine species easily caught in inshore waters; identified by vertebrae.

The Fishery

There are several points of interest about this assemblage. First, it mirrors quite well the documentary accounts of fish consumption in the medieval period – with an emphasis on salt herring and dried cod-fishes (cod, haddock, whiting) – although the archaeological material gives no clues as to whether the fish at Oxford were eaten fresh or preserved. Only a significant number of sieved samples can give this sort of information. Freshwater fishes seem to be a little less important than might be expected. Fishes from the main group of freshwater species, the cyprinids, appear in only 4 of the 11 sieved samples. Sturgeon, eel and salmon/trout are more common, but these are more highly valued fishes and tend to be easier to catch because they are migratory species. The quantity of sturgeon is an interesting aspect of the assemblage; it occurs in half the sieved samples and commonly in the site finds. Although sturgeon was much more common than today it would still have been a fish of high value and this reinforces the overall view of this assemblage as representing the consumption of a fairly affluent community.

The sieved samples reveal an assemblage dominated by small fishes (herring, eel, whiting etc.), although in terms of meat weight cod, conger, sturgeon etc. are equally important.

SAMPLES FROM THE PRE-PRIORY DEPOSITS By MARK ROBINSON

When the Oxford Blackfriars moved from within the town, their new Priory was built on part of the Thames floodplain which was reclaimed by the dumping of alluvial clay from the foundation-trenches and of soil containing domestic rubbish. This probably served to raise the site above ordinary flood levels.¹¹³ Beneath these dumped deposits was about 1 m. of alluvium above the Pleistocene gravels of the floodplain. The floodplain in this area was formerly traversed by numerous minor channels, some of which were probably blocked or canalized with the construction of the Priory. A column of samples was examined from the alluvium and various samples were investigated from channel deposits beneath the monastic levels (see Fig. 1 for their locations).

¹¹³ Lambrick and Woods, 174–5, 227–31; see above, p. 139–41.

The Sample Column

A sequence of nine 1 kg. samples was taken through the alluvium (W V L512) under the north walk of the great cloister (Fig. 5). Their descriptions are as follows:

Metres above gravel:

0 to 0.04	} Decalcified grey clay with iron pan flecks, which become 0.35 to 0.47 more intense up the profile.	Decalcified yellow sandy and gravelly clay. The eroded surface to the floodplain gravels.
0.04 to 0.21		
0.35 to 0.47		
0.56 to 0.65		
0.65 to 0.70		
0.70 to 0.79		Calcareous clay largely coloured brown by heavy iron panning.
0.79 to 0.89		Calcareous pale grey clay.
0.89 to 0.96		Calcareous buff clay.
0.96 to 1.02		Calcareous light grey brown clay. The old ground surface beneath the dumped deposits.

Mr. Simon Robinson, who also sampled the column in the course of his research, has kindly made available the results of his particle size analysis. This showed that there was very little variation in texture through the alluvium, there being 5 per cent less clay at the top of the profile than at the bottom (59 per cent–64 per cent) and 5 per cent more sand.

Other Samples:

- A 1 kg. of decalcified yellow sandy silt. From an intervening deposit 0.12 m. thick between the floodplain gravel and the alluvial clay in the area of the cemetery north of the nave.
- B 0.25 kg. of calcareous shelly clay. From a localized shelly deposit towards the top of the alluvium in the area of the cemetery north of the nave (W VI L632).
- C 0.25 kg. of calcareous grey-brown organic silty clay. From a channel within the alluvium located by the trial pit in the area of the cemetery north of the nave.

Methods and Results

The inorganic samples (all but Sample C) were sieved on a 0.5 mm. aperture mesh. The residues were sorted for mollusc shells and carbonised plant remains, the results being given in Tables XIV–XV (microfiche p. D6–8). Remains were absent from Sample A, the decalcified context. Sample C was washed over a 0.2 mm. sieve in order to recover organic remains and the inorganic fraction was then sieved on a 0.5 mm. mesh. The results are given in Tables XVI–XVII (microfiche p. D9–11).

In addition to these samples, results were available from Dr. A. Brown for seed presence in dark, coarse monocotyledenous peat (Sample D) recorded in 1967 at a depth of between 2.44 and 3.05 m. below ground-surface in a bore-hole at the corner of Albert Street and Speedwell Street (see above p. 135 and Fig. 1). They have been included in Table XVI (microfiche p. D9–10).

Interpretation

Most of the alluvial profile was decalcified, therefore lacking in molluscan evidence for environmental conditions, and also undated. Elsewhere in the upper Thames Valley, the main body of alluvium on the floodplain seems to have been deposited during the past 2,000 years and prior to this, the floodplain gravels on many sites only had a thin covering of terrestrial soil.¹¹⁴ However, at 79–80 St. Aldates, about 150 m. to the west of the Blackfriars site, 0.3 m. of reedswamp sediment was found to cover the gravels.¹¹⁵ The borehole sample is probably from a rather similar deposit but no such horizon could be differentiated from the alluvium in the sample column. In places the site had a discontinuous layer of up to 0.12 m. of yellow sandy silt (Sample A) above the gravel which might be analogous to the sediments which pre-date the clay alluvium elsewhere.

The molluscs from the upper part of the alluvial profile suggest similar conditions on the floodplain to those indicated by the molluscs from the alluvial sequence under the nave sampled in 1974: open wet grassland or marsh pasture.¹¹⁶ Both the 1974 and the present samples contained a high proportion of *Vallonia* shells, probably all *V.*

¹¹⁴ M.A. Robinson and G.H. Lambrick, 'Holocene Alluviation and Hydrology in the Upper Thames Basin', *Nature*, cccviii (1984), 809–14.

¹¹⁵ A. Brown, 'Plant Remains' in B. Durham, 'Archaeological Investigations in St. Aldates, Oxford', *Oxoniensia*, xliii (1977), 169–72.

¹¹⁶ M.A. Robinson, 'The Natural Alluvium and Dumped Clay', in Lambrick and Woods, 227–31.

pulchella, a species of such habitats. As before, the remaining shells were mostly from *Anisus leucostoma* and *Lymnaea truncatula*, aquatic molluscs that can tolerate small bodies of stagnant water that are susceptible to drying up, *L. truncatula* being truly amphibious. These two species occur at present on the wettest part of Port Meadow which is flooded for most of the winter. Flowing water molluscs were rare in the sample column, as they were in the samples from beneath the nave, but the following were identified: *Valvata cristata*, *V. macrostoma* and *Bithynia* sp. (a re-examination of the molluscs from beneath the nave has shown all the specimens of *Valvata* to be *V. macrostoma*).

The molluscan fauna showed some changes with successive samples from the column. The numbers of *A. leucostoma* and *L. truncatula* declined towards the 13th-century surface of the floodplain, while *Vallonia* sp. increased in abundance. A possible explanation would be that conditions on the floodplain were becoming slightly less wet. However, the decline and almost disappearance of *Carychium* sp. at the top of the column was perhaps caused by the floodplain vegetation becoming shorter or suffering greater disturbance such as trampling.

A distinctive layer of coarser-grained alluvium has been observed overlying clay alluvium on some other sites in the upper Thames Valley,¹¹⁷ and the top 0.07 m. of the alluvium under the nave was a silty clay in contrast to the clay beneath.¹¹⁸ However, only a very slight distinction emerged from Simon Robinson's particle size examination of the sample column described above. The discovery in 1972 of a wattle fence, interstratified with the alluvium beneath the Priory and radiocarbon dated to ad 1220 ± 100, suggested that alluviation was continuing on the site until about the date of the Priory's construction.¹¹⁹ The presence of carbonised cereal remains in the upper part of the alluvium, probably derived from refuse from Oxford which had been thrown into the river, also suggests that late Saxon or early medieval alluviation was occurring.

Sample B was from a localized shelly deposit in the alluvium, and in contrast to the column samples, its molluscan assemblage largely comprised flowing-water species, including some which tend only to occur in rivers and larger drainage ditches, such as *Lymnaea auricularia*. *Valvata macrostoma* had been replaced by the more riverine *V. piscinalis*. This deposit probably represented flotsam from the river which had collected in a slight hollow on the floodplain.

The plant and invertebrate remains from the organic material from the channel within the alluvium (Sample C) are consistent with what would be expected from a well-vegetated, slowly-flowing, small back stream of the Thames. Plants of the floating-leaved community included *Nuphar lutea* (yellow waterlily) and *Potamogeton* sp. (pondweed). The emersed vegetation is likely to have included *Sagittaria sagittifolia* (arrowhead) and *Schoenoplectus lacustris* (bulrush) although it is possible that some of the seeds had been washed into the deposit from the main river. *Salix* (willow) bud scales were well represented, so it is possible that willows lined its bank. The most abundant molluscs were *Theodoxus fluviatilis* and *Valvata cristata*, both species which favour well vegetated aquatic habitats, while the most abundant beetle, *Colymbetes fuscus*, is a species of well vegetated stagnant or slowly moving water.

The plant remains in the channel, however, did not just come from aquatic and waterside species. There were also a few waterlogged seeds of annual weeds of disturbed ground, including *Urtica urens* (small nettle) and *Anthemis cotula* (stinking mayweed), some carbonised cereal grains and many capsule fragments of *Linum usitatissimum* (flax). Clearly, there was some human activity somewhere along the bank of the channel involving flax. Flax seeds and stems were not recognised in the sample but the preservation of organic remains was not good and it is possible that they had decayed. Flax capsule fragments are the waste from the threshing (rippling) of flax for linseed, but given the context of the deposit, it seems more likely that they were fragments which had remained attached to bundles of flax stems that were brought to the site for retting. (Retting is the process by which flax stems are allowed to decay under water in order to free the fibres for the manufacture of linen.) The bundles would have been pegged down under water to prevent them from drifting away, and afterwards probably spread out on the ground for weathering followed by drying. A 9th-century wattle-lined gully containing abundant flax capsules, stem fragments and some seeds was discovered 150 m. to the east of Blackfriars at 79–80 St. Aldates.¹²⁰

The peat layer in the Albert Street bore-hole (Sample D) was probably a reedswamp deposit fringing yet another filled-in channel. The monocotyledonous tissues are most likely from a tall emersed 'reed' such as *Schoenoplectus lacustris* (bulrush), *Glyceria maxima* (reed-grass) or *Phragmites communis* (reed). This deposit was not securely dated, and in view of its depth it is possible that it pre-dated the alluvium.

Discussion

The Blackfriars Priory was constructed on what had previously been wet grassland receiving a gradual accumulation of alluvium. In the middle to late Saxon period there was

¹¹⁷ Robinson and Lambrick, 'Holocene Alluviation'.

¹¹⁸ Robinson, in Lambrick and Woods, 227.

¹¹⁹ Lambrick and Woods, 173.

¹²⁰ A. Brown, in B. Durham, 'Archaeological Investigations in St. Aldates.'

much activity and eventually suburban development on the floodplain to the east of the Blackfriars site at St. Aldates.¹²¹ The evidence from 79–80 St. Aldates and Blackfriars suggests that flax-retting could have been an important industry in this area. It is a disgustingly smelly process, requiring a ready supply of water and much space to spread the retted bundles of flax afterwards, so would not have been a suitable activity to undertake inside the town of Oxford itself. The retting might just have taken place in the various small water-courses of the floodplain, but it is possible that there was a series of retting pools and that the flax remains had been washed along the drains of the pools. If there were flax-retting ponds alongside St. Aldates, their construction may provide an explanation for the substantial Saxon earthmoving here which has been suggested by Durham, rather than his favoured interpretation of the building of a causeway for the route south from Oxford to the Thames crossing.¹²²

Other Saxon towns have evidence suggesting flax-retting in similar situations. For example, a 10th- or 11th-century wattle-lined pit on the Nene floodplain at Northampton contained much waterlogged flax-threshing debris.¹²³

PLANT AND INVERTEBRATE REMAINS FROM THE PRIORY DRAINS By MARK ROBINSON

A system of stone-lined drains was found running south on the western side of the Priory buildings. Two sequences of samples were examined. The first was from a side drain in the South West Area (SW II F106), where it had been blocked off at its junction with the main culvert (F103) by the relining of the culvert in the 15th century. The second sequence was from the main culvert in the Southern Area (S (1979) F202). F202 also silted up during the 15th century (see above pp. 156 and 157). For details of the sampled deposits, methods of analysis and tables of results see microfiche pages D14 and F1.¹²⁴

The drain samples contained a very diverse range of remains from many different habitats. The presence of four species is of particular interest.

Noteworthy Species

Calendula sp. (marigold) A single waterlogged achene was recovered from the fish-bone sample of 106/5. *Calendula* achenes have been identified from a 4th-century Roman ditch at Towcester¹²⁵, late medieval pits at Hull¹²⁶ and a late Saxon waterfront deposit at Norwich.¹²⁷ The identifications from Hull and Norwich have been taken to the species *C. officinalis* L. (pot marigold), the familiar garden flower and ingredient of mild herbal remedies. Although the achene from Blackfriars falls within the range of variation exhibited by *C. officinalis*, caution has been exercised because *Calendula* species have very polymorphic achenes. *C. arvensis* L. is another species likely to occur in Britain. *Calendula* is not native to Britain; both the above species seem to be native in Central Europe and the

¹²¹ B. Durham, 'Archaeological Investigations in St. Aldates'; B. Durham, 'The Thames Crossing at Oxford: Archaeological Studies 1979–82', *Oxoniensia*, xlix (1984), 57–100.

¹²² *Ibid.*

¹²³ M.A. Robinson, 'The Late Saxon Environment', in J.H. Williams and D. Furnell, 'Excavations on a Saxon site in St. James' Square, Northampton, 1981', *Northants. Archaeol.*, xviii (1983), 150 and Fiche 30–38.

¹²⁴ Nomenclature follows: A.R. Clapham, T.G. Tutin and E.F. Warburg, *Flora of the British Isles* (2nd edn., 1962); M.P. Kerney, 'A List of the Fresh Brackish-Water Mollusca of the British Isles', *Journal of Conchology*, xxix (1976), 26–8; H.W. Walden, 'A Nomenclatural List of the Land Mollusca of the British Isles', *Journal of Conchology*, xxix (1976), 21–25; G.S. Kloet and W.D. Hincks, *A Check List of British Insects: Coleoptera and Strepsiptera*, Royal Entomological Society Handbook for the Identification of British Insects XI, pt. iii (2nd edn., 1977).

¹²⁵ M.A. Robinson, unpublished.

¹²⁶ D. Williams, 'The Plant Macro-Fossil Contents of Medieval Pits at Sewer Lane, Hull', in P. Armstrong, 'Excavations in Sewer Lane, Hull, 1974', *East Riding Archaeologist*, iii (1977), 18–19.

¹²⁷ B. Ayers and P. Murphy, 'A Waterfront Excavation at Whitefriars Street Car Park, Norwich, 1979', *East Anglian Archaeology*, xvii (1983), 42.

Mediterranean region.¹²⁸ Under the heading 'Marigoldes' Gerarde describes several plants which are undoubtedly varieties of *C. officinalis*, a species which is probably not a *Calendula*, and what he calls *Calendula arvensis* or wild marigold.¹²⁹ The latter does seem to be *C. arvensis* L. He notes the cultivation of marigolds in general as pot herbs and for medicinal purposes. The Blackfriars example is likely to have been from a locally cultivated or naturalized plant.

Prunus dulcis (almond) Fragments of waterlogged almond endocarp (stone) were present in the fish-bone samples from 106/5 and 202/4. There are few published archaeological records for *P. dulcis*, but one was found in the late 15th-century fill of a drain at Plymouth.¹³⁰ Almonds are extensively cultivated in Southern Europe and they are usually regarded as an imported crop. However, *P. dulcis* has been cultivated in Britain since at least the early 16th century, possibly earlier. Sweet almond is rarely cultivated in Britain at present, but the ornamental flowering almond of gardens is nearer to sweet than to bitter almond.¹³¹ Its kernels have a very low cyanide content and are perfectly edible. Some ornamental trees regularly ripen a good crop of fruit. It is, therefore, uncertain whether the Blackfriars fragments were from imported or locally grown fruit.

Viviparus contectus Shells of this large aquatic mollusc were recorded from Samples 202/4 and 202/3, being abundant in the fish-bone sample of 202/4. It is a species of large sluggish bodies of water that now occurs in some of the backwaters and larger ditches around Oxford but not in the main channel of the Thames. The closely related *V. viviparus* occurs abundantly in all the channels of the Thames around Oxford at present. *V. contectus* was identified in the upper filling of the moat around Oxford Castle¹³² and was very much in evidence in the late medieval to post-medieval deposits in the channel exposed north of the Shire Lake Ditch (p. 161); but surprisingly, the Blackfriars shells seem to be the earliest Post-Glacial examples of any species of *Viviparus* from the upper Thames drainage basin. Many tens of thousands of aquatic molluscs have now been examined from Mesolithic to early Medieval channel and alluvial deposits in the region without a single find of *Viviparus*. (The tentative identification of one from a Saxon context has, on re-examination, proved to be incorrect).¹³³ It is possible that *V. contectus*, which does not live in brackish water, was accidentally introduced into the Thames drainage system in the late medieval period as a result of vessels trading along the coast from one river to another, or by the trade in live fish wrapped in wet weeds for stocking ponds.

Apis mellifera (honey-bee) The head of a worker honey-bee was identified from 202/4. It is only recently that honey-bee remains have been identified from archaeological deposits, but sporadic finds are now a regular occurrence from the waterlogged medieval layers at York.¹³⁴ Bee-keeping was well established in medieval England and would be expected around Oxford.

The Origin of the Sediments

There are three broad categories of biological remains from the drain sediments: species which lived in the water flowing into the drains, species which somehow fell into their waters, and species that were in effluent or rubbish deposited into the water. A problem of interpreting the results is that some of the remains would have entered the drains within the precincts of the Priory, but others would have been carried to the site in the water which flushed them. The Blackfriars culvert was probably supplied from the Trill Mill Stream which in turn was fed by the Castle Mill Stream. Thus there was ample opportunity for the water to be contaminated by the castle, the Greyfriars and some of the Littlegate suburb tenements.

Most of the semi-ecological groups into which the remains can be divided (see below, *passim*) were present in 11th-century sediments in two small channels of the Thames at St. Aldates.¹³⁵ These deposits did not contain the garden plants or seeds from more exotic fruits such as grape. However, such remains were present in 14th- to mid 15th-century deposits in the Barbican ditch of Oxford Castle,¹³⁶ and this was connected to the Castle Mill Stream

¹²⁸ A.R. Clapham, T.G. Tutin and E.F. Warburg, *Flora of the British Isles* (2nd edn., 1962), 830.

¹²⁹ J. Gerarde, *The Herball or Generall Historie of Plantes* (1597), 599–604.

¹³⁰ R.W. Dennell, 'Seeds from a Medieval Sewer in Woolster Street, Plymouth', *Economic Botany*, xxiv (1970), 151–4.

¹³¹ W.J. Bean, *Trees and Shrubs Hardy in the British Isles*, iii (8th edn., 1976), 369–70.

¹³² L.W. Grensted, *Excavations at Nuffield College, August 1953. The Mollusca*. Typescript amongst the palaeontological collections, University Museum.

¹³³ M.A. Robinson, 'Mollusca and Insect Remains', in B. Durham, 'Archaeological Investigations in St. Aldates, Oxford', *Oxoniensia*, xlii (1977), 172.

¹³⁴ H.K. Kenward, pers. comm.

¹³⁵ M.A. Robinson, 'Aspects of the Environment of the Saxon Crossing', in B. Durham, 'The Thames Crossing', *Oxoniensia*, xlix (1984), 77–8.

¹³⁶ A.P. Brown and M.A. Robinson, 'Plant Remains from Church Street (Site A) and the Oxford Castle Barbican Ditch', in T.G. Hassall, C. Halpin and M. Mellor, 'Excavations in St. Ebbes, Oxford, 1967–1976: Part II', *Oxoniensia*, xlix (1984), 268 and microfiche VI E1–F3.

via the castle moat. The only groups which appear to be unique to the Blackfriars culvert samples are woodland species and plants which tend to grow on old walls. This provides some grounds for believing that at least these two habitats occurred alongside the Blackfriars culvert rather than that remains from them were amongst the general debris carried by the river at Oxford.

One piece of evidence suggests that a proportion of the biological remains in the drains were of local origin, even though individual items could have been washed in from much further upstream. Layers 106/2 and 202/4 were very rich in eggshell fragments and bones of marine fish. Their concentration was probably several hundred times greater than in most medieval channel deposits in Oxford. These items were mostly of local origin, and they show that the flow of water along the drains was not always sufficient to flush away everything dumped into them.

The presence of small fruit seeds such as fig and strawberry in the drain sediments suggests that there was a sewage component to them, as do the few calcium phosphate-replaced seeds in 106/2. However, the major organic component of the sediments was comminuted fragments of leaves from deciduous trees. By far the most abundant food remains were the fish bones and eggshell fragments. Pieces of cereal bran, which is highly characteristic of sewage, were not very numerous and some of the remains of food plants, such as walnut shells, are unlikely to have been swallowed. It seems that kitchen waste formed a significant part of the drain sediments and the sewage component was only minor. Perhaps there was the odd garderobe shoot emptying into the culvert, but otherwise the evidence suggests that these particular drains flowed through the kitchens rather than the rederorter.

Aspects of the Environment and Site Activities

There do not seem to be any significant differences between the range of the plant and invertebrate remains from Drain 106 and Culvert 202. Therefore the results from both drains will be discussed together.

The invertebrates suggest that well oxygenated water from the river flowed along the drains. The water was only polluted in the sense that some of the effluent could have made it a health hazard if drunk. There was insufficient decaying refuse to create an oxygen deficit. Some of the molluscs, for instance the species of *Valvata* and *Bithynia*, require clean flowing water, *B. leachii* being particularly fastidious.¹³⁷ Larval cases of the caddis fly *Ithytricia* were very abundant and its larvae only live in fast-flowing streams and small rivers,¹³⁸ while the water beetles included *Oulimnius* sp. which requires similar conditions. There were not many seeds of aquatic plants or species of the water's edge, perhaps because the culvert had steep sides and was shaded or kept relatively free of weeds. Remains of the very substantial emerged or reedswamp species, such as *Spartanium erectum* (bur reed) and *Schoenoplectus lacustris* (bulrush), which now tend to choke the minor channels of the Thames, were absent. However, the aquatic communities seem to have included *Nuphar lutea* (yellow waterlily), *Callitriche* sp. (starwort), *Apium nodiflorum* (fool's watercress) and *Alisma* sp. (water plantain) growing somewhere along the length of the water-course.

There were seeds and other macroscopic remains of marsh to wet grassland plants such as *Lychnis flos-cuculi* (ragged robin), *Pedicularis palustris* (red rattle) and *Carex* spp. (sedges), as well as more general grassland plants such as *Trifolium* sp. (clover) and *Leontodon* sp. (hawkbit) in the samples. It is very likely that the Trill Mill Stream or the Blackfriars culvert did flow through wet grassland, but the issue is complicated because it is quite likely that hay or dung was amongst the material dumped in the water. The Coleoptera do not provide a firm answer because they were not sufficiently numerous, although a few individuals were present of *Aphodius* spp., dung-beetles which occur on pastureland, and *Agriotes*, which has larvae that feed on roots in grassland.

The most abundant seeds in the samples were from *Urtica dioica* (stinging nettle) which is likely to have grown along the bank in places and in neglected tenements etc. The nettle-feeding beetle *Brachypterus urticae* was also present. Various other disturbed ground species were identified, although seed numbers were not very great. They included *Anthemis cotula* (stinking mayweed), which seems to have been almost ubiquitous in medieval towns, probably growing on soil enriched in nutrients from rubbish and dung.

The quantity of deciduous leaf fragments from the drains suggests that trees overhung the culvert for part of its length. Three species predominated: *Ulmus* sp. (elm) represented by seeds, *Fraxinus excelsior* (ash) represented by fruits and bud scales, and *Salix* sp. (willow) represented by fruit capsules and bud scales. Further evidence for the presence of elm came from the inappropriately named weevil *Rhynchaenus alni* and the bark-beetle *Acrantus vittatus*, both of which are usually restricted to *Ulmus* spp.¹³⁹ Also present were the common ash bark-beetle *Leperisus varius*, which usually occurs on ash, and the leaf beetle *Plagioderma versicolora*, which feeds on willow and poplar. Unfortunately, it was not possible to establish whether the elm was *U. glabra*, the wych elm, or a tree of the English elm/Huntingdon elm/Cornish elm group (mostly suckering trees) because the winged fruit had not

¹³⁷ A.E. Boycott, 'The Habitats of Fresh-Water Mollusca in Britain', *Journal of Animal Ecology*, v (1936), 139-40.

¹³⁸ J.E. Marshall, *Trichoptera, Hydroptilidae*, *Royal Entomological Society Handbook for the Identification of British Insects*, i.14a (1978), 22.

¹³⁹ H. Freude, K.W. Harde and G.A. Lohse, *Die Käfer Mitteleuropas*, x (1981), 60; and xi (1983), 286.

survived. The only other tree remains apart from edible fruits and nuts were a winged *Acer* (maple) fruit and a single fruit of *Alnus glutinosa* (alder). Elements of an open woodland or woodland edge herbaceous ground flora were represented, including *Alliaria petiolata* (hedge garlic), *Geranium* cf. *robertianum* (herb robert), *Geum* sp. (avens), *Anthriscus sylvestris* (cow parsley) and *Stachys* cf. *sylvatica* (wound wort).

Thus there was good evidence for woodland, or at least a group of trees, in the vicinity, but its character was very different from the woodland and scrub for which there has been archaeological evidence from other sites on the upper Thames floodplain.¹⁴⁰ Plant assemblages with strong evidence of pre-clearance woodland of the later Mesolithic onwards tend to be dominated by *Alnus* (alder) remains, especially seeds. When there is evidence for more open conditions, remains of woody species usually include a high proportion from shrubs of woodland edge, scrub or hedgerow, especially *Prunus spinosa* (sloe), *Crataegus* sp. (hawthorn) and *Rubus fruticosus* agg. (blackberry). Remains of these scrub species were entirely absent from the Blackfriars samples. The results from Blackfriars suggest a grove from which undergrowth was regularly cleared, perhaps a well-managed coppice in which some trees were allowed to reach flowering size, or a row of trees planted alongside the culvert. Conditions were perhaps not unlike Addison's Walk close to the kitchens of Magdalen College in present-day Oxford. The presence of elm probably means the trees were originally some sort of plantation, although there are a couple of examples of *U. glabra* within the city of Oxford which have become established from seed on made-up areas of the floodplain.

The seeds from a community of plants which might have been growing on old walls was an unusual discovery. They included: *Chelidonium majus* (greater celandine), *Geranium* cf. *robertianum* (herb robert), *Lactuca* cf. *seriola* (wild lettuce), *Mycelis muralis* (wall lettuce) and *Hieracium* sp. (hawkweed). *M. muralis* shows the closest association with walls and shady rubble, but all will grow elsewhere, for instance *G. robertianum* has been mentioned as a woodland species. However, around Oxford crumbling, often damp walls are an important habitat for these species.

The occurrence of *Buxus sempervirens* (box) leaves in two of the samples is good evidence for the presence of ornamental gardens. *Calendula* sp. (marigold) might have been grown for its flowers, but it is equally likely that it was cultivated as a pot or medicinal herb. Other species identified that would be appropriate in a physic garden are *Papaver somniferum* (opium poppy), *Chelidonium majus* (greater celandine) and *Hyoscyamus niger* (henbane). However, suitable habitats for all three would be expected in a medieval town.

The fruits and nuts listed in Table VII are mostly species which could easily have been cultivated in an orchard or kitchen garden at Blackfriars, but it is not possible to say definitely where they were grown.

The habitats discussed so far are likely to have occurred in the vicinity of the culvert, and the items from them are likely to have entered the deposits through various natural agencies. The remaining material is likely to have been from debris discarded into the drains. Seeds were present from three weeds which are particularly associated with arable agriculture: *Agrostemma githago* (corn-cockle), *Chrysanthemum segetum* (corn marigold) and *Centaurea cyanus* (cornflower). Smashed fragments of these seeds can be common in medieval sewage, but the seeds were intact, so it is more likely that they had been derived from crop-processing somewhere upstream. Several of the other weed seeds could also have been agricultural waste, but they have less stringent ecological requirements and can grow in other disturbed habitats.

The soils in the Thames Valley bottom around Oxford are neutral to calcareous, but frond fragments of *Pteridium aquilinum* (bracken) and gorse *Ulex* sp. were recovered. These are plants of acid soils as occur on the hills around Oxford. There are other records of bracken from medieval deposits in Oxford, which was perhaps being imported as a bedding material.¹⁴¹ The gorse was represented by both waterlogged and carbonised remains. There was also an individual of the gorse weevil, *Apion ulicis*. The larvae of this weevil develop inside gorse seed pods, and instead of the seeds adult weevils are dispersed by the explosive action of the mature pods.¹⁴² A possible reason for the importation of gorse is that it might have been used to fire bread-ovens. This suggestion is supported by the occurrence of carbonised gorse remains.

Table VII lists all the food plants identified (with the exception of those which have already been considered along with some poisonous species as possible physic garden herbs). Unfortunately, it is not possible to be certain that *Brassica* cf. *nigra* seeds were being consumed as mustard, because it is also a plant of steep crumbling river-banks. However, the fact that a couple of them had undergone calcium phosphate mineralization suggests that these entered the deposits in sewage rather than from plants growing on the bank of the culvert. Apart possibly from the hazel nuts, all the other species listed in Table VII were likely to have been eaten by the Blackfriars. The figs, almonds and grapes had perhaps been imported dried from the Mediterranean region, for the Levant trade was established by the 15th century. However, all could have been grown in a walled garden in

¹⁴⁰ M.A. Robinson, *Investigations of Palaeoenvironments in the Upper Thames Valley*, University of London PhD Thesis (1981); Robinson, unpublished.

¹⁴¹ M.A. Robinson, 'Waterlogged Plant and Invertebrate Evidence' in N. Palmer, 'The Hamel', 204.

¹⁴² Freude *et al*, *Die Käfer Mitteleuropas*, x (1981), 146.

Oxford without too much difficulty, although the figs would have to be of the Adriatic variety which has few, infertile seeds.

The Coleoptera included various species which live in accumulations of organic rubbish such as *Coprophilus striatulus* and an individual of *Trox scaber*, which feeds on dry carcasses, bones, hides etc. These species were no more abundant than might be expected with a medieval town as background to the site. There were also some synanthropic beetles, species which tend to live in close association with humans. They included *Oryzaephilus* sp. and *Sitophilus granarius*, grain beetles which can sometimes be very serious pests. It is possible that they were from granary sweepings discarded into the culvert. *Aglenus brunneus*, a beetle of decaying rubbish which has been recorded in millions from the floors of squalid Anglo-Scandinavian houses in York,¹⁴³ was present, but no aspersions need be cast on the Blackfriars since there was only one individual. There was, however, a community of beetles which tend to live in somewhat damp buildings with at least some wooden fittings and small quantities of plant and animal remains such as dry food waste mouldering in remote corners. Its members are: *Tipnus unicolor* and *Ptinus fur*, which are quite partial to such food waste but also live in dampish straw, *Anthrenus* sp., with larvae that feed on dry protein (including woollen carpets) and *Mycetea hirta*, a fungal feeder that is partial to dry rot.

The final community of synanthropic beetles comprises *Xestobium rufovillosum*, *Anobium punctatum* and *Korynetes caeruleus*, all species associated with dry dead wood, probably including the structural timbers of the Blackfriars. *X. rufovillosum*, the death-watch beetle, is normally restricted to hardwoods that have been subjected to fungal decay while *A. punctatum*, the woodworm beetle attacks both old dead hardwood and softwood.¹⁴⁴ These beetles are most common indoors, although *A. punctatum* often occurs outside and *X. rufovillosum* has been recorded attacking willow trees at Oxford.¹⁴⁵ *K. caeruleus* is a predator in the tunnels of wood-boring insects, especially on the larvae of *A. punctatum*, occurring both indoors and outdoors.¹⁴⁶ Pieces of structural timber were also found in the drain (see Fig. 14). Bodies of all these indoor species were perhaps present in floor-sweepings.

Discussion

The plant and invertebrate remains from Blackfriars provide a surprisingly wide range of information about environmental conditions and activities on the site. The culvert carried well-oxygenated water to the site that seems to have been used primarily to flush away kitchen refuse, but other domestic waste including sewage and perhaps floor sweepings was also discarded into the drains. Some of the remains, for example a few grain-beetles, might have been derived from the tenements or mills upstream rather than the Priory.

The Dissolution accounts mention gardens, orchards and woods within the Priory precinct (p. 201–3), and biological evidence was found suggesting all three, being especially good for the woods. The other environmental aspects were very much what would be expected from what, by the 15th century, were old Priory buildings: weeds growing from between the stones of the walls, woodworm and death-watch in the structural timbers, and synanthropic Ptinidae and Endomychidae living indoors. The coleopteran assemblages from late medieval ditches at the Austin Friary, Leicester and a 14th-century garderobe at Denny Abbey both included death-watch beetle, woodworm and some of the other synanthropic species such as *Ptinus fur* and *Tipnus unicolor*.¹⁴⁷

A wide variety of fruits and nuts were evidently consumed by the Blackfriars, including possible Mediterranean imports. A similarly lavish diet, likewise including grapes, strawberries and figs, was also enjoyed by the monks of Grove Priory.¹⁴⁸ Grape and

¹⁴³ H.K. Kenward, 'The Biological and Archaeological Implications of the Beetle *Aglenus brunneus* (Gyllenhal) in Ancient Faunas', *Journal of Archaeological Science*, ii (1975), 63–9.

¹⁴⁴ N.E. Hickin, *The Insect Factor in Wood Decay* (1963), 28–32, 36.

¹⁴⁵ J.J. Walker, 'A Preliminary List of the Coleoptera of the Oxford District', *Ashmolean Natural History Society of Oxfordshire Report for 1906* (1907), 83.

¹⁴⁶ K.W. Harde, *A Field Guide in Colour to Beetles* (1984), 170.

¹⁴⁷ M.A. Girling, 'The Environmental Evidence' in J.A. Mellor and T. Pearce, *The Austin Friars, Leicester*, CBA Research Rep. xxxv (1981), 171; M.A. Robinson, 'Insect remains' in P.M. Christie and J.G. Coad, 'Excavations at Denny Abbey', *Archaeological Journal*, cxxvii (1980), 267.

¹⁴⁸ M.A. Robinson, unpublished.

fig seeds occurred in the late 14th- to 15th-century barbican ditch of Oxford Castle, an upper-class site,¹⁴⁹ but a contrast was presented by the contents of a late 12th- to 13th-century cess-pit on a tenement at 89-92 St. Aldates.¹⁵⁰ The more exotic fruits and nuts were absent from the pit, blackberries rather than raspberries were eaten and plums were supplemented by sloes. The St. Aldates results probably give a better impression of the diet of the general populace of medieval Oxford.

TABLE VII
Food plants from drain 106 and culvert 202

<i>Brassica</i> cf. <i>nigra</i>	Mustard
<i>Corylus avellana</i>	Hazel
<i>Ficus carica</i>	Fig
<i>Fragaria vesca</i>	Alpine-type Strawberry
<i>Juglans regia</i>	Walnut
<i>Malus sylvestris</i>	Apple
<i>Prunus avium</i>	Sweet Cherry
<i>P. domestica</i>	Plum
<i>P. dulcis</i>	Almond
<i>Pyrus communis</i>	Pear
<i>Rubus idaeus</i>	Raspberry
<i>Triticum aestivocompactum</i>	Wheat
<i>Vitis vinifera</i>	Grape

DISCUSSION by GEORGE LAMBRICK

This discussion is divided into the same topics as that in the 1976 report¹⁵¹ but with additional sections on evidence of diet and domestic arrangements.

The Friars' Precinct

The description of the Priory precinct in the Dissolution accounts has now been amplified by the excavated evidence. Dr. London reported that 'The Black Friars hath in their backside likewise divers islands well-wooded', and a lease of 1541 states that there were three acres of wood on the east side of the buildings and six on the west.¹⁵² The biological evidence from the main culvert confirms the presence of a wood, or more strictly a plantation of trees, to the west. It is unlikely to have been a pre-existing wood as the friars seem to have acquired the land as meadow,¹⁵³ and damp grassland is indicated by the character of the snails in the top of the alluvium beneath the Priory. The plantations may not have been an original feature as disturbed soil and pits containing domestic rubbish were found to the west of the culvert in 1974¹⁵⁴ and west of the main buildings in 1983 (see

¹⁴⁹ A. Brown and M. Robinson in T. Hassall, C. Halpin and M. Mellor, 'Excavations in St. Ebbes: Part II', microfiche VI E1-F3.

¹⁵⁰ M.A. Robinson, unpublished.

¹⁵¹ Lambrick and Woods, 203-11.

¹⁵² Hinnebusch (1938), 74, and 82 note 4.

¹⁵³ *Ibid.*, 66.

¹⁵⁴ Lambrick and Woods, 200.

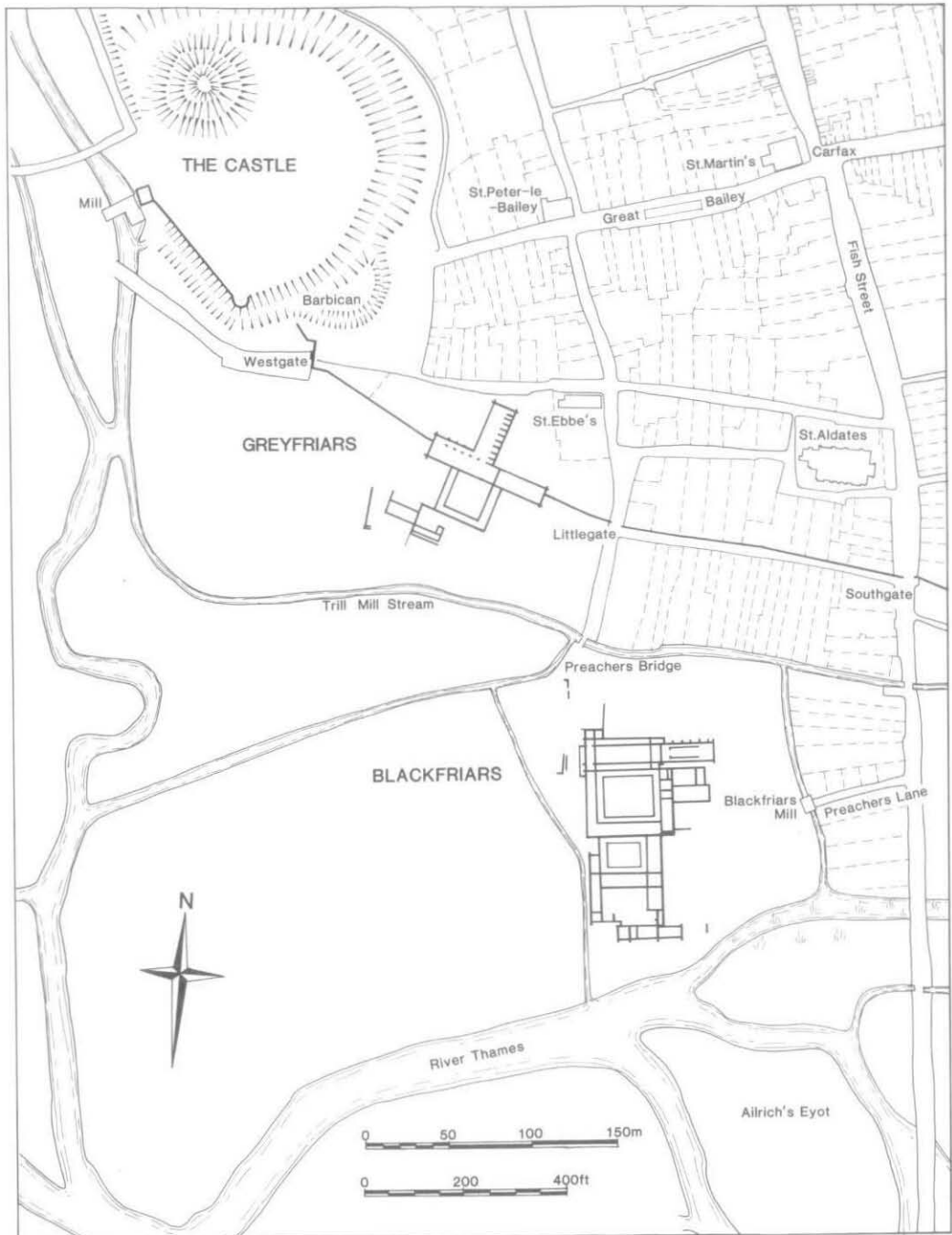


Fig. 24 Medieval topography around Blackfriars (based on H.E. Salter, *Survey of Oxford*).

p. 161). The friars may have planted the trees to provide firewood (and perhaps such things as posts) so that they were not entirely reliant on the king's munificence¹⁵⁵ or on other patrons. Dr. Robinson points out that the plantation was probably kept clear of scrub, however, and his suggestion that it may have been very like Addison's walk, close to the kitchens of Magdalen College, is an attractive comparison.¹⁵⁶ Today, ancient woodland is extremely rare on the floodplain of the upper Thames, and it is worth noting that almost the only extant example of even potentially old floodplain woodland is a small, unimpressive copse near Godstow nunnery.¹⁵⁷ Normally the floodplain would have been too valuable as pasture or hay meadow to have been used in this way.

Some of the streams which created the 'divers islands' have also come to light. One probably formed or was diverted into the main culvert, while the one north of the Shire Lake ditch may have joined part of the maze of streams just west of St. Aldates identified by Mr. Durham¹⁵⁸. The Priory's flood defences may also have been identified, though the dating evidence for them makes it uncertain that they are pre-Dissolution. The channel identified from biological material in the alluvium north of the church had probably silted up before the Priory was built. The existence of the Blackfriars mill stream has probably been confirmed by contractor's boreholes.

The gardens and orchards referred to in the Dissolution accounts might be represented by layers of disturbed clayey soil containing medieval pottery found west of the main buildings in 1983, west of the culvert in 1974 and on the north bank of the channel just north of the Shire Lake in 1983. Possibly the material beneath the domestic buildings represents this type of deposit also. The great cloister garth was also probably cultivated. Some of the produce from the orchards and gardens is very likely to be represented among the plant remains from the Priory drains.

The Burials

The recent excavations in the area of the nave have greatly increased the number of known burials in the Priory. This is now one of the largest samples of the medieval population for the region. By adding many burials from the cemetery and from the nave, the skeletons from the Priory as a whole now form a much more balanced picture of the people buried in different areas within the precincts. It had not previously been appreciated how very biased a cross-section of the medieval population this is. It was assumed that the dominance of males from the cloister walk was an indication that this area was reserved for the burial of the friars themselves.¹⁵⁹ Apart from the discovery of two possible female skeletons in the north cloister walk it is now evident that the nave and cemetery areas were equally dominated by men. The 5:1 ratio of male to female skeletons is very high, even in areas probably used for lay burials. This might seem to reflect the Priory's particular role in relation to the University, the bias being even more marked at the Oxford Greyfriars, but it should be noted that Guildford Blackfriars had a similar dominance of male burials¹⁶⁰.

The other distinction noted in the 1976 report, that the west end of the chapter-house

¹⁵⁵ Hinnebusch (1938), 69 note 2.

¹⁵⁶ The 1541 lease refers to 'a close or wood on the east of the church and priory containing three acres; a little grove at the back containing six acres': Hinnebusch (1938), 82 note 4. This would be the little grove.

¹⁵⁷ G. Lambrick, 'Archaeology and Nature Conservation in Oxfordshire', in G. Lambrick (ed.), *Archaeology and Nature Conservation* (Oxford University Department for External Studies, 1985), 76-8.

¹⁵⁸ B. Durham, 'The Thames Crossing at Oxford: Archaeological Studies 1979-82', *Oxoniansia*, xlix (1984).

¹⁵⁹ Lambrick and Woods, 203-5.

¹⁶⁰ R. Poulton and H. Woods, *Excavations on the Site of the Dominican Friary at Guildford in 1974 and 1978*. Surrey Arch. Soc. Research Vol., ix, 60.

was used for burying children,¹⁶¹ has not been modified in the same way: children remain rare from other parts of the Priory, and if anything the conclusion is thus strengthened.

Many of the burials had been in coffins, probably rather more in the church than in the cemetery.

In the cemetery the close regular spacing of the burials reflects the use of grave-markers, although reuse of particular areas had repeatedly occurred. In 1536 Christopher Tredar was denounced to Cromwell by the Bishop of Lincoln for encouraging people to dig for money, the result of which was that 'Divers crosses have lately been cast down'. The rifling of graves was evident in the excavations.¹⁶²

Construction Techniques

In 1976 it was suggested that one way in which the problems of constructing footings below the watertable were overcome was to use the alluvial clay's natural impermeability to restrict the inflow of water.¹⁶³ One means of doing this was to lay the foundations in sections leaving undisturbed clay between them, and the excavation of the south arcade wall of the nave has confirmed that this technique was used. As found previously the load-bearing walls of the original buildings had good foundations laid on gravel, but it is clear that although the friars appreciated the problems of building on such soft ground, they still did not adequately guard against the subsidence which occurred along the north side of the nave, which has been more clearly revealed by the recent work. It has become even clearer, from the discovery of another buttress on the extended west end of the nave, how structurally inadequate this later addition was.

The Buildings

The overall plan of the Priory has been clarified and the general conclusions about its size and the scale of planning remain unchanged, as does the interpretation of the function of most of the buildings. The excavations in the area of the nave have clarified the bay spacing, and the Bessels will giving money for new windows in the north aisle in 1426¹⁶⁴ can now be associated with repairs following subsidence problems. It appears that the possible anchor-house pre-dated the Bessels legacy, and it is also clear that another building in this area, probably a porch, was part of the extension work of the nave. The galilee is now more clearly seen as a passage. The possible existence of a north nave, for which there seemed to be strong arguments in 1976, has now been dismissed, though the arguments about the need to look for these buildings remain no less valid.¹⁶⁵

The existence of a little cloister has been confirmed, and in the interpretation plan it can be seen that the domestic buildings probably formed what amounts to a third, more irregular quadrangle. In the area west of the church one may envisage a fourth small quadrangle or cloister. The suggested scullery at the north-west corner of the little cloister indicates that the kitchens were in the south range of the great cloister, presumably adjoining, or more likely beneath, the frater. This would be the conventional arrangement, and has recently been shown to be the plan at Guildford¹⁶⁶ (though there the cloister was north of the church and the kitchens were thus in the north range).

¹⁶¹ Lambrick and Woods, 203.

¹⁶² A.G. Little, 'The House of Blackfriars', *V.C.H. Oxon.*, ii, 120.

¹⁶³ Lambrick and Woods, 206.

¹⁶⁴ Hinnebusch (1938), 77.

¹⁶⁵ Lambrick and Woods, 210.

¹⁶⁶ Poulton and Woods, *Dominican Friary at Guildford*, 37-9, Fig. 19.

Among the finds it is mainly in the floor-tiles that the decorative quality of the buildings is reflected. Many of the tiles are types not represented elsewhere in Oxford and reflect a degree of discernment in the friars' patronage. This is in sharp contrast to the Greyfriars where an unexceptional and fairly limited range of designs was found, with very few of the later types which are significant at Blackfriars.¹⁶⁷ Other aspects of the quality of decoration are less clear, though it may also be noted that Blackfriars produced pieces of Purbeck moulding and these were not found at Greyfriars. The glass, however, is not of outstanding quality, nor was the freestone.¹⁶⁸

Diet

There are a number of indications that the friars enjoyed a somewhat superior diet compared with the inhabitants of suburban tenements in Oxford, such as in the Hamel or along St. Aldates.¹⁶⁹ This is perhaps least clear with the animal bones of which there is only a small sample, largely from dumped rubbish deposits, some of which are not unequivocally friary refuse (see p. 141). The proportion of cattle bones, about half the bones of the three main domesticated species, is higher than for tenement sites in the town, where usually about a third of the bones are from cattle.¹⁷⁰ At face value this suggests that the friars ate more beef, and this would accord with conclusions drawn for the much larger body of evidence from Leicester Austin Friars;¹⁷¹ but the figures may be distorted by rubbish disposal patterns which tend to result in larger bones being commoner away from actual occupation areas, and perhaps also, therefore, in dumped midden deposits such as at Blackfriars.¹⁷² It is interesting that in the same deposits goose bones are more common relative to fowl than in later deposits associated with the scullery building; but whether this is a genuine difference in quality of meat consumed or a depositional anomaly is again unclear. Mary Harman points out that all skeletal elements are represented among the bones, suggesting (assuming this is the Priory's rubbish) that the friars bought meat as whole carcasses, part carcasses, or live animals rather than already butchered. This was also the case at Leicester Austin Friars.¹⁷³

The consistent presence of sturgeon among the fish-bones does point more definitely towards a superior diet. The large number of fish-bones recovered by sieving at Blackfriars makes the quality of the information on this part of the diet much better than for most other published medieval sites in inland Britain. The significance of sturgeon being important at Blackfriars does not rely on the sieved samples, however: bony plates of sturgeon came from many of the hand-excavated deposits and their absence on tenement sites locally is, therefore, significant.

It is interesting that an extremely high proportion of the Blackfriars fish-bones (and of the species represented) are marine fish, although Oxford is about as far from the sea as can be reached in England. The quality of the evidence here is important, for it bears out less

¹⁶⁷ I am grateful to Maureen Mellor for this information.

¹⁶⁸ W.J. Blair, 'The Fragments of Worked Stone', in Lambrick and Woods, 222-6.

¹⁶⁹ R. Wilson in N. Palmer, 'The Hamel', 124-225; B. Marples in B. Durham, 'Archaeological Investigations in St. Aldates, Oxford', *Oxoniensia*, xlii (1977), 83-203; R. Wilson in B. Durham, 'The Thames Crossing at Oxford', 77 and microfiche F02.

¹⁷⁰ *Ibid.*, and information kindly provided by Bob Wilson, to whom I am grateful for discussing the points raised here.

¹⁷¹ C.R. Thawley, 'The Mammal, Bird and Fish Bones', in J.E. Mellor and T. Pearce, *The Austin Friars, Leicester*, CBA Research Rep. xxxv (1981), 173-5.

¹⁷² I am grateful to Bob Wilson for this observation.

¹⁷³ C.R. Thawley in *The Austin Friars, Leicester*, 175.

conclusive indications from other inland urban friaries such as Leicester and Guildford.¹⁷⁴ At Oxford Blackfriars the figures are two freshwater, three migratory and nine marine species. Because of their urban situation, and also perhaps the basic ethos of the mendicants, friaries tended not to have fishponds in the way that many rural monasteries did, and it appears that riverside friaries like Oxford, Guildford and Leicester probably did not exploit the natural resources of their rivers to a significant extent. It will be useful when more comparative evidence becomes available for other inland sites, but there is already some indication locally that even in the types of establishment expected or known to have fishponds, marine fish were still very important. This is clearest for Chalgrove moated manor with five freshwater, two migratory and twelve marine species recorded.¹⁷⁵ Abingdon Abbey bought much marine fish, though it is unknown how far this was supplemented from their own fishponds.¹⁷⁶ Unsieved collections from Middleton Stoney castle and tenements in Oxford are also dominated by marine fish, though this may be a biased impression through lack of sieving.¹⁷⁷ Sieved samples at Stert Street, Abingdon,¹⁷⁸ produced roughly equal proportions of freshwater and marine species (nine freshwater, three migratory, ten marine).

The abundance of fish-bones recovered from Blackfriars may also be significant. This was not the result of an exceptionally full and systematic sampling policy: indeed, it is in some ways unfortunate that sampling was not more thorough. Samples were taken from occupation or dump layers which were quite obviously outstandingly rich in fish-bones. The drains also produced many bones, though from larger volumes of sediment sampled for other organic remains. There are good reasons to believe that these deposits represent waste from the nearby kitchens, perhaps in the scullery, and it is interesting to note that at Chalgrove the sieved samples richest in fishbones came from the area of the buttery, between the kitchen and the hall.¹⁷⁹ Even so, the proportion of fish-bones to mammal and bird bones was vastly higher from the Blackfriars scullery layers.¹⁸⁰ These layers produced between four and seventeen times more fish-bone waste than sieved pit deposits at Stert Street, Abingdon, but the figures for the main culvert are very similar.¹⁸¹ Deposits visibly dense with fishbones have not been reported at other sites in Oxford, and this raises the possibility that there is a real distinction at Blackfriars indicating that fish was generally more important in the friars' diet than in that of contemporary lay people. This would be very proper in a religious house, though the other dietary evidence hardly suggests a high degree of asceticism, and it is very doubtful whether such imperfect evidence can be taken to reflect a real trend. To establish the true pattern of fish consumption over a range of medieval sites requires a much more exhaustive programme of sampling and sieving deposits of various types.

Eggshell was also common in some of the deposits, but here again the significance of eggs in the diet is really unknown, and the same applies to shellfish. Both could have been important.

¹⁷⁴ Ibid., 173-4; G. Done, 'The Animal Bone', in Poulton and Woods, *Dominican Friary in Guildford*, microfiche M159.

¹⁷⁵ I am grateful to Mike Wilkinson and Bob Wilson for this information.

¹⁷⁶ J. Bond, 'The Documentary Evidence' [for livestock], in S. Rahtz and T. Rowley, *Middleton Stoney* (Oxford University Dept. for External Studies 1984), 162.

¹⁷⁷ B. Levitan, 'The Vertebrate Remains', in Rahtz and Rowley, *Middleton Stoney*, 121-2.

¹⁷⁸ A. Wheeler, 'Fish Remains', in M. Parrington, 'Excavations at Stert Street, Abingdon, Oxon.', *Oxoniensia*, xlv (1979), 21-3.

¹⁷⁹ I am grateful to Bob Wilson for information concerning Chalgrove.

¹⁸⁰ The methods of quantification are not directly comparable but the difference is extremely marked.

¹⁸¹ Wheeler in Parrington, 'Stert Street, Abingdon', 21-3.

The other part of the diet which seems to be relatively high-class is the fruits consumed. The numbers of seeds represented is very small, but both the range of fruits and the superior varieties, compared to more lowly alternatives present at tenement sites, bear this out.

Other Domestic Arrangements

The evidence from the drains (one of them internal) suggests that the buildings in the area of the scullery and kitchens were notably free from vermin and reasonably clean compared with many tenement sites. A reasonably clean water-supply was provided by the culvert running past the kitchens, and this may have been used in the kitchens and for washing and cleaning. From at least the 1280s drinking water was provided by a conduit from North Hinksey, and Dr London in 1538 reported that it 'runneth freshly'.¹⁸²

The drains for the reredorter have not definitely been located but must have been separate, probably on the east side of the Priory, perhaps involving an artificial leat taken from the Blackfriars mill stream and possibly a channel in the area of the Telephone Exchange (see above, p. 137).

The friars bought pottery mainly from the principal local suppliers, and in the second half of the 13th century this included noticeably good-quality products. A high proportion of jugs from the scullery and domestic buildings was recorded, but it is unclear whether this reflects merely the function of the buildings excavated or the greater need for jugs in a large communal institution such as this. Metal vessels and wooden bowls and platters may also have been used, as at Leicester Austin Friars,¹⁸³ but apart from the unstratified cauldron leg, examples were not recovered. The evidence of personal objects, shoes and other garments is also slight compared with Leicester.

General Conclusions

The excavations on the second site of the Blackfriars Priory in Oxford have always been very limited in extent, both through lack of resources and problems of the depth of overburden. Over the years, since the first tiny excavation in 1961, it has nevertheless been possible to piece together a remarkably comprehensive plan, albeit one which relies heavily on interpretation and inference. This has been possible because although there are numerous irregularities and some puzzles, the basic skeleton of the plan – the church and great cloister – was built to a regular, predictable pattern and the quality of construction was such that the buildings have been easy to find and were devoid of confusing later rebuilds. While an enormous amount more could have been gained by much larger-scale excavation – and indeed still could in the future in those areas not totally destroyed – the cost-effectiveness in terms of information retrieved might have declined. The value of the archaeological evidence lies less in the detail recovered than in the range of evidence and the overall impressions gained. The evidence brings together a relatively complete plan of a particularly large and architecturally significant priory; indications of the quality of the buildings, their construction and decoration; a reasonably large sample of burials with their distribution in different parts of the complex; evidence for the environment and surroundings of the Priory; quite a good indication of the friars' diet and something of other domestic arrangements. Individually all these elements are probably better illustrated by evidence from other friaries, but few as yet provide as rounded a picture as has gradually been built up here.

¹⁸² Hinnebusch (1938), 69–70.

¹⁸³ P. Clay, 'The Small Finds – Non-structural', in Mellor and Pearce, *The Austin Friars, Leicester*, 130–45.

Various aspects of the Blackfriars' material remains give a distinct impression of quality, if not wealth; there is certainly no apparent emphasis on poverty as appropriate to the general ethos and rules of the Order. This is evident in the construction and flooring of the buildings, the superiority of the diet, and the quality of some material possessions such as pottery. This must partly reflect royal and private munificence¹⁸⁴, though to some extent it is no more than might be expected of a large, distinguished institution providing a reasonably good standard of living for its members and visitors. However, the Greyfriars, by comparison, seem to have had buildings whose construction and decoration were less impressive and needed more replacement or extension, and at the Dissolution they had very much less valuable jewels and plate than the Blackfriars.¹⁸⁵

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¹⁸⁴ Hinnebusch (1938); A.G. Little, 'The House of Black Friars', *V.C.H. Oxon.* ii, 107-22.

¹⁸⁵ A.G. Little, *Ibid.*, 121; and 'The House of Grey Friars', *V.C.H. Oxon.* ii, 136. The Friars' attitudes and disputes over their adherence to vows of poverty are summarised by D. Knowles, *The Religious Orders in England*, i, 149-50 and 221-4.