Leicestershire Archaeological Field Unit Report

CBA RESEARCH REPORT 35

The Austin Friars, Leicester

by Jean E Mellor and
T Pearce

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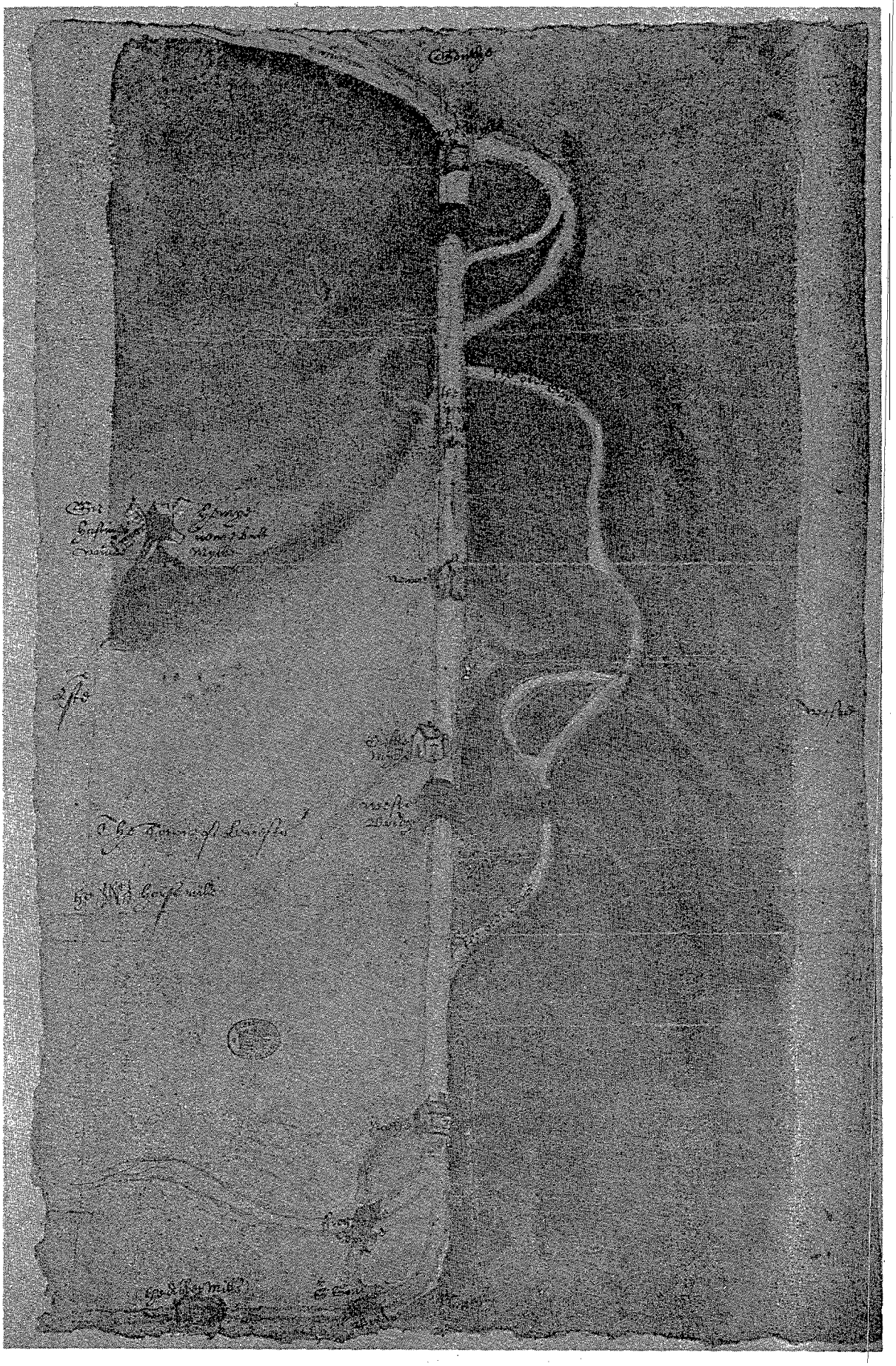

Plan showing the New Cut drawn c AD 1600; north is at the bottom of the page (Leics Record Office, Hall Papers bound BR 11/18/1)

Preface

As the contributions to this report are arranged in a somewhat unfamiliar order, some explanation of the underlying rationale for this break with tradition seems required.

The contents are arranged in what seems to the authors to be a logical sequence, progressing first from the known history of the site to the further evidence revealed by its excavation. As the excavation is concerned primarily with the plan and interpretation of the buildings, the reports dealing with the structural material come next, followed by the artefactual reports which contribute to the interpretation of the site and, lastly, by the various types of environmental evidence which provide some indication of the background against which the history and development of the site should be seen.

Considerations of space and therefore of finance have meant that not all the specialist reports could be included in full. This applies particularly to the three scientific reports, all of which include detailed lists and measurements. In these cases the summary of the results and discussion of their implications is presented in full in the text, and the detailed lists appear on microfiche, contained in an envelope inside the back cover. A glossary of shoe terms is also included on fiche. For those students without access to a microfiche reader print-outs of the material can be obtained by applying to the publisher.

All the material from the site, including the excavation archive, is stored in Leicestershire Museums, accession numbers 389' 1973 and 568' 1967.

The excavations were carried out between 1973 and 1978 by Leicestershire County Council Archaeological Field Unit, directed by Jean E Mellor and Terry Pearce, with the aid of grants from the Department of the Environment and Leicestershire County Council. We should like to take this opportunity to thank Leicester City Council and Leicestershire County Council for allowing the excavations to take place. Site supervision and recording was undertaken mainly by the Unit staff whose names appear elsewhere in this report and also by Peter Liddle and David Bent. Our thanks must also be recorded to the labour force, both paid and unpaid, too numerous to mention individually but without whom the excavation would not have been possible.

During the excavation itself and also during the preparation of this report a number of people have discussed various problems as they arose. In particular we should like to thank Canon J C Dickinson and David Parsons, for their invaluable help over the interpretation of the plan. We are also grateful to the Very Rev John C Hughes, Janet Martin, Professor H P Moon, S E Rigold, and David Smith for their assistance over particular problems and, not least, to Glyn Coppack, Inspector of Ancient Monuments, G A Chinnery, Assistant Director, Human History Division, Leicestershire Museums, and P J Boylan, Director, Leicestershire Museums for their support and encouragement.

We should like to thank the various specialists who have contributed sections of this report, not forgetting the members of the Field Unit Staff, Clare Allin, Patrick Clay, and John Lucas each of whom is responsible for his or her own illustrations. In addition the plans and sections were drawn by Patrick Clay and the pottery was processed and drawn by Deborah Sawday, who was also responsible for drawing up all the graphs. All the typing, with the exception of the environmental report, was done by Karen Burrage. The photographs were taken by Iona Cruickshank and Steven Thursfield, successive photographers at Leicestershire Museums, and the finds were conserved in the Museum's laboratory by Theodore Sturge and Simon Aked. The production of this report has been very much a team effort and to every member of that team we should like to extend our thanks.

JEM & TP

Introduction

Few excavations have been undertaken on urban friaries and there are many aspects of the buildings and economy of the mendicant houses that are imperfectly understood. The potential of these houses within medieval archaeology has still to be fully realised. The advantages of continuous corporate existence and of regular documentary references both to the religious activity and to involvement in secular concerns makes this a worthwhile subject to tackle. There is a further advantage in that the friars were late to arrive in western Europe and had a finite length of stay in Britain; their existence was compressed within three centuries. Their architectural and archaeological record falls between closely defined limits.

The house of the Austin Friars at Leicester is both typical and exceptional. It stands on the edge of the town outside the west gate. Its history was uneventful though the friars continued to receive the support of the townsfolk throughout the house's life. After the Dissolution the site was harshly treated and the excavation has rescued the traces of this house amid difficult physical conditions. The hazards of site disturbance mean that this report must concentrate upon the secular and economic aspects of the friary not upon the church and its ritual requirements. The gradual development of the domestic ranges with a substantial refectory culminated in a formal 'Lesser Cloister', a feature also to be seen at Walsingham Grey Friars and formerly at Ipswich Black Friars. The east-west ditch that ran through the site and the high water-table adjacent to the two arms of the river Soar were factors conducive to good conditions for the recovery of wood, leather, and environmental evidence. It is this aspect of the friary's history and economy which is most rewarding. The close identity of the Austin Friars with the Shoemakers' Guild in Leicester now receives tangible evidence; there were similar guild links in Bristol with the Black Friars house. The land use of the adjacent meadow is now attested both from documents and from botanical and insect evidence. It is in these directions that the excavation at Leicester is exceptional among houses of the friars.

In other respects it is typical. The pottery throws light on local patterns of market distribution and, as at Boston Black Friars, is not evidence of corporate poverty; the roof tiles and the finds of metalwork may be compared with any modest urban domestic residence; the floor tiles, the worked stone, and the burials provide evidence typical of many monasteries in the East Midlands.

The blend of structural development and material evidence within a modest friary set in a borough whose records survive extensively is a valuable combination, Its publication can only stimulate further work which must clearly assess the site's potentialities before excavation is envisaged.

Lawrence Butler

The documentary evidence

Janet Martin

History of the friary to 1538

The Augustinian (or Austin) Friars were established as an order in the middle of the 13th century, as a union of a number of groups of hermit friars, all following the rule of St Augustine. (The history of the order is best summarized in Gwynn 1940. For individual houses see also Roth **1** 1966 and **2** 1961, a work which is marred by a number of inaccuracies.) This amalgamation was given formal expression in a papal Bull of Union in 1256, but the first English house was established rather earlier, probably in 1248, at Stoke-by-Glare in Suffolk, and the following year the order was granted general royal protection in England (Gwynn 1940, 15). According to the 15th century historian, John Capgrave, himself an Austin, the Leicester house was founded in 1254: 'and in that same yere (1254) was biggid too conventis in Ynglond . . . on at Ludlow, a othir at Leyceter' (Hingeston 1858, 157). The foundation at Ludlow has been dated on archaeological grounds to the middle of the 13th century (Botfield 1863, 182), and in lieu of any documentary evidence to the contrary Capgrave's date may be accepted for both houses, although nothing further is known of the Leicester friary for another 50 years.

Capgrave named no founder, but if his date is accepted there could be no more likely candidate than Simon de Montfort himself. As Earl of Leicester, he was lord of extensive estates to the west and south of the town and was therefore in a position to bestow a site upon the new friary. He was a noted patron of the mendicant orders, a close friend of the Franciscan Adam Marsh, and could well have extended his patronage to the Augustinians after his return from Gascony in 1254, when he was certainly deeply concerned with Leicester's affairs (Jacob 1930, 39, 125; *RBL* **1,** 46-5 1). A later endowment by his successor, Earl Thomas, strengthens this assumption.

The site upon which the friary was established was the northern part of an island between two arms of the River Soar, outside the West Gate, and north of the road which led out of the town over the West Bridge towards the bridge in Braunstone Gate. It cannot have been an especially desirable site, being damp and low-lying, but the friars came late to the urban scene and had to be content with what they were offered. In Leicester only the Franciscans obtained land near the centre of the town, and the Austins, like the Dominicans, were housed on less favourable sites. (Brief histories of the friaries are given in VCH **2,** 1954, 33-5.) However, the relatively retired character of the island may have had its own appeal for an order which *was* ostensibly eremitical in character. The site was extended in 1304 by a grant from Thomas, Earl of Lancaster, of 'three messuages . . . adjoining (the friars') dwelling place, for the enlargement thereof (Cal Pat Rolls 1301-7, 268). No further grants are known, and it can be assumed that the site was now complete and that the three houses given by Earl Thomas stood in West Bridge Street, where development would have taken place along the road leading out of the town. The whole area of the friary with the exception of one close of land on the west side of the river (see below) was rather under four acres.

In the course of those transactions the Augustinians appear to have acquired a tenement, perhaps also in West Bridge Street, formerly occupied by the Friars of the Sack. This obscure order had a house in Leicester, although nothing very much is known about it, The order was disbanded in 1274, after which year no new members were admitted though existing houses were actually suppressed (Emery 1943, 323-34; 1960,591-5). The only references to the Leicester house are for years after 1274. In 1283 the prior was involved in a lawsuit about an alleged desseisin of the free tenement of the order. This tenement is described as being in the suburbs of Leicester and in Bruntingthorpe (Nichols **1** (2), 302 n 6). Bruntingthorpe, however, is a village nine miles south-east of the town and could in no sense be describedas a suburb. Quite clearly it is Bromkinsthorpe that is meant, the extra mutual part of St Mary's parish, and the house belonging to the Friars of the Sack cannot therefore have been very away from the Austin friary. In 1296 Bishop Oliver Sutton of Lincoln issued a mandate to the archdeacon of Leicester to prevent the property of the Friars of the Sack from being put to secular uses (Hill 1965, 119-21). If this mandate was carried out it must be supposed that the Augustinian friary, as the only ecclesiastical establishment in Bromkinsthorpe, added the Friars of the Sack's house to their own property (The same thing happened at Stamford, where the Augustinian Friary was actually founded on a site belonging to the Friars of the Sack: cf Hartley & Rogers 1974,60,65.)

The Austins had built their church by 1306 when John of Cowley, the parson of Heyford in Oxfordshire, made a second escape from prison in the town, where he had been in custody under an accusation of theft, and 'escaped to church of the Augustine Friars outside the bounds *(limites)* of the town' (*RBL* **1,** 368,371. By the 15th century the land on which the friary stood was considered to be within the borough: cf VCH **4,** 1958, 387). The position of the friars' church, outside the walls, and apparently at this time outside the civic jurisdiction, would have made it an attractive place of sanctuary for John of Cowley, as for another 'notorious thief, John of Sutton, who took refuge there in 1350 (Cal Pat Rolls 1348-50, 594). There is no documentary evidence as to the exact position of the church, but it might be expected to lie east and west, and to the south of the conventual buildings, between those buildings and the graveyard. Throsby recorded that traces of the church had been found by people 'who have lately dug in this place to make a garden, by whom it appears that the foundations of buildings were found almost all the way. . . many of which I saw taken up myself, and he stated that the church was 'in length about 150 feet, and in width 90 feet' (Nichols **l**(2), 30 1; Throsby 1791,; 290. 'Not a vestige of it was visible excepting the traces of its foundation.' Some ruins, however, remained above the ground in the early 18th century: cf Nichols op *cit,* pl XXIII and 302, n 1. The drawing of 1722 in Bodleian Library MS Top. Gen.dl4 f7 seems however to be more accurate).

Details of the history of the friary are sparse. The house was not a large one. Royal pittances, occasional sums paid by the king for the maintenance of the friars and distributed at the rate of 4d a day for each man, indicate a community of about 20 in the early 14th century. The first of these payments was made in December 1300 and was of 6s 8d, which would support 20 men (British Library Add MS 7966A f 25v; Roth **1** 1966, 100 n 84). In 1320 9s was paid for 27 men (British Library Add MS 17362 f 3v), ,but there were only 20 a few years later, and 22 in 1329 (Roth **1** 1966, 281 n 665; **2** 1961,262). Despite the small size of their house, the friars at Leicester were hosts to a general council of the order in England in 1372, when John of Gaunt gave them £10 towards the expenses of the meeting (Armytage-Smith **2** 1911, 74). The patronage of the earls and dukes of Lancaster was extended to all three houses of friars in the town (Gaunt gave each of them two oaktrees in 1375: *ibid,*

322), and there is no indication that the lords of Leicester favoured one order more than the others.

The Austin friars in Oxford, Cambridge, and London were considerable scholars, deeply involved in politics and religious controversy, and there was frequent movement from the various houses of friars who went to study either in another house or at one of the universities. It has been suggested that both Thomas Ratcliffe and Geoffrey Hardeby, notable Augustinian scholars in the 14th century, were Leicester friars, but this is not borne out by the most recent research (Nichols **1**(2), 300, but cf Emden **3** 1959, 1540; **2** 1958, 869). There was, however, apparently a *studium particulure* (a grammar school) at Leicester in the late 14th century, when a scholar from Bruges, Giles Juvenis or Ywenis, was sent there (Roth **2** 1961, 243-4; a different date is given in *ibid* **1** 1966, 144) but we know nothing more of the scholastic pursuits of the Leicester Austins, and no books have survived from their library. Ordinations of friars from Leicester are noted in the registers of successive bishops of Lincoln and elsewhere, and some were licensed as confessors (eg the ordination in 1425 of Richard Catell and William Bentley in Jacob **4** 1947. William Blount, prior of Leicester, was licensed in 1329 to hear confessions in the archdeaconry of Leicester: Roth **2** 1961, 124), but none of the friars whose names appear in such records are known to have proceeded to either Oxford or Cambridge. Unlike the Leicester Franciscans, several of whom were prosecuted in 1402 for favouring the deposed and murdered Richard II (VCH **2** 1954, 33-4), the Augustinians appear not to have involved themselves in the political upheavals of the late 14th century.

At that time, however, we have a considerable number of bequests to the friary. In 1398 Sir William Chaworth left the house ten marks (Roth **1** 1966, 282). Twelve years later Lady Alice Bassett of Castle Bytham, Lincolnshire, left the friars 40s to pray for her soul and for the souls of all faithful departed (Archer 1963, 276). It is as the providers of intercessory prayers, a service that was continuous in all religious houses but is apt to be forgotten in their histories, that the Augustinian Friars of Leicester have left their most prominent mark in the last century and a half of their house's life. 'The fulfilment of such liturgical duties must have been a real burden' (Gwynn 1940, 108), but at the same time the benefits were undoubtedly considerable, especially for a small house without other endowments. Bequests to the Leicester friary varied from the 100s left by William, Lord Hastings, in 1481 to the 12d mentioned in the will of John Hawes of Leicester in 1517 (Roth **2** 1961, 367; Skillington 1966, 43). Some testators lived outside the town, like Hugh Willoughby of Wollaton, Nottinghamshire, who gave 20s in 1443 for prayers for his father Edmund, augmenting the bequest made in 1415 by his mother who had asked also for prayers for Lady Joan Bassett, the widow of the founder of the Austin friary at Atherstone, Warwickshire (Roth **2** 1961, 325; *ibid* **1** 1966, 240, 282). Occasionally a will included a gift in kind, not in money, like a quarter of malt and the 'ronte' (small) steer left by Thomas Fundern of Ratcliffe on Soar, Nottinghamshire, in 1525 *(ibid* **2** 1961, 428).

The greatest number of bequests, as might be expected, were made by citizens of Leicester itself. There was a close connection between the Austins and the Leicester gild of. shoemakers. In February 1531/2 the gild cast its accounts, which included a yearly payment of 10s to 'ye Austin Frears in Leicester for all the bretherne and sisterne to be prayde for' (RBL **3,** 31). A gild of 'our Lady beyond the Water' attached to the church of the Austin Friars is mentioned in the will of Thomas Smith in 1522 (Skillington 1966, 40), and may have been connected with the shoemakers; the testator was however a draper. They were prayed for in life, but the friars were frequently called upon to accompany others to the grave. In 1524 John Martin, draper, left 3s 4d to each of the three orders of friars 'to bring me to church', and in 1517 the Augustinians received 10s under the will of Thomas Newton after they had carried his body to St Martin's church (Charman 1951, 28; Billson 1920, 161). Testators often specified services to be held in the friars' own church: Ralph Gells in 1516 and Alderman Miles Lambert in 1517 both gave money for services in all three friary churches (Skillington 1966,37). The Austins' church was specifically mentioned in the wills of John Dawson in 1520 and Isabella Gyllott in 1523, both of whom asked for trentals (a cycle of 30 masses) to be said there after their funerals *(ibid,* 42-3, 37). All these bequests must be seen in the context of a multiplicity of other gifts to lights and altars, for prayers and masses, and the generally rich pattern of late medieval parish life, in which it is clear that the Augustinian friars still kept their place. The frequency with which they are mentioned in Leicester wills shows that contact with the people, which had originally been the purpose and chief characteristic of the mendicant orders, had not been lost.

A provincial chapter was held at Leicester in 1532 (Roth **2** 1961, 441-2), but the days of the friary were already numbered, and its community, never large, may have dwindled considerably in the last years. A rental of the friary lands made after the Dissolution (Public Record Office SC6/Henry VIII/7311 m 66d) shows that only the conventual buildings and a 'vacant place on the south side of the church' were actually in the friars' own occupation immediately before 1538. The rest of the land was leased in the months before the house was surrendered, perhaps because there was a need for cash in hand and both entry fines and rents would accrue from such leases. The deed of surrender was signed on 10 November 1538 by the prior, Richard Preston, the sub-prior, Richard Holmes, and by two friars, John Whyte and John Hunter, by then the only brothers. It was sealed with the only known representation of the common seal of the house, which shows St Katherine to whom the friary was dedicated (Public Record Office E322/124. The seal is reproduced in Nichols **1** (2), p1 XVII fig 12, not fig 8 as stated *ibid,* 300 n 14; the misprint has misled Roth 2 1961, 478. The inscription on the seal is anomalous; the use of the word *hospitalis is* unusual but not impossible for a friary).

The property of the house, a very small one, was valued at £1 2s a year (details from Public Record Office SC6/Henry VIII/7311 m 66d, here rendered in translation The dates of the leases and other details are not rendered correctly by Roth **2** 1961, 478). It consisted of 8s for the rent of a 'close within the precinct...called the Water Close...demised to John Smythe by indenture...dated 7 October 29 Henry VIII (1537) for 21 years', the same sum for another close within the precinct 'called le Bakbreke' also let to John Smythe by lease dated 19 September 1538, and 1s 8d for the rent of 'one curtilage lying beyond the west gate of the town', leased to Thomas Cressey at a date not specified. Water Close is almost certainly the 'water lagge' of later deeds (see below), and lay to the north of the conventional buildings, divided from them by the 'lytle gutter of water' mentioned in Robert Hewrrick's deed of 1597. 'Le Bakbreke' may be identified with some certainty as the later Bow Bridge Close (see below). The curtilage leased to Thomas Cressey must be the 'lyttyl house' mentioned in 1597, when it was described as lying between the Soar and the wall of the friary and formerly let for 20d (For the property in 1597 see below, p3. The name 'Le Bakbreke' is apparently from an early form of 'brake', an arable close: cf Oxford English Dictionary. The 'lytyll house' should not be confused with the chapel on the West

Bridge, which also belonged to Robert Herrick: cf Billson 1920, 93-5.) In addition the friars themselves occupied the ground upon which the buildings stood, a vacant plot south of-the church, which was almost certainly their graveyard, and a small piece of meadow called 'the Prée', the site of which is not clear. It may have been between the buildings and the river. By 1542-3, the date of the rental, all the buildings had been destroyed. The king's receiver accounted for 2s 'for the soil and land within the precinct of the said late house where the houses and buildings there once were built and situate.' The dormitory was sold to the dean of the Newarke College in 1538 -9 (Public Record Office SC6/Henry VIII/7339. The total price is not given. The receiver accounted for 20d in 1539, and 28s 8d is noted as already paid. It is not clear whether more was owing), and the building must have been demolished, presumably for the materials, shortly afterwards. The Prée was valued in 1542 3 at 12d, and the vacant plot at 16d. The latter was apparently leased by the authority of the king's officers, Robert Burgoyn and George Gyfford, on 5 August 1538, probably when they inspected the friary before the surrender, and in 1542 -3 it was held by the king's receiver, Thomas Catlyn.

Descent of the site from 1538

The main site

The lands surrendered in 1538 remained in the king's hands for almost seven years. In July 1545 the whole site, with all the friars' property in and around Leicester, was granted to two speculators in monastic lands, John Bellowe and John Broxholme, as a small part of a very extensive grant for which they paid a total of £3,701 19s 0½d (Letters and Papers of Henry VIII XX (l), 656, not 1536 as in Nichols 1 (2), 301). It is not known when they disposed of the Austin Friars, but by 1597 the owner was a Robert Temple of Leicester and his son Thomas. This was perhaps Robert Temple, servant to Thomas Hastings, brother of the Earl of Huntingdon *(RBL* 3, 59, 92). In 1597 the Temples sold both the Austin Friars and the Grey Friars to Robert Herrick of Leicester for £120. The land is carefully described: 'all that the scyte, cyrcuite, and precyncte of the late dyssolved religyouse howse, or frerye, commonly called or knowne by the name of *The Augustyne Freers,* scytuate, lyeing, and being, in or near adjoynyng to the west part of the towne of Leicester aforesaid, and all the syte and grownde therein conteyned, in quantytie by estemacyon three akers, be vt more or lesse, now in the tenure and occupyeing of the said Robert Temple, or of his assigne or assignes; and one peece of meadow-grounde, devyeded by a lytle guttere of-water one the North parte of the said scyte next adjoynyng; and also one close of-pasture with the appurtenances, called the Bowehryge-close, conteyning by estymacion three akers of grounde, be yt more or less, late parcel of the said late dyssolved relygyouse howse, or fiyerye, lyeing westwarde between the water of Wye, devyedyng yt from the said fryers of the East partie, and the grounde of Leonard Dannett, esquyer, of the west parte' (Nichols 1(2), 301 -2. The 'water of Wye' is the Old Soar. The 'lytle gutture of water' is the drain between the Old Soar and the main arm of-the river, north of the excavated area. Robert Herrick was MP for Leicester in 1588, a JP, alderman, and three times mayor of the town; see Leicester Museums 1956, 7-8).

Robert Herrick died in 1618, leaving the Austin Friars to his son Toby, vicar of Houghton on the Hill, 'with the Boe Bridge Close, with the Water lagge, with a tenement at the Bridge foote, with the Augustine Friars, and a meadow by the same' (Greenhill 1963, 14-15. A 'waterlagge' is a water meadow; cf Charman 1951, 25. In 1697 the Herrick property consisted of Bow Bridge Close, Augustine Friars Close, and 'a yard called the waterlagg': LRO 109/30/36). The Herrick family remained in possession for the next 150 years, though they mortgaged the property heavily in the early 18th century, until after the death of the Rev Samuel Herrick his widow Anne sold part of the Austin Friars to Joseph Cradock in 1751. The land sold was only that part of the site which lay between the two arms of the river; Bow Bridge Close was not included (see below). Cradock left the land he had bought to his son Joseph Cradock of Gumley when he died in 1753, and it formed part of the settlement upon the younger Joseph's wife, Mrs Anna Francisca Stratford, in 1765. There were no children of this marriage, and in 1795 Joseph Cradock sold out to the Leicester and Northampton Canal Company. The property then consisted of two messuages near the West Bridge and a close of 3 acres 24 perches between the two arms of the river and behind the houses (details from LRO 3D42/2/240. Throsby 1791, 290, refers to the site as 'Bruce's Friars'. The name suggests that it had been rented from the Herricks by Thomas Bruce, a farmer who lived in Soar Lane, now Bath Lane, on the opposite bank of the river: see *RBL* 5, 309; 6, passim).

The southern limit of the site, as in the Middle Ages, was the road called Bridge Street. When Bridge Street reached the Old Soar, a turning ran northward along the side of the river to the Bow Bridge. This road was known later as Bow Bridge Street, but when the canal company bought the Austin Friars it was still regarded as part of Watts' Causeway, the name of the lane to Dannett's Hall, now King Richard's Road. (The road is not shown on Speed's map of 1600, but it seems certain that it existed. It is shown in the drawing of the Bow Bridge in 1722, in Bodleian Library MS Top. Gen. d14f7, outside what is clearly the boundary wall of the friary. It is still called Watts' Causeway in deeds of 1824 and 1826: LRO 3D42/2/328, 3D42/2/321.) The canal company seem to have improved this lane and to have drained the small arm of the Old Soar which is shown on the oldest maps between this length of Watts' Causeway and the island called Roye Close, part of which was later attached to houses on the Austin Friars site, although it had not belonged to the friars (LRO 3D42/2/239, 3D42/2/238, 3D32/2/321, Roye Close is clearly indicated as an island on Roberts's map of 1741; cf Brown 1970,40). The company laid out a new road which ran east from the Bow Bridge almost to the main branch of the river and then turned south to join Bridge Street close to the West Bridge, thus creating a rectangular plot of land which was sold off in various lots between 1800 and 1822. (The canal company's new road is shown on the Ordnance Survey draught of 1824: British Library, OS Drawings, part 12, sheet 263, series 223. There is another map of the area *c* 1850 in LRO 3D34/2/227.) This new road was variously called Bow Bridge Street or Augustine Friars, and it was not until a good deal later that the name of Bow Bridge Street was firmly attached to the length of Watts' Causeway on the eastern bank of the Old Soar. The canal company was only interested in the land to the north of the new road, and even there they sold off Tone block of land at the south-west corner. Their toll-collector, however, lived in a house in Bridge Street until 1822 (LRO 3D42/2/318).

North of the new road, on the site of the old friary buildings and the former Water Close, the canal company) built wharfs along the river where goods were landed, especially coal. In 1830 all the land there which belonged to the company was purchased by the newly-formed Leicester and Swannington Railway Company, and became the site of their terminus station. The old name survived however,

and in 1832 the railway was advertised as starting from the Augustine Friars. In 1846 the railway company and all its assets were purchased by the Midland Railway Company (Clinker 1954, 68, 77).

The rectangle of land south of the canal company's new road became the site of a small worsted factory, two largish houses, and a huddle of smaller ones which developed around two courts at the south-west corner. By the 1870s, although the area had become very much rundown, the land had risen in value and the owners of the greater part of it were able to sell to the Midland Railway for handsome sums of money. (Two houses at the north-west corner, for instance, were sold in 1868 for £3,500: LRO 3D42/55/30.) Bow Bridge was rebuilt in 1863, and the flood prevention works carried out by the corporation in succeeding years slightly altered the river boundaries (Storey 1895, 11, 75, 81-2). About 1884 most of the buildings on the southern part of the site were demolished for the building of St Augustine Street, though the two courts remained for many years. Finally, the south-east corner of the area was crossed by the Great Central Railway and in the 1970s the last buildings were demolished. Yet another new road, Richard III Road, was built to the north where the coal wharfs and the railway station used to be. The memory of the friary is now preserved only in the name of St Augustine Street, now largely bereft of buildings, and in that of the bakery built on the Water Close of 1542-3. It may however be noted here that until 1895 the site of the friary formed an extra-parochial area known as Whitefriars, in which the county and city magistrates had equal jurisdiction. It was returned separately in the Census until 1891, and was not apparently included in the Poor Law Union until the end of 1861, when provision for poor relief was finally made. Ecclesiastically, Whitefriars was in St Nicholas's parish, although historically, before the establishment of the friary, it would have belonged to St Mary's (VCH **4** 1958, 387).

Bow Bridge Close

As well as their main site, the friars had also owned the close of land across the river to the west, on the former Watts' Causeway, now King Richard's Road. The close was connected with the main site by a footbridge, Little Bow Bridge, which was destroyed by flood water in 1791 and never rebuilt, although Joseph Cradock, who owned the main site, had an inspection made with a view to reinstating it (Throsby 1791, 136; Nichols **1** (2), 302 n 2). No trace of the foundations of this bridge has been found, and its exact position is not known, but it was only a few yards north of Bow Bridge itself. It is shown on Speed's map of 1600 and seems likely to have dated from before the Dissolution, when there would have been every reason for the friars to have private access to their own close. Pictures show it as a single curved arch, greatly decayed in its later years (eg Nichols **1** (2), pl XXII. The picturesque scene at Little Bow Bridge is described in Watts 1967, 60. If any foundations remained after the destruction of the bridge they would have been removed by the flood prevention works). Bow Bridge itself was certainly also in existence by 1600 and was perhaps named from the footbridge, which may well have been older. Tradition associates Bow Bridge with Richard III's departure from Leicester to the battle at Bosworth in 1485, and with his return to burial in the Grey Friars (Billson 1920, 177). The king's grave was despoiled after the suppression of the Franciscan friary and his remains thrown into the river near Bow Bridge; according to one version of the story they were afterwards gathered up and reburied in the graveyard of the Austins. When Bow Bridge was rebuilt in 1863 a stone recording the event was erected nearby, and has recently (1978) been incorporated in an adjacent new building.

Bow Bridge gave its name to the friars' close of land across the river which appears in the ministers' account of 1542-3 as 'le Bakbreke'. In the close and near the roadway stood St Augustine's well. It had probably served as the friary's water supply, and it survived into the early years of the 19th century. In 1666-7 it was repaired by order of the mayor *(RBL* **4**, 513). Throsby, writing in 1791, says that the well was 'surrounded with a brick wall, a yard high, covered with stone' (Throsby 1791, 290), and William Bickerstaff, contributing a description to Nichols's history, says that the well was 'three quarters of a yard broad, and the same in length within its inclosure; the depth of its water from the lip or back-edging on the earth, where it commonly overflows, is half a yard. It is covered with a mill-stone, and inclosed with stone and brick on three sides; that towards Bow-bridge and the town is open.' The well was destroyed when the road was widened shortly before 1815 (Nichols **1** (2), 301, n 9). It gave its name to Well Meadow, the next field westwards and also to St Augustine Well Meadow on the other side of the road (LRO 3D42/2/239 and map in 9D43/216/12).

The friars' land beyond the bridge formed part of the grant to the speculators of 1545 and descended to the Herricks, but was not sold to Joseph Cradock in 1751. It was purchased from John Herrick in 1814 by William Kelly, a Leicester merchant and draper, together with the house that Herrick had built there (LRO 9D43/216/4; Curtis 1831, 103). With his brother Samuel, Kelly established a factory for the manufacture of braces, and it was probably he who built the fine Gothic factory building which was known as Bow Bridge Works. Kelly and Company were the owners until about 1860 when the factory and house were bought by Archibald Turner and Company, who manufactured elastic webbing there. Regrettably both house and factory were demolished in 1964. Part of the boundary wall can still be seen in the lane which marks the limit of the former Bow Bridge Close, just west of the Monsanto building.

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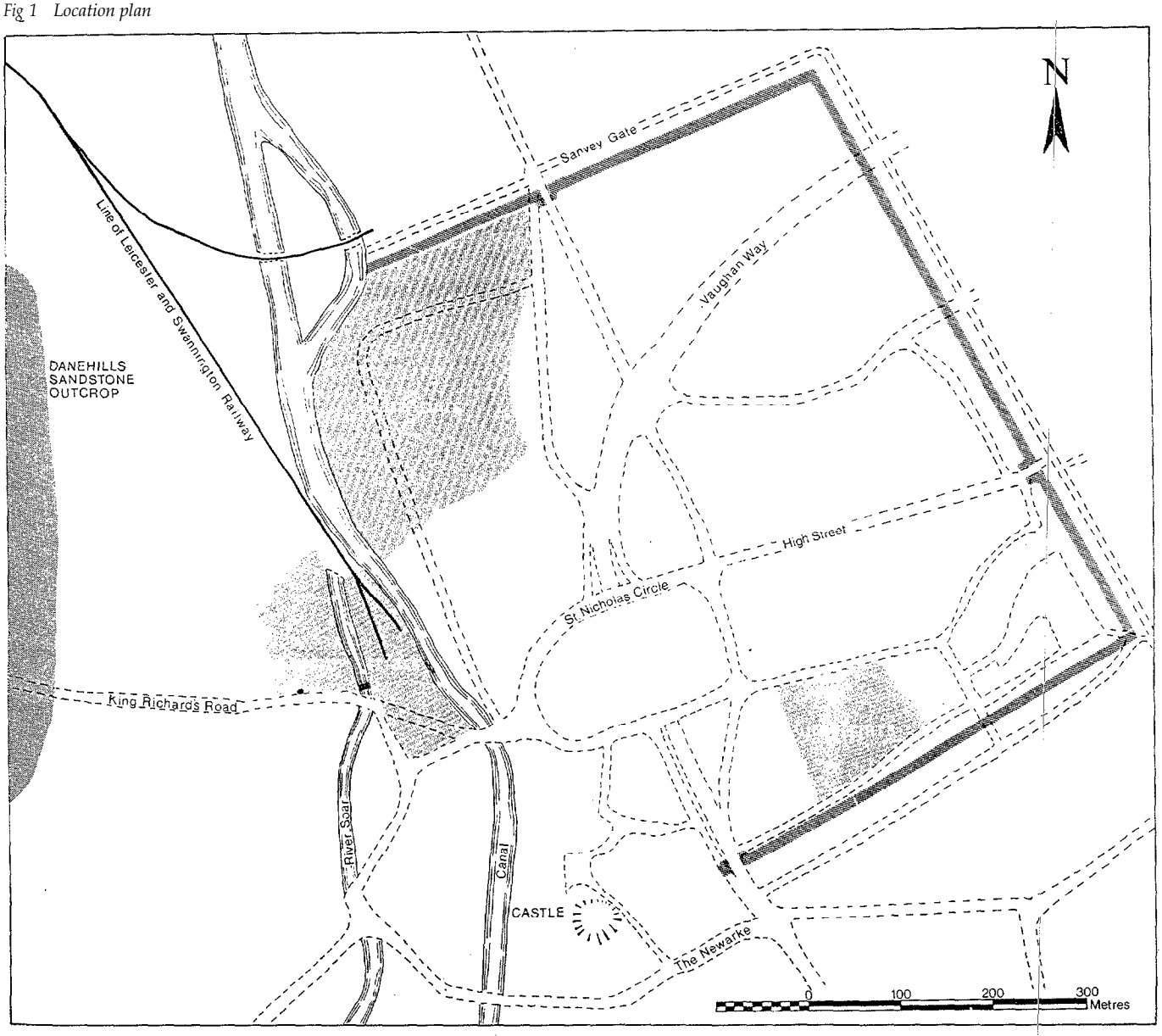
The excavations

Jean E Mellor and Terry Pearce

During the 13th century four houses of friars were established in Leicester. The Dominicans and Franciscans acquired land within the town itself while the Augustinian or Austin Friars and the minor order of the Friars of the Sack had to be content with less desirable sites outside the western limits of the town. In the centuries following the Dissolution, with the growth of Leicester as an industrial and commercial centre, vacant sites within the town were rapidly acquired for development. The sites of the Dominicans and Franciscans were soon marked only by the street names and are today completely inaccessible to the archaeologist. The peripheral land west of the river, however, escaped development until a much later date–at the end of the 18th century a garden was made on part of the site of the Augustinian Friary (Nichols **1** (2), 301). Much of the site was finally sealed by the construction of the terminus of the Leicester and Swannington railway which opened in 1832 (Fig 1). With the closure of the railway in 1966 the site became available for excavation which finally took place between August 1973 and June 1978.

The site of the buildings of the Austin Friary lies today between two arms of the River Soar; the post-Dissolution references to the friary often describe it as lying on an island but it is possible that this was not always so. The natural subsoil of the site is composed of various river deposits, mainly sand, gravel, and clay, at least partly underlain by peat, and the area must always have lain within the flood plain of the Soar. In 1967 a stretch of a military-type ditch dating to the first century AD was excavated on a site about 30m south of the 1973-8 friary excavations. There was no indication of the size of the fort,

Fig 1 Location plan



but it seems likely that it lay on the Fosse Way and guarded the river crossing. The existence of an eastern arm of the river at this date would have severely restricted the size of the fort.

A plan of Leicester Mills and Bridges drawn about 1600 shows the 'Friars' marked on the north part of an island between two arms of the river (frontispiece). The western arm is called The Old Soare while the eastern arm? which is drawn very straight, is called The New Cut. This is the only indication we have of the fact that the eastern arm of the Soar at this point may be, at least in part, man-made. The fact that the New Cut was so called in 1600 need not mean that it was then of recent construction; an area of Leicester outside the South Gate is still called the Newarke today although this particular 'New Work' dates from the 14th century. There is no reference to the New Cut in the Borough Records so there is no direct evidence of the date of its construction or to what extent it was a recutting of an existing channel or whether it was completely artificial.

On the 1600 plan the Castle Mill and the Newarke Mill lie on the New Cut which is also crossed by the West Bridge. Between 1191 and 1204 Earl Robert issued a charter releasing the burgesses of Leicester from certain payments, in which there is reference to carts carrying corn from Leicester to ' . . . my mills of Leicester' *(RBL* 1, 8) implying that the Castle Mill was in existence by the end of the 12th century. There is however no way of telling whether this is the same as the Castle Mill marked on the 1600 plan, while the Newarke Mills cannot have existed *eo nomine* until the 14th century.

There are references to the bridges of Leicester from the middle of the 13th century on wards but the first one to be mentioned by name is the North Bridge in 1299. The Keeper of the West Bridge is recorded in 1314 as accounting for £2 2s 7½d for the repair of the bridge *(RBL* 1, 282). The work took about three weeks and was concerned with a stone structure. However in 1326 we have the receiver's account for what must be at lest a major rebuilding *(RBL* 1, 349 52). This time the work lasted for six months and its total cost was £28 0s 5 1/4. No reason is given for undertaking such a large operation at such a relatively late date but there must have been some change in conditions or circumstances which made the work necessary, even if it was only the rebuilding on a larger scale of an earlier bridge. It is tempting to go further and see this construction as consequent upon alterations to that stretch of the river which became known as the New Cut, but there is no further evidence on the matter. There remains however the possibility that the site on which the Austin Friars were established in the 13th century was not at that time such a clearly defined island, although it must have been low lying and badly drained.

The whole of the Austin Friars' site however was not confined within the branches of the Soar. Before 1538 they had also acquired land on the west bank of the Old Soar. The house of the Friars of the Sack also lay in this area, west of the town, but the actual site is not known. It lay, however, in the suburbs of Leicester and in the liberty of Bromkinsthorpe (see above, p 1), the eastern limit of which lay along the Old Soar. The foundation date for the Augustinian Friary is given as 1254 and while none of the excavated structures can be dated quite as early as this there is no archaeological or documentary evidence to contradict this statement (see above, p 1). The Friars of the Sack were established in Leicester between 1257 and 1284 so it seems that for some years the two houses must have existed side by side. The only part of the Austin Friars' site which lay in the liberty of Bromkinsthorpe is the land on the west bank of the Old Soar, later known as le Bakbreke, Bow Bridge Close, or, in one reference, Bow Churchyard (Nichols l(2), 301). There is no record of any structure on this site apart from St Austin's Well, 'a constant spring of limpid water . . . enclosed with stone and brick on three sides' and Nichols suggests that it was a garden belonging to the friars. The name, le Bakbreke, in the minister's account of 1538 39, suggests cultivated land (above, p 2). However, there are reports from the mid 19th century onwards of burials found in this area. There is no detail attached to these reports and no dating evidence so it is possible that they belong to the Roman period. The burial ground of the Austin Friars is more likely to have lain south of the 1973-78 excavations (see below, p 8), so another possibility is that Nichols is right when, in an attempt to explain the name Bow Churchyard, he suggests that 'the Friars of Penance (Friars of the Sack) might have had a small church or chapel here' (Nichols l(2), 301 n 7). Thus for some years the two houses could have existed on adjacent sites until 1296 when the Augustinians absorbed the property of the Friars of the Sack within their precinct (see above, p 1) but continued to expand on their original site where construction was already well advanced.

Between 1973 and 1978 an area of *c* 2400 sq m was examined and the plan of an extensive and complex series of buildings was revealed (see Fig 2). The interpretation and development of-the plan will be discussed in detail below; here it is sufficient to state that the evidence from the excavation shows a series of buildings ranged round two cloisters while the Friary church lay to the south of the excavated area. In a normal monastic layout the cloistral buildings would be found to the south of-the church but the friars often had to adapt to the exigencies of a cramped site often resulting in an unconventional plan. At Leicester the position of the church and consequently the layout of' the rest of the buildings was determined by the relatronship of the site to the road out of the town from the West Gate.

One of the most distinguishing features of all the orders of friars was their concern for the welfare of the laity and above all their commitment to public preaching. Their houses were sited in towns, in centres of population, and their churches were built with this commitment in mind and had wide spacious naves to accommodate a large lay congregation. A corollary of this was the siting of the church adjacent to the public thoroughfare so that the congregation entered the church directly from the street while the cloistral buildings were set in the more secluded area behind. The road out of Leicester through the West Gate does not appear to have been an important one but, however quiet, it was still a public thoroughfare and the church would be sited as near to it as possible. The position of the church then determined that the first cloister was constructed on Its north side and later, when expansion became possible, a second cloister was laid out north of the first.

In direct conflict with the evidence from the excavations however is that provided by the Leicestershire historian John Throsby writing at the end of the 18th century. Throsby saw the foundations of buildings which he identified as those of the priory church 'near the centre of the "ile" between the arms of the Sore'. The church was in length about 150 feet (45.72m) and in width 90 feet (27.43m) which seems excessive even for a friary church. He goes on to record that during the making of a garden on the site foundations of buildings were found 'almost all the way Southwardly from the site of the church in various directions . . . from which an opinion may be hazarded that the house of the Augustine Friars stood on . . . a great part of the ground on the south side of the church. On the North side no foundations are to be traced.' (Nichols l (2), 301).

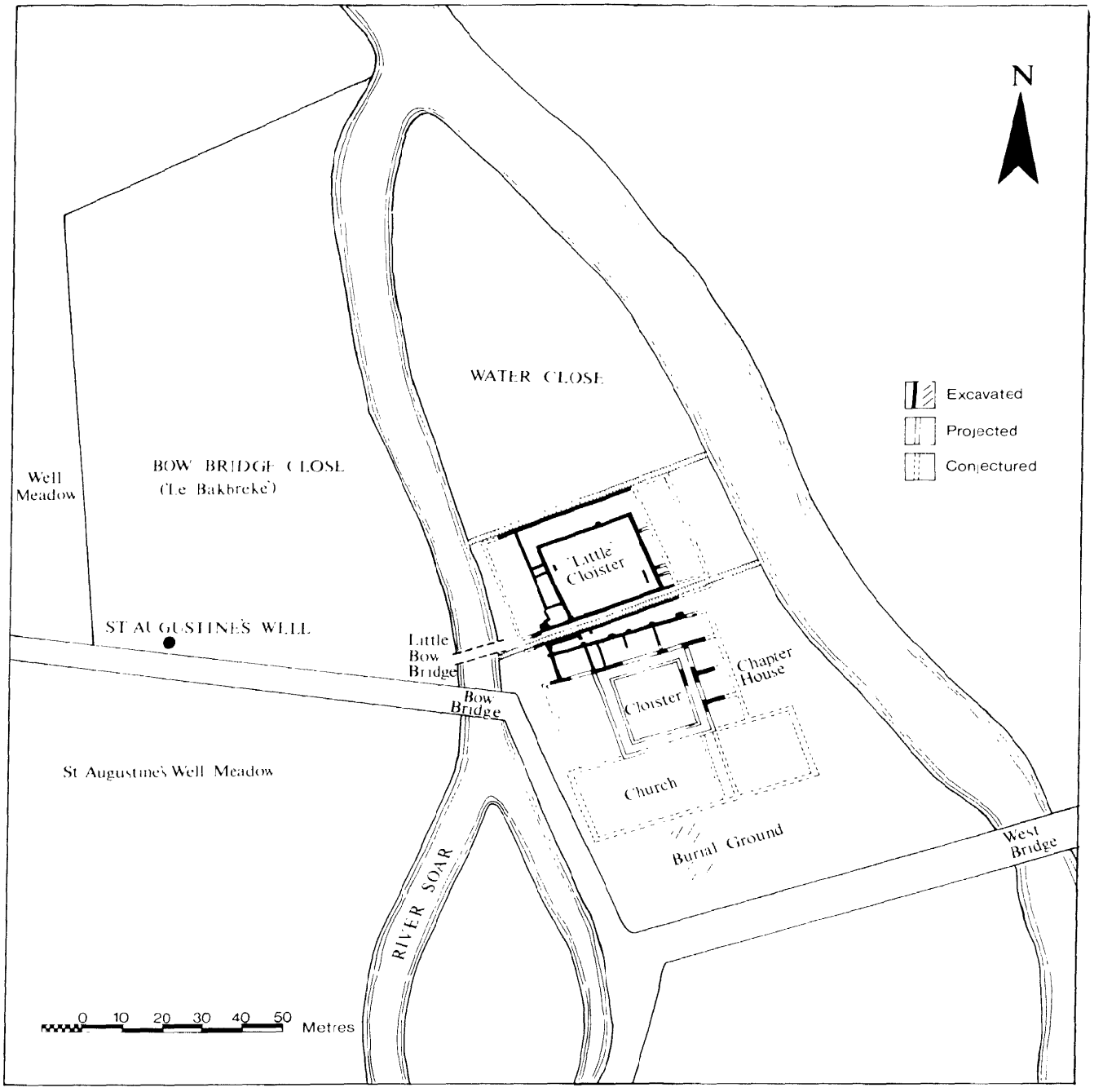


Fig 2 Augustinian Friary precinct

Possibly Throsby has here simply confused north and south but a more likely explanation is that he wrongly identified the foundations he saw. The wall at the north end of the site-wall W18-and the north wall of the stone drain in the south-wall W13B--are 28m (91.86ft) apart. They are both substantial structures and the collapsed debris of wall WI8 included fragments of window tracery. The walls in the central area were robbed to their foundations which were of gravel, not stone, and might well not have been recognized. The remains of buildings could probably have been traced south of the stone drain whereas observation during the construction of a bakery in 1974 north of wall W18 failed to locate any trace of buildings in this area. When wall W18 was first uncovered in 1973 it was provisionally identified as the north wall of the church. Further excavation soon invalidated this theory but Throsby did not have this privilege.

In 1967 a small excavation about 30m south of the first cloister located several burials, one of which was cut into the top surface of Roman street metalling. The skeletons were all orientated east-west and were all male (see below, p 37). No definite dating was possible but the Austin Friary provides the most likely context. The possibility of the burials being actually within the Friary church can be dismissed as no wails or pier bases were located in the 1967 excavation which was over 12m wide from north to south. An unsupported span of this width even within the church, while not impossible, is extremely improbable. The likelihood is that this was a burial ground of the Austin Friars and that it lay south of the church. When the property of the house was valued at the Dissolution, much of the land had been leased out but the friars themselves still occupied the ground on which the buildings stood and also a vacant plot south of the church (see above, p 2).

It may be that this was the land referred to in the grant of 1304 when three messuages were given to the friars for the enlargement of their dwelling-place (see above, p 1). This suggestion requires a liberal interpretation of the phrase 'dwelling-place' but it could have meant the friars' precinct rather than in a literal sense their domestic quarters. Alternatively the grant could refer to the land north of the first cloister onto which the friary expanded in the early 14th century but no trace was found of earlier buildings in this area and the three messuages are more likely to have been situated alongside the road. Moreover a series of pits in the 1967 excavation produced groups of pottery dating no later than 1300 (publication forthcoming). The absence of such rubbish pits was a notable feature of the excavations on the friary site where other means had been devised for the disposal of refuse, in contrast to medieval tenement sites within the town whose back yards were riddled with pits of various kinds. The closure of all the pit groups at the end of the 13th century points to a change in use of this site which would fit in with its transfer to the friary.

This area, immediately adjacent to the road, would have been the ideal site for the friary church, but by 1304 the construction of the church would have been well under way if not complete. Its construction would have been the first priority once a site was acquired, and it was certainly in existence by 1306 when John of Cowley took refuge there (see above, p 1). Once the church was established the position of the cloistral buildings was determined so the newly acquired land was utilized as a burial ground and perhaps also as a preaching yard.

Further speculation about the way in which the site was acquired is unprofitable in view of the lack of evidence. In summary it appears that the nucleus of the site, that is most of the land enclosed by the two arms of the Soar, was acquired in or shortly after 1254 and construction began on the southern part of this site during the second half of the 13th century. In 1296 it seems likely that the property of the Friars of the Sack, probably the meadow on the west bank of the Soar, was absorbed into the Augustinian precinct, and finally in 1304 a further small grant of land was made, too late to be utilized for building purposes.

Method of excavation

Although much of the excavation took place over a period of two and a half years, work was not continuous during this period. Because of the situation, between the present canal and the river, the water-table was high and during the winter months excavation often had to be suspended for long periods. Even during the summer the two ditches were never dry, and while this was beneficial in terms of the large quantities of waterlogged wood, leather, and environmental material which it was possible to recover, it also seriously hampered the excavation of the lowest levels.

The walls had been very heavily robbed and the sandstone had been particularly sought after; dressed sandstone blocks had been systematically removed from both walls of the south drain. The interpretation of the plan was made more difficult by the fact that there were few traces of any floors associated with the buildings. The later floors had been destroyed at the time of the Dissolution or later, while those associated with the earlier phases had been removed during reconstructions.

Much of the destruction of the site took place at or shortly after the Dissolution, and later disturbance was infrequent apart from that caused by four railway turntables down the centre of the site, one of which had penetrated slightly into the upper levels of the south drain.

Total excavation of the site would have meant prolonging the work over several more seasons anti other pressures made this impossible. Most of the west and south ends of the site, where there was a more complex series of structures, were completely excavated down to the levels of the earliest foundations and sections were taken down further. Within the little cloister the eastern range was largely unexplored because of the proximity of the road. The area within the north range was disturbed down to foundation level, but two sections were cut inside the building. The south drain was completely excavated with the exception of a small area at the west end, and two sections were cut across the north ditch. The central area had been disturbed down to the foundation level of the cloister walls during the construction of the railway. turntables, but part of the area was taken down in order to investigate any traces of occupation during the Roman period.

In March 1978 permission was finally obtained to investigate a small area south of the previous excavation where the main cloistral buildings were located. The work was carried out between March and June 1978 and the results have been incorporated into the report which follows.

In order to simplify recording the site was divided into six areas (see plan, Fig 70):

I The west range of the little cloister, north of the main drain and extending as far as the north end of the early building
II The main drain and the area to the south, the north range of the great cloister
III The east range of the little cloister
IV The north range of the little cloister and the north ditch

V The central area of the little cloister
VI 1978 excavation, main cloistral ranges

Where dimensions of buildings are given in the text these are measured from centre wall to centre wall except where otherwise stated.

The evidence from the excavation

The evidence for Romano-British occupation on the site was excavated in Area V where various ditches and channels of this period were recorded and three burials dating to the late 4th century were also recovered. Elsewhere on the site the evidence for occupation of this date was confined to the material redeposited in the medieval levels. It is proposed to publish this material and the excavation of the Romano-British features later with other extra-mural sites of the same period, so this aspect of the excavation will not be discussed further here.

Phase I (see plan, Fig 6)

From the end of the Romano-British occupation a series of deposits, which consisted mainly of clay and loam, built up on the site. Some of these layers may represent a natural accumulation but many of them contained quantities of redeposited Romano-British material as well as increasing amounts of pottery of the 11th, 12th, and 13th centuries and must represent human activity. Other traces of occupation during the 12th and early 13th centuries were a timber slot (188) in Area I and two possible post-pits, some granite rubble, and a semicircular stone feature in Area II.

In Area I the earliest of these levels, grey-black and brownish clay, contained pottery of the 11th and 12th centuries as well as redeposited Romano-British material. The filling of the timber slot and the layers of brown clayey soil which scaled it produced pottery of the second half of the 13th century as well as residual material. Other finds included some building materials-limestone, roof-slate fragments and mortar which could have been derived from the Romano-British occupation, and two fragments of medieval ridge tile in Early C fabric. These deposits had built up to a height of 53.69m-53.95m OD.

In Area IV similar layers of sandy brown clay (48) overlying a deposit of blue organic clay (38) contained pottery of the 13th century. The top of the brown clay was at 53.67m OD (see section d-d, Fig 10.

The lowest excavated levels in Area II were of orange clay and sand above a layer of wet blue clay. Besides a little Romano-British material there was one sherd of pottery in fabric N, *c* early 13th century. Above were further deposits of clay, some of which were heavily flecked with charcoal and contained lumps of slag, but only residual Romano-British pottery. Cut into these layers were two possible post-pits which again produced no dating evidence although there was some building material in the form of nails, fragments of granite, sandstone, flint, and roof-slate which might all be residual. The post-pits however were sealed by a layer of clay which produced pottery dating to the 12th and early 13th centuries, and above this was a semicircular feature composed of rough sandstone and granite set in the clay and containing a quantity of burnt material, although the stones and clay were not themselves burnt. Besides 12th and 13th century pottery this feature also produced a tanged arrowhead of *c* 1250 (Fig 50).

Above this were layers of brown clay and grey-brown loam some of which contained fragments of limestone. The top of these levels was between 53.69m and 54.0lm OD, very close to the top of the phase 1 levels in Areas I and IV.

There was some residual Romano-British material from these levels but also large quantities of pottery dating from the 11th to 13th centuries (see Table 17), and the final date for the deposition of these layers seems to lie in the second half of the 13th century. There was also a quantity of building material including, besides limestone, slate, flint, sandstone, and granite, 60 + nails, ten roof-slate fragments, six plain square floor tiles, 5000 sq mm of plain window glass, and fragments of eighteen ridge tiles in Early and Middle fabrics with examples of crest types I and II (see Table 2). Two fragments in a Late fabric must be intrusive here. The implications of this material will be discussed below (p 14) in conjunction with the evidence from phase 2.

In Area VI similar layers of grey and brown clay had accumulated to a height of between 53.59m and 53.94m OD, though at one point this level fell to 53.36m OD. There was little excavation of these layers and consequently finds were few. Apart from some residual Romano-British material there was only a handful of pottery, the latest piece of which was part of the frilled base of a jug in fabric P(xiv) which must be dated towards the end of the 13th century. In addition there were two medieval-type roof slates and a fragment of a bronze belt-plate of 13th-14th century date (not illustrated).

A quantity of animal bone was also recovered from the phase 1 deposits but it is impossible to tell how much of this material was redeposited from the Romano-British occupation on the site. However, the types of animals represented and even their relative proportions differ very little from those represented by the bones from the ditch-filling of phase 2D which can be with fair certainty assigned to the earliest phase of friary occupation. It is interesting that phase 1 and phase 2D each produced only two fish-bones. The cod, haddock, and ling represented are all deep water fish while the fourth bone (from phase 1) was unidentifiable. A larger proportion, 8.8%, of the bones from phase 1 had been gnawed by dogs in contrast to the 2.2% from phase 2D.

Phase 2

2A (see plan, Fig 70, phase plan, Fig 3, Pl 1)

Cut into the top levels of phase 1 in Area II were the post-bases of a timber-framed building. There were six pairs of posts forming two lines about five metres apart, and in addition at the east end of the north line was another post-hole (43) larger and deeper than the rest, though the site of the corresponding base in the south line lay outside the limits of the excavation. At the west end of the south line a large block of granite filling a depression below one of the internal walls of the later buttressed building marked the site of another post (235), although the corresponding one on the north had been destroyed by one of the buttresses of the later building. A similar feature (303) in the west angle of the later walls W38 and W32, in line with posts (25) and (235), may also be associated with this building.

Most of the post-settings were roughly circular in shape, rather less than 1.00m in diameter, and in depth no more than 0.l2m-0.15m. However post-base (43), at the east end of the north line, was rectangular in shape, measuring

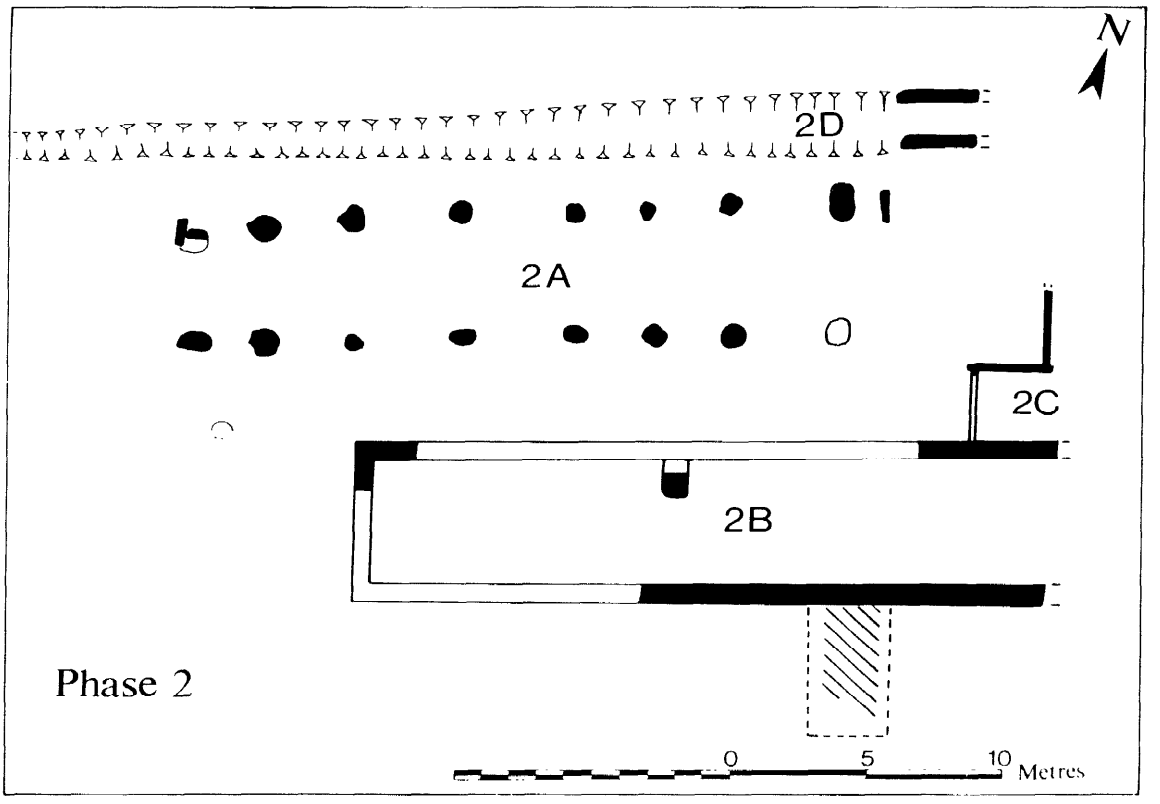


Fig 3 Plan, phase 2

1.20m by 1.10m and had a depth of *c* 0.50m. The fillings were all similar, light-coloured gravel, sand, and pebble, and several had a distinct layer of larger pebbles at the bottom. The lowest layer of post-base (43) was composed of large pebbles and granite.

Two short lengths of slight, insubstantial walling, W16 and W30, may be associated with this building. Both were of-similar construction, composed of angular granite and sandstone fragments, and were *c* 0.40m wide. There were no footings.

Another short fragment of wall, W36, extended from the south edge of the foundation of the buttressed wall but could not be traced beyond the south line of post-settings. Wall W36 may be the remains of an internal wall of the timber building or, alternatively, one of the subdividing walls of the later building, 3D. The remains were very slight but were composed of angular granite and sandstone fragments with some slate and there were no footings.

W16 and W30 may be associated with the timber building as the remains of gable-end walls. W16 certainly could have fulfilled this function as it lies at the west end of the post-settings. The larger post-base at the east end may be explained by its representing the corner post at the end of the wall, in which case wall W30 may also have been a gable-end wall. Alternatively W16 and W30 may be explained as later infillings between the buttressed building and the building along the drain.

The only material (a few sherds of late 13th century pottery) came from wall W36, and this wall cannot with any certainty be associated with this building.

2B (see plan, Fig 70, phase plan, Fig 3, sections a-a, Fig 9, b-b, Fig 10)

The earliest stone building revealed by the excavations lay, on an east-west axis, immediately south of the timber building of phase 2A in Area VI. The stone building was at least 25.00m long and 6.00m wide with a single internal buttress on its north wall *c* 12m from the west end.

The walls of building 2B were cut from the top of the phase 1 layers and the ground level both inside and outside the building was subsequently raised by the addition of layers of construction debris and other material derived from the digging of the foundation trenches. This structure presented the earliest example on the site of a practice which was followed in many of the later buildings, for the wall foundations were not made of stone but of layers of compacted gravel, clay, sandstone fragments, and powder. This technique may have been adopted because of the dampness of the site or it may simply have been an economy measure; whatever the reason it was evidently successful.

The south wall of the building, W44, had foundations 0.75m-0.90m wide and 0.80m 0.96m deep. At the very bottom of the foundation trench was a layer of rounded pebbles. The foundation of the north wall, W45, was later cut by the insertion of wall W38 so its full original width could not be ascertained, but it was at least 0.95m. The depth of the foundation was 0.78m and the bottom layer was composed of lumps of granite. No superstructure survived of either wall but layers of make-up inside the building towards the west end overlay the foundations of

wall W44 by 0.15m-0.25m and it is possible that the width of W45 was similarly reduced above foundation level though the evidence for this was destroyed by the construction of wall W38.

It is presumed that the west end of the building is represented by the short stretch of wall W41 though no direct relationship with the rest of the building was established. However, W41 was also cut by wall W38 and a slight change in construction in the foundations of the later wall at this point indicated that wall W45 did not continue west of the junction.

The foundations of wall W41 were 0.80m-0.90m wide but only 0.45m deep. Above foundation level the wall was narrowed on the east to 0.75m and was constructed of granite and sandstone blocks set in yellow sand with traces of mortar. The internal buttress on the north wall was of similar construction to wall W41; it was 1.00m wide and extended south from wall W45 for *c* 1.50m. This buttress too had been cut by the construction of wall W38.

A modern feature, F8, 2.00m wide, had cut through the whole length of the building from east to west and the construction of wall W38 had also destroyed the levels within the earlier building. However between these two features were deposits of grey and brown clay and crushed sandstone which raised the level within the building to between 53.86m and 53.98m OD. There was however no trace of any surface above these layers, and the floor, which may have been at an even higher level, was probably destroyed during the construction work of-phase 3C.

Outside the building to the north were similar layers of crushed sandstone and clay with fragments of green keuper marl which had accumulated to a level of 53.97m-54.06m OD. West of wall W41 constructional activity was represented by layers of white sand containing chips and small lumps of sandstone separated by a thin spread of mortar (29 3). Above the second layer of sandstone dressing was a further skim of mortar at a level of 54.00m OD (270) (see section, b-b).

Immediately south of the building two thick deposits of sandstone dressing were separated by a layer of red keuper marl. East of the later walls W52 and W53 the second layer of sandstone debris reached a level of 53.87m-54.04m OD. To the west however the level was higher, *c* 54.20m OD, and in this area also there were patches of-clay and compacted brown gravel. In the area between the two later walls, W52 and W53, the layers were rather different. There was still a certain amount of crushed sandstone and green marl fragments but here this material was mixed with grey and brown sand and silt, and the distinctive layer of red marl which was found to the east and west was not present. The top of-these layers was at a height of 54.48m OD just south of wall W44 and sloped down to 54.37m OD two metres further south. These deposits were cut by the insertion of walls W52 and MS W53 of phase 3C as were the sandstone and keuper marl layers to the west and east. However, the difference in character between the layers in this area and those on either side is difficult to explain unless there was an earlier structure associated with the 2B building at this point. Moreover, above these deposits and confined to the same area was a thick layer of hard mortar. This was rather uneven as a number of graves were subsequently cut through it and its surface varied between 54.48m and 54.60m OD. At first this was thought to be the original floor of the passage formed by walls W52 and W53 but it was confined to the area immediately south of-wall W44 and was not encountered in the sections to the north and south. It now seems more likely that the mortar floor and the make-up layers below it belong to a structure associated with the earlier building of phase 2B, perhaps a porch or an entrance on the same line as the later passage-way of phase 3C.

Towards the southern limit of Area VI deposits of crushed sandstone, clay, and gravel had accumulated to a level of 54.15m-54.25m OD. Some of these layers should perhaps be associated with the construction of the church rather than the 2B building.

Very little material was associated with the construction of this building. Fragments of limestone, sandstone, granite, mortar, and slate, including ten roof slates, were recovered from the foundation trenches in addition to a quantity of residual Romano-British material, fragments of five ridge tiles in Early fabrics, and a handful of pottery sherds in fabrics which were already present on the site in phase 1. The make-up and construction levels produced a similar range of building stone and pottery fabrics with a few nails and a fragment of a bronze belt-plate of 13th to 14th century date (Fig 48).

2C (see plan, Fig 70, phase plan, Fig 3)

The series of walls in the north-east corner of Area VI have been interpreted as a small L-shaped annexe added to building 2B, though it is possible that they represent a free-standing building, as the junction with wall W45 was not proved. The walls, which were of much slighter construction than those of the 2B building, were cut into the construction deposits of phase 2B. The structure belongs however to an early phase in the development of the site as it was, in its turn, cut by the construction of the buttressed wall W42 (phase 3D).

Just over 3.00m north of wall W45 and parallel with it was a length of wall (W46) 0.55m wide and 3.00m long. At its east end the wall turned north (W47) and continued for a further 3.00m before it was cut by the later wall W42. About 0.75m from the west end of wall W46 another wall, W48, ran south towards wall W45 of the main building. The walls were constructed of small fragments of granite and sandstone. The east-west wall, W46, was set on a foundation trench 0.65m wide and *c* 0.40m deep filled with dirty brown clay with small pieces of sandstone. Walls W47 and W48 were even less substantial; W47 was 0.55m wide and 0.35m deep and W48 was 0.35m wide and 0.25 m deep. There were no floors or make-up levels associated with this structure and no finds were recovered from the walls or foundation trenches.

Two other features were recorded cutting the construction deposits of phase 2B but these were not investigated further.

2D (see plans, Figs 4, 70, phase plan, Fig 3, section c-c, Fig 10)

The stone-lined drain north of the timber structure was preceded by an open ditch on more or less the same line. The upper levels of the filling of the ditch were destroyed when the stone drain was constructed and there is no direct stratigraphical relationship between the digging of the ditch and the buildings of 2A and 2C. On other grounds however the digging of the ditch must be assigned to the same phase.

The ditch was open for most of its length but at the east end the remains of two stone walls overlain by later ditch deposits showed that it had been culverted. The wall on the south, W40, lay largely below the south wall of the later stone drain, which was built in the ditch itself. The side of the ditch was later cut back for the insertion of the north

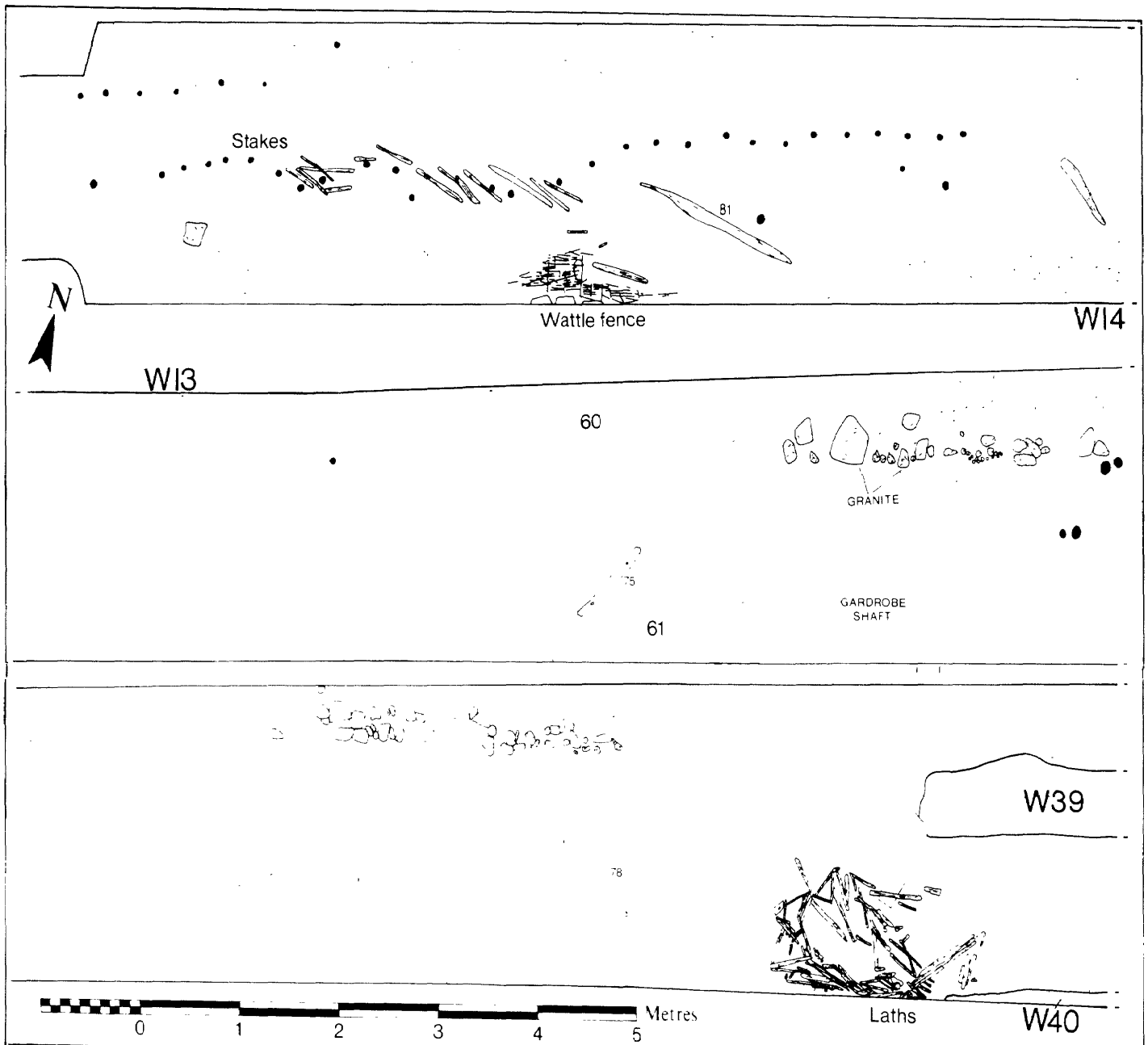


Fig 4 Plan, features within main drain

drain wall so that the base of the north culvert wall, W39, survived in the middle of the later drain. Wall W39 was 0.65m wide, faced on its south side with rough ashlar sandstone blocks and with footings of two courses of angular granite fragments. The construction of wall W40 was similar but its width could not be measured.

Between the culvert walls the lowest filling in the ditch was a heap of red sand containing sandstone rubble (147) which was piled against W40 and overlain by several layers of blue-black sand and clay (34), which corresponded to the soft black mud which formed the lowest filling of the ditch west of the culvert. These deposits were extremely rich in finds which were evenly distributed along the length of the ditch. During the time that the ditch was open the culvert at the east end was either altered or demolished as there was a further layer of sandstone rubble (142) at this point above the bottom layers filling the ditch and with more layers of black mud above (138/33). Throughout the rest of the ditch it was more difficult to separate these two deposits of more or less identical material. Together the material from these layers represents the accumulation of over a century while the ditch was open and before the construction of the stone drain.

From the lowest deposits (34, 143, 144, 145, 146, 149) came about 60 pottery vessels dating to the later 13th and 14th centuries. There was a minimal amount of Romano-British material which can be accounted for by the fact that the ditch had cut through these levels. Sherds of one vessel were found in both the ditch and the phase 1 deposits. There was a marked preponderance of jugs over bowls and cooking pot/storage jars in the group and in view of this it is interesting to note that the deposit also contained eight wooden bowls, a wooden lid, and a fragment of the rim of a bronze bowl (see below, Figs 46, 52, 53).

The waterlogged conditions which preserved the wooden objects also preserved a varied selection of leather. These were all articles of clothing and especially shoes. Besides four complete shoes there were the remains of twelve soles, fourteen upper fragments including heel stiffeners, vamps, and quarters, nineteen repair pieces, and seventeen pieces of scrap leather indicating that the repair or even the making of shoes was carried out on the site. Other items of clothing were two belts and several pieces from a leather jacket. More decorative objects were the four knife sheaths and a spectacle case. In bronze but also relating to clothing there was a belt clasp plate, a lace tag, and two pins while a wooden spindle suggests the possibility of other domestic activity.

There was also a considerable quantity of building material from this deposit. This included fragments of building stone-standstone, slate and granite, mortar, 31 roofing slates, and fragments of 65 ridge tiles in Early, Middle, and Late fabrics, with examples of crest-types V and VII and one side-vented ridge tile in a Middle fabric, Windows were represented by a lead came and a fused lump of lead which could have been a waste came and 1200 sq mm of plain window glass. Besides about 30 worked wooden objects which could not be more closely identified there were several planks with wooden pegs in position (Fig 14) and, at the east end near the culvert, a pile of wooden roof laths many of which still retained their nails (P12).

The collection of animal bones from this deposit was the first which could with certainty be associated with the occupation of the friary and the pattern presented here was generally followed throughout the later history of the site. Most of the bones from this and subsequent phases were from the domestic species, ox, sheep, and pig, and bones from all parts of the body were found (Tables 29a-c, microfiche 2 of 2). Other animals represented here, though only by single bones, were the horse, fallow deer, dog, and polecat. Bones of the domestic fowl and goose were also recovered.

Two points of particular interest may be noted here. Firstly the percentage of the bone which had been gnawed by dogs was lower there than in any other phase. Secondly, no marine molluscs were recovered from this deposit and only two fish-bones, both however from deep-water marine species.

Along the north bank towards the west end of the ditch were rows of stakes some of which were preserved in situ. There were also three stakes which had collapsed and were found in the ditch filling together with a section of wattle fencing (see plan, Fig 4 and P1 3). The stakes can be divided into at least two series. The main series is a row of 28 which were positioned near the bottom of the slope of the ditch. It was possible to identify the wood in thirteen of these which proved to be poplar (6) and hazel (7). Furthermore the'stakes appeared to be in groups of about six, first of poplar then hazel and so on. A group of seven stakes on the flat surface forming the base of the later drain was more mixed. The first three were of ash, the sixth elm, and the seventh hazel. At the east end of the first line and even further down the ditch slope were three more stakes, two of which were of oak. Of the three stakes in the ditch filling, one was poplar and another oak.

The first series of poplar and hazel stakes seems to be contemporary with the 2D phase of the ditch, and the wattle fencing (also of hazel) may be associated with this. The oak stakes at the east end of the line may be a reinforcement of the fence. It was not of course possible to tell whether there was a similar construction on the south side of the ditch which lay under the later wall. Further east along the ditch an occasional stake-hole was recognized but no continuing line. It seems unlikely that the second group belongs to the same structure as they are of different wood and also, if they belong to phase 2B, they must have been driven in from the ground surface which at this point must have been *c* 1 m above.

The environmental evidence provided by samples from this phase of the ditch filling shows a strong waterside element in the flora and fauna represented, derived either from the banks of the river or from the side of the ditch itself (see Table 26). Numbers of dung beetles suggest grazing animals in the vicinity and there are other indications of pasture. There was also cultivated land and small copses perhaps of oak, as these were by far the most common twigs identified from the filling of the ditch, though there were occasional examples of sloe and hazel.

There was also an example of the powder post beetle from this level which may be linked with the fence posts and large numbers of woodworm probably associated with the structural timbers from demolished buildings which were thrown into the ditch.

High numbers of cereal pests were identified indicating the presence of grain stores in this area, and household pests were also present though not in large numbers, while the presence of nettle seeds may indicate that the ditch also carried sewage. Throughout the history of the site the environmental evidence seems to show good storage conditions for food and a generally higher standard of cleanliness than is usually found on urban sites of the medieval period (see below, p 171).

Discussion of phases 1 and 2

Indications of actual structures predating the friary buildings are slight (see above, p 9), but there is evidence,

in the form of pottery and other finds, from the phase 1 levels to show that there was some sort of-occupation in the area outside the West Gate during the 12th and 13th centuries. Mrs Woodland suggests below (p 125) that a potter was at work here during the 13th century and other indications of industrial activity are provided by a quantity of iron slag from one of the pits in the 1967 excavations and by the reference to Robin Parmenter, cobbler, 'outside the West Gate' in 1220 *(RBL* 1, 25). By the end of the 13th century three messuages had been established on a site adjacent to the friars' property, probably alongside the road at the south, and the evidence from the 1967 excavation suggests occupation here perhaps as early as 1150 (publication forthcoming).

The implications of the building materials recovered from the phase 1 levels cause something of a problem in the interpretation of the initial stages in the development of the site. Most of this material was recovered from Areas II and VI with just two fragments of ridge tile from Area I, and this concentration suggests that it was associated with a building predating the structures of phase 2, lying south of the excavated area. A large proportion of the material is undatable and may derive from either Romano-British or medieval, pre-friary occupation. Of the remainder, however, the roof furniture and the evidence for glazed windows and tiled floors all suggest more sophisticated buildings than might be expected in an, apparently industrial, extra-mural site in the early 13th century. Such material would be more happily associated with a building such as the friary church itself and, moreover, with a late stage in its construction. All the references to ridge tile in the Borough Records are to its use on public buildings though this may reflect the nature of the record rather than a real restriction in its use. Moreover the first known reference to ridge tile in Leicester does not occur until 1314-15 (see below, p 52) though there is evidence from elsewhere that it was used in other parts of the country in the early 13th century.

The evidence of this building material is difficult to evaluate. Either it is derived from a fairly substantial pre-friary building in which case it should not dare much later than the mid 13th century, or it is associated with the completion of the friary church itself and might date to the end of the 13th century. Unfortunately neither the building material nor the associated pottery is yet capable of close enough dating to provide the answer. The pottery from the phase 1 levels indicates a date for their deposition somewhere in the second half of the 13th century which could, by shifting the emphasis, be used in support of either theory.

Capgrave gives the date for the foundation of the Austin Friary at Leicester as 1254 (see above, pl) and in the absence of any archaeological or documentary evidence to the contrary this may be accepted, though it is not necessary to assume that building work on the site began immediately. The next references to the friary do not occur until the early years of the 14th century (above, p 1) by which time the church was built and the 'dwelling-place' established.

The only excavated structures representing this initial phase of development are those described above in phase 2, ABCD, but the building of the church must also fall within this period and the relative chronology of all these structures is difficult to determine.

By the nature of its construction the timber building, 2A, is the most likely candidate for the earliest structure on the site. It could have been more easily and quickly erected than a stone building and could have provided temporary accommodation while the major task of building the church was carried out. At Norton Priory, a house of Augustinian canons near Runcorn in Cheshire, for example, the construction of a small cruciform church was begun in 1134, and temporary accommodation was provided at this time by large aisled timber buildings (J P Greene, pers comm). It is not possible to tell whether the post-bases of 2A represent an aisled building or a free-standing structure. Certainly there were no traces of any side walls but if-these had had no more foundation than walls W16 and W30 they would have been completely removed during the construction phases of 3D and 7A. Moreover, a side wall on the north must have been dangerously near the edge of the ditch, 2D, and a free-standing structure seems more likely. The spacing of the pairs of-posts is not equidistant showing that the building was composed of-bays of different sizes which may indicate that the building served a composite function, perhaps combining the first domestic accommodation and storage facilities. It is even possible that the larger bays at the west end could have served as a chapel. (We are indebted to Mr D Smith of Leicester Polytechnic for this suggestion.) The 2B building could then have been ereated to serve a rather different function, perhaps a guest-house, or it could simply be a replacement in stone of the domestic quarters leaving the umber building to he converted wholly to storage.

However, if the building materials in the phase 1 levels arc associated with the construction of the church then the initial accommodation must be sought elsewhere. An early building may await discovery on an unexcavated part of the site but it is difficult to see where. Another possibility is that in the early stages the friars were content to lease a property in the neighbourhood, only moving on to their site when the construction of the church was sufficiently far advanced for some of their resources to be diverted towards the provision of other buildings.

In this case the construction of building 2A in timber need not have been dictated by a desire for speed or economy but by the fact that it was intended from the first as an out-building to provide storage facilities and workshops, and timber was a more suitable material. This would also account for the different sizes of the bays to provide storage space for different materials and working space for other activities.

The fact that storage facilities were provided in this area is shown by the analysis of the environmental samples from the lowest filling of the ditch, 2D), in which high numbers of cereal pests were identified (see Table 26). These beetles are flightless and are likely to have found their way into the ditch with the sweepings from a gram store in the vicinity, while the absence of other pests shows that the cereal stores were well maintained and swept out frequently (see below, p 171).

The analysis of the animal bone shows that from the beginning of the friary whole carcases of ox, sheep, and pig were present, indicating that these animals were kept there and slaughtered on the site. This suggestion is supported by the evidence from the environmental samples, in which the presence of numbers of dung beetles indicates that animals were being pastured in the vicinity of the ditch. At this stage the pasture was probably provided by the unoccupied land to the north of the ditch and the line of fence posts on the north slope may have been intended to prevent the access of these animals to the domestic buildings. Access to the meadow from the buildings could have been provided over the culvert at the east end of the ditch.

In addition to grazing land there was also evidence of cultivation in the area and of small copses. While some of the environmental species indicating this could have been derived from a wider area than the friary precinct there is documentary evidence from the Dissolution period to show that the property of many friaries included orchards, gardens, meadow, and woodland. At the Dominican priory at Rhuddlan, for example, in August 1538 the corn was standing and the friars still possessed a few cows and pigs (Hinnebusch 1951, 206), while from Leicester itself there is an agreement of 1505 whereby the 'Mair' and 'his brethern' allowed the Blackfriars to pasture two of their cows 'in our commynalte called ye kowe hey' *(RBL,* 2, 375).

Another activity which was carried out at the friary from its early stages was leather-working, to judge by the numerous scraps and repair pieces which were recovered from the lowest deposits in the ditch in addition to the complete articles. The single wooden spindle from this deposit may also indicate that the friars manufactured other articles of their clothing as well as shoes.

The timber building could have provided shelter for all these activities either in association with domestic accommodation or apart from it, but evidence for the purpose of the adjacent stone building, 2B, is less forthcoming.

No floors were associated with this building with the possible exception of the solid mortar surface extending south from wall W44 (see above, p 11). If this does indeed represent a porch or entrance it may give some indication of the status of the building. In this context it may be significant to note that the line of this feature was exactly preserved in the east cloister alley of phase 3C (see below, p 21). The significance of the single internal buttress on the north wall is not clear, but it is worth noting at this stage that a similar feature was also provided in the later building of phase 3A where it was apparently associated with an external soak-away chamber. The existence of such a chamber in the building 2B could not be checked because of a high pressure gas main in this area. The 2B building must represent domestic quarters of some kind whether for the community or their guests but the evidence for the domestic occupation on the site is not directly associated with it.

Household pests were present in the ditch deposit of 2D but in low numbers, suggestion either a high standard of hygiene of that the domestic quarters were not immediately adjacent to the ditch. Other of the domestic life in the friary were again provide by the ditch deposits. The pottery forms represented here were mostly jugs of various types. Pottery bowls and cooking pot/storage vessels were less well represent (see Tables 18, 20a), but the group of eight wooden bowls from this deposit suggests that at this date pottery vessels were supplemented by wooden plainer. The presence of domestic animals on the site has already been mentioned and the butchery evidence (see below, p 175) suggests that they formed at least part of the diet, which is somewhat surprising at this date as the friars were nor granted leave to eat meat until 1377 (Nichols 1 (2), 300) However, the number of animals represented in this deposit is low compared with that from both the pre-friary levels and subsequent deposits in the drain itself. More surprising pershaps the virtual absence of fish-bones and marine molluscs from the early ditch deposits. Deep water marine fish were already reaching. Leicester before the foundation of the friary and dried or salted fish formed a large part of the diet of even the lay population in England during 14th and 15th centuries (Henisch 1976, 34- 5). The explanation may be that during the early years most of the fish for the friary table was supplied from the river by the friars themselves as being a more economical way of securing a regular supply and that the bones of the small freshwater fish were not recovered due to lack of sieving. There is no documentary evidence to show that the Austin Friars fished the Soar, but in 1357 the Dominicans were granted 'liberty to fish three days weekly in the river Soar with a net of convenient mesh so as not to destroy the young fish' (Nichols 1 (2), 295-6). The two bones of marine deep water fish may represent occasional expenditure or a gift for a special occasion.

The items of clothing recovered from the ditch in this and subsequent deposits are nearly all articles which could be associated with the habit of the friars themselves, though perhaps some of the more decorative knife sheaths were the property of lay visitors or benefactors. Otherwise the belts, shoes, and knife sheaths were all part of the friars' normal dress. Pope Alexander IV decreed that the Austin Friars should be distinguished by a black habit with a black hood, leather girdle, and shoes (Gwynn 1940, 12). The Dominican Friars also wore shoes and girt their habit with a leather belt, from which their knife sheath, handkerchief, and purse were suspended (Hinnebusch 1951, 244).

During this time the ditch marked the northern limit of the buildings on the site and formed a convenient place for the disposal of domestic refuse, but it may have further significance in relation to the general topography during this period. In the early levels a strong waterside element in the environmental species was represented which could have derived from the banks of the ditch itself. Certainly the environmental species indicating flowing water did not occur until much higher levels in the filling, after the ditch was converted to a stone-lined drain (see below, p 39). This evidence suggests that to begin with the ditch may have formed one side of a moat surrounding the friary buildings, as for example at Clare Priory, one of the earliest houses of Austin Friars (Roth 1961, 17). At Clare the ditch was also provided with flood-gates, a refinement which does not seem to occur at Leicester until a later stage. If the early ditch did not connect the two arms of the river, and this seems to be borne out by the evidence from the ditch itself; this in turn may give some support to the suggestion that in the 13th century the friary site was not such a clearly defined island as it later became and that the New Cut was a work undertaken at a later date.

Phase 3 (see plan, Fig 70, phase plan,, Fig 5)

Until the end of the 13th century it would appear that the friary buildings were confined to the area south of the ditch (2D). In the early 14th century, however, a general expansion began which involved not only rebuilding on the original site but also the construction of a small stone building on the meadow land north of the ditch and a large and imposing structure which straddled the ditch at the west end. The timber and stone structures of 2A, B, and C were demolished to make way for regular cloistral buildings. The ditch continued in use throughout the 14th century although the culvert at its east end was demolished and replaced by a stone structure at the west.

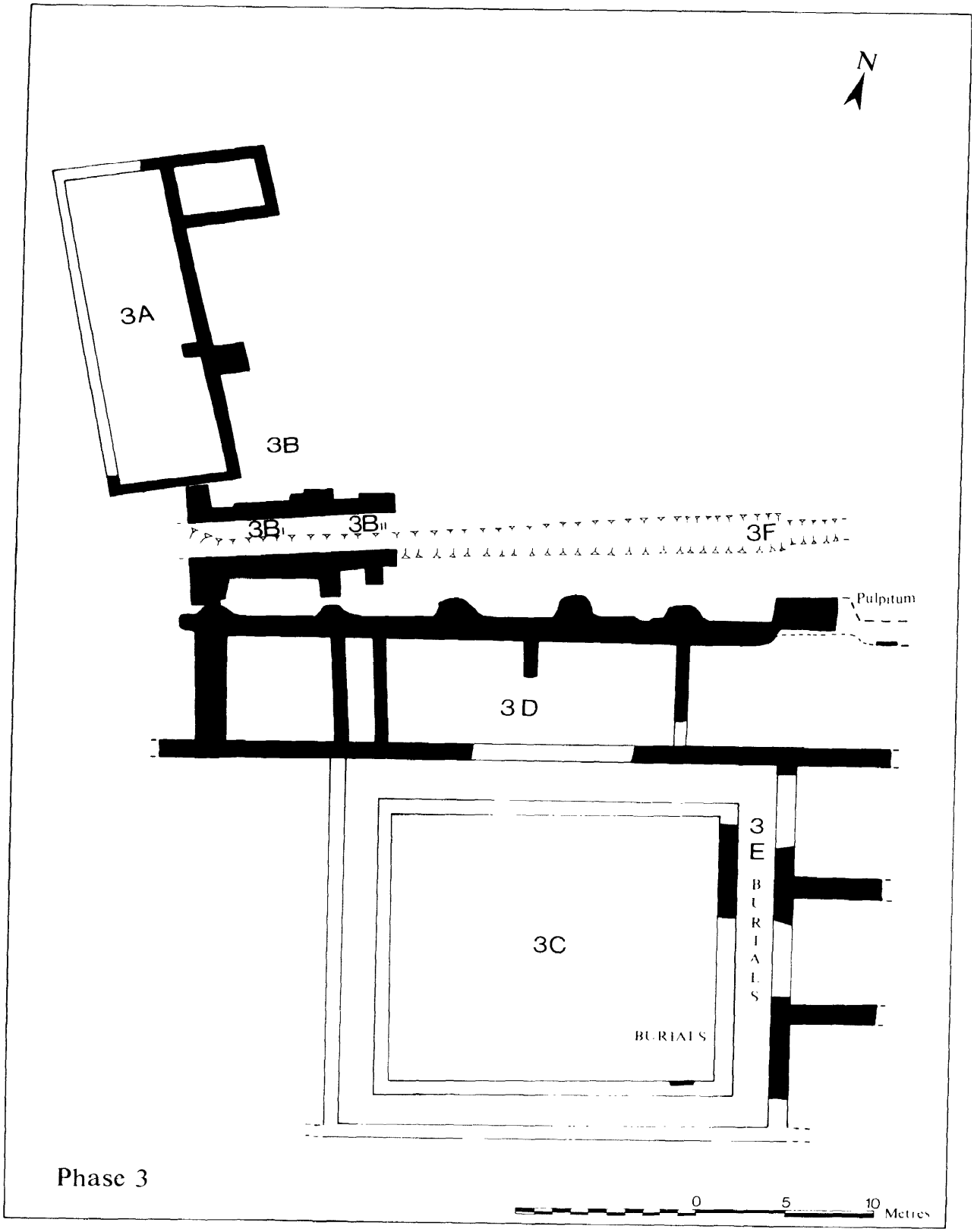


Fig 5 Plan, phase 3.

3A (see plan, Fig 6)

The first stone building to be constructed in Area I was L-shaped in plan and lay slightly askew to the angle of the later cloistral buildings in this area. It may have been aligned on the river. The width of the building was only revealed at the south end but the projected line of its west wall showed that the bank of the river at this date must have been at least 2.00m further west.

The building was 20.00m in length and 6.30m wide. At the north end a small room 5.00m by 3.60m projected to the east. The walls, which had been heavily robbed during later rebuilding, were cut from a level of *c* 53.92m OD and the foundations were about 0.15m deep. Where the foundations survived they were of stone, like the surviving superstructure, on a bed of orange gravel and pebble. The foundations were about 0.65m wide and, at the south end which was the only point at which any superstructure survived, the wall (W8) narrowed to *c* 0.40m. The foundations of the room at the north-east corner were only 0.40m 0.50m wide.

The stone of which the building was constructed was very mixed including diorite, quartzite pebbles, Swithland slate, ironstone, limestone, and flint with some facing stones of Dane Hills sandstone. Mr A Mathieson, Assistant Keeper of Geology at the Leicester Museum in 1974, who examined the walls commented, 'In general the stone has been collected from Charnwood and probably mostly from around Groby, and from local river deposits. The Swithland slate and Dane Hills sandstone may have been quarried for the building but neither is well represented and the stone may have been robbed from older buildings, or perhaps subsequently robbed.'

From near the centre of the east wall of the main part of the building, wall W9, projected a small chamber, roughly square in shape, measuring 1.35m by 1.18m Internally with walls 0.40m wide. The floor of this chamber was made of pitched fragments of granite and in the centre of its east wall was a slate-lined opening to allow the contents of the chamber to soak away. Opposite the junction of the north wall of this chamber with wall W9 was a small internal buttress (W28).

There was no entrance to this building at the south end which was the only place where the walls survived above foundation level.

There was no trace of any floor associated with the building in this phase but, towards the north end, mortar building spreads (96, l35) were found on either side of wall W9, in the main part of the building and in the room to the cast. Above the mortar spreads were layers of-brown clay probably derived from the foundation trenches. There was another patch of mortar east of wall W9 and towards the south end of the building (174) above the brown clay layers of-phase 1, again probably associated with the construction and covered in turn by more layers of brown clay. At the south-east corner of the building a small pit (162) was cut through the brown clay and filled with layers of crushed sandstone and brown clay which sealed the foundation trench of wall W9.

A large quantity of Romano-British material was redeposited in the brown clay levelling layers associated with the construction of this building in addition to sherds representing about 100 vessels of-medieval date. Sherds from the same vessel were found in both the foundation trench and the brown clay layers and there were more joining sherds from the brown clay and the pit. There were also joins between sherds from the brown clay levels at the north and south ends of the building and from either side of the later wall W1. Sherds from two vessels were found in both the brown clay of 3A and the filling of the ditch 2D. The pottery group as a whole dates to the beginning of the 14th century.

Other finds from the foundations were few-two fragments of ridge tile in Middle fabrics. From the levelling layers of clay, however, came other material associated with the building construction. There were about 90 nails and a piece of sheet lead. Seven roofing slates were also represented and eleven ridge tiles in Early A, B, and C fabrics including a Type II crest.

There was very little material from the pit (162) but it included, besides sherds of about 20 pottery vessels, a few nails and two roofing slates probably redeposited from the construction levels.

3B(i) (see plan, Fig 6)

The construction of the building at the west end of the ditch appears to have been a major undertaking and it must have been a building of some importance. There must have been an overriding reason for its siting at this point in spite of the fact that the ditch was still open and in use. Moreover the south wall of the building was constructed in the side of the ditch itself-which implies that space was too restricted for it to be set further back. Either the north cloister range 3D was already in existence or it too was an essential part of the plan. This question will be discussed in more detail below (p 26).

The building across the ditch which was 3.75m wide and 6.50m long was a massive structure in complete contrast to any of the earlier buildings. The size of its foundations and the buttresses at the corners were necessary because of its position across the open ditch but the material from its construction levels also suggests a much higher degree of wealth and sophistication.

The walls were constructed from a less random selection of material than those of 3A, mainly granite (markfieldite and diorite), grey sandstone (Dane Hills), and Swithland slate with some quartzite pebbles, purple quartzite, hornstone, and tile (probably reused Romano-British). The north and south walls (W22A and W21A respectively) where the foundations could be seen in the sides of the ditch were set on large undressed fragments of granite up to 0.50m in size below two or three rough courses of smaller fragments (0.20m- 0.30m in size). Above this the walls were faced with at least one course of large, roughly square blocks of-dressed sandstone. These blocks had been determinedly robbed from both walls so that only traces remained with the exception of-two at the east end of wall W21A which were 0.40m wide and 0.35rn high (see Pl 4). The bottom of the sandstone blocks was at a level of *c* 53.10m OD and the two surviving blocks in wall W21A showed that at this level the wall was reduced in width by about 0.20m. The foundations of wall W21A were 1.40m in width. The south-west buttress, W20, was 1.60m wide at foundation level and was then reduced to 1.15m, while the south-east buttress was slightly less massive being 1.30m wide reducing to 1.00m above the foundations. These buttresses projected south from the wall foundations for about 1.00m. The north wall, W22A, had foundations 1.00m wide and was reduced by about 0.15m on its south side at the level of the sandstone blocks. The buttress at the north-west corner was the most massive of all. Its foundations were 1.80m in width but on the east side there was an offset of 0.95m which was sealed by a layer of brown clay. The wall was also reduced in width on the east so that

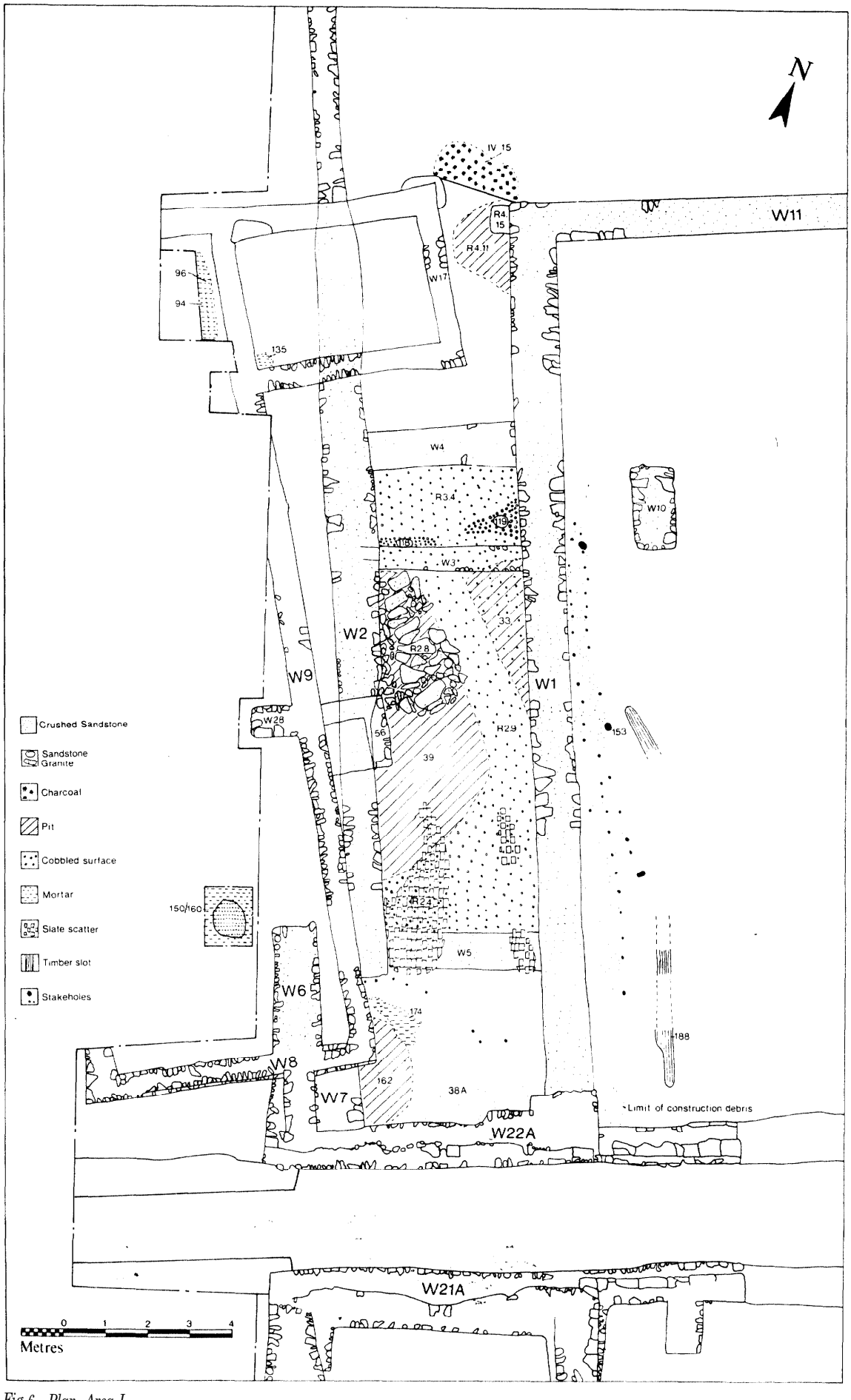


Fig 6 Plan, Area I

above the foundations it was only 0.70m wide. This buttress projected north as far as building 3A and cut the pit (162) at its south-east corner. The end of the buttress rode over the offset of wall W8 of the earlier building. Towards its east end the foundations of wall W22A were widened to about 1.25m, but the buttress only projected another 0.50m beyond this and was less than one metre in width at foundation level. No indication of any superstructure survived.

The layers associated with the construction of this building consisted mainly of layers of sand and crushed sandstone derived from the dressing on site of the sandstone blocks. Some of the layers were clean while others were flecked with mortar and charcoal. Interleaved with these deposits were layers of brown clay and loam also heavily flecked with mortar and charcoal and sometimes containing deposits of ash and rubble as well. At the south end of Area I in the immediate vicinity of building 3B(i) was a heap of crushed sandstone (38A) which formed the upper filling of pit (162) and at the base of which was a line of stake-holes suggesting an attempt to retain the debris within the corner formed by buildings 3A and 3B. Later levels of the same material however overlapped the base of this heap and spread over a much wider area extending east of the later wall W1 which was cut through them. Bounding these layers to the east was another line of stakes with some larger posts. At about the point where this line terminated on the north were two patches of rough cobbling (118, 119) set in the construction debris and perhaps representing a path across the working area providing access to the L-shaped building 3A which was in use at this time. Some of the crushed sandstone may have been used for raising the floor level within building 3A though there was no dating evidence for these deposits.

Similar layers of crushed sandstone, though not in the same quantity, were recorded at the west end of Area II, where they were subsequently cut by the foundations of 3D.

There was very little trace of the material which was excavated from the foundation trenches. Interleaved with the construction debris were a few thin layers of brown clay but the bulk of this material must have been deposited elsewhere. Some layers of brown clay and dark soil in Area IV may have been derived from these foundation trenches; the finds were of roughly the same date as those from the construction deposits but they were very few and the connection can only be conjectural.

Two pits were subsequently cut through the construction levels in Area I. That at the north end, R4.11, was filled with layers of clay, soil, charcoal, and ash and was about 1.00m in depth while the other (33) was much shallower and was filled mainly with crushed sandstone redeposited from the construction levels.

Sherds representing over 200 vessels were recovered from the levels associated with phase 3B(i) and 23 more had been redeposited from the 1A levels of which six were also found in the 3A levels. Sherds from three vessels were found in the construction deposits of 3B(i) and in the filling of the ditch 2D. One vessel which originated in the 3A levels in Area I was also found in the 3B construction deposits in Area II. The small quantity of Romano-British material from 3B may be accounted for by the fact that most of the material excavated from the foundation trenches had been deposited elsewhere on the site. None of the pottery from either the construction levels or the two later pits can be dated any later than that associated with 3A; the beginning of the 14th century.

The construction levels in Area I produced a coin of 1280-81 and three jetons which may be assigned to the reign of either Edward I or Edward II (see below, p 130). There was also a seal matrix of the early 14th century (below, Fig 49), besides less datable material which included several bronze belt fittings (eg Figs 47, 48) and a repair to a bronze bowl (below, Fig 46).

From these levels in Area II came another jeton of Edward I-Edward II (below, p 130), two pins, a lace tag, and another belt-plate fragment.

A considerable quantity of building material was found in the construction levels of Area I. There were a few fragments of building stone and also, from the heap of stone-dressing, 38A, at the south end of Area I, a door-jamb in Dane Hills sandstone of early 14th century date (see Fig 11) which had been broken while it was being made and abandoned in the construction debris.

Fragments of 38 roof slates and 39 ridge tiles all in Early fabrics and including examples of crest types II and V were found in these deposits and there were also fragments of two louvers in Early B fabric. The windows of the building were glazed, as is shown by three lead window cames and a possible masonry tie for attaching cames to the edge of a window, in addition to 800sq mm of plain window glass. On a more mundane level there were also *c* 300 nails of various types from these deposits.

A similar range of material was recovered from the construction deposits in Area II, though in less quantity. Nine roof slates and fragments of fourteen ridge tiles were found including one example of a type V crest, dated to *c* 1300. The fabrics were mostly Early A and B with one example of Middle B and one of Late D fabric which must be intrusive here-this layer (111) was immediately below the destruction deposits of the 16th century. There was also a lead window came and 15300sq mm of window glass, 7000sq mm of which was painted. There were several fragments of moulded stonework dating to the early 14th century, most of which were too small to illustrate, and one fragment of an undecorated glazed floor tile,

Large quantities of animal bone were also recovered from these deposits; mammals, birds, and fish were all well represented. It is difficult to estimate to what extent this material was residual but in view of the small quantity of redeposited Romano-British material, it seems likely that most of the animal bone is also contemporary with the construction deposits or perhaps derived from a kitchen midden of phase 2 (see below, p 25).

From the post-holes bounding the stone-working debris in Area I were two examples of decorated floor tile. One of these was too small to identify but the other was a nearly complete tile bearing the Arms of the Ferrers family and cannot be dated before 1299. This tile had been wedged in post-hole (153) as packing for the post and must be associated with this phase of construction. The post-hole certainly forms one of this group which was aligned along the edge of the stone-working debris and none was recognized at a higher level. The dating of the tile would fit satisfactorily with the rest of the material associated with the construction of this building were it not for the fact that it showed definite signs of wear and must have been derived from an earlier floor, perhaps in the church (see below, p 26).

From the layers in Area IV which may also have been deposited at this time there were only about half a dozen sherds of pottery dating to the early 14th century, a type V ridge crest in Early B fabric dating to *c* 1300, and fourteen nails.

The two pits produced pottery of similar date, a few nails, part of a type II crested ridge tile in Early A fabric and a leather offcut.

3B(ii) (see plan, Fig 6)

Building 3B(ii) was also constructed across the ditch immediately to the east of the large building 3B(i). There were strong similarities between the two structures, but the butt joints between walls W22A and W13A on the north and walls W21A and W14B on the south, and the different character of the facing blocks show that the two structures were not built as one operation, although the intervening time may have been short (P14).

Building 3B(ii) was about 3.50m square and its remains consisted of two walls one on either side of the ditch. The walls were built from angular fragments of-granite (mainly markfieldite) with some hornstone, quartzite pebble, and sandstone and were faced internally with large rectangular dressed blocks of Dane Hills sandstone. Wall W14B on the south was, like wall W21A of the adjacent structure, built in the side of the ditch but the foundations were not under-pinned with such large blocks as were those of-wall W21A. A large oak beam, perhaps from the demolished timber building, had been rammed below the west end of wall W14B and may also have extended below wall W21A but it was not possible to see how far. The foundations consisted of three or four rough courses of granite fragments, and above these the north side of the wall was faced with at least three courses of dressed sandstone blocks which were set back about 0.20m from the edge of the foundations. These blocks were set at about the same level as those of wall W21A and continued the line but they were more rectangular in shape, varying from *c* 0.50m-0.70m in length with a height of only about 0.20m. Wall W14B was *c* 1.10m wide and a buttress, 0.95m wide, projected from the middle of its south side for 1.20m. This buttress (W23) was of the same construction as the wall and rested on large rounded and rectangular blocks of granite.

Wall W13A on the north side of the ditch was 1.00m wide and faced on its south side with similar blocks of dressed sandstone continuing the line and level of those in wall W22A. These facing stones were set back about 0.10m from the top of the foundations which consisted of two courses. The top course was made of small blocks, 0.20m-0.30m, of granite and rested on large undressed lumps and fragments of granite. There were some fragments of Swithland slate between the two courses. There was no buttress to correspond with that on the south wall but near the centre wall W13A was about 0.20m wider, As in the adjacent building the south wall, which lay in the side of the ditch, was stronger and more heavily buttressed than the north wall.

There was little material from the layers associated with the construction of this building. The construction material must all have been cleared away and deposited elsewhere. There was a little pottery, two fragments of ridge tile in Early B fabrics, and part of an undecorated glazed square floor tile from the foundation trenches. None of this material need be dated later than the beginning of the 14th century and it could all be residual.

3C (see sections a-a, Fig 9, b-b, Fig 10)

The construction of the first cloistral buildings also took place during the early part of the 14th century. The first cloister was built on the original friary site, north of the church and south of the ditch, 2D, and its construction necessitated the demolition of the earlier buildings 2A, B, C.

The demolition of building 2B appears to have proceeded concurrently with the construction of the cloistral buildings. Wall W38, which formed part of both the east and north cloister ranges, was constructed on more or less the same line as the north wall, W45, of the earlier building. This was seen most clearly in the east section (a-a). Here the superstructure of wall W45 must have been removed first as its foundations were cut by those of wall W38. The total width of the foundations of both walls at this point was 1.70m whereas further west the foundation of wall W38 was about 1,30m wide. A deposit of pale grey clay flecked with charcoal and orange sand and containing small lumps of sandstone (307) overlay the foundations of wall W45 to a level of 53.87m OD above which was modern disturbance. Further north a similar layer of pale creamy sand overlay the demolished walls of the annexe (2C). Above this, to a level of 54.57m OD, was a layer of brown siltv loam flecked with mortar, sandstone, and tile and containing fragments of wall plaster.

The south wall of the earlier building, wall W44, however, seems to have been left standing until construction of the east cloister range was further advanced. Here, construction and make-up layers of brown sand and brown-grey clay flecked with mortar and sandstone and containing fragments of sandstone and granite overlay the foundation trench of-wall W50 but were cut by the robber trench of wall W44. In these layers at a level of 54.13m OD was a spread of mortar (30 1). The robber trench of wall W44 was filled with layers of pale grey clay containing lumps of-mortar and sandstone and flecked with orange sand, charcoal, tile, green marl, and sandstone powder. One of these layers also contained fragments of wall plaster presumably derived from the walls of the 2B building. A layer of mortar and slate fragments (268) sealed the robber trench and construction deposits associated with wall W50 at a level of 54.23m 54,38m OD.

A similar sequence was recorded further west in Area II where wall W41 was cut by the insertion of-wall W38 but its demolition was not completed until later. The foundations of wall W38 were cut from the level of the second mortar spread (II 270, phase 2B, p 11) at a level of 54.00m OD and were then scaled by layers of red-brown sandy soil and fragments of sandstone, slate, and mortar. Above this material was another thin spread of mortar at *c* 54.38m OD which did not appear in the section. All these layers were then cut by the robber trench of wall W41.

The cloistral ranges were evidently very substantial buildings. Although the stone had been almost totally robbed, the foundations were of massive dimensions indicating buildings of considerable height. The foundations were composed of layers of-compacted gravel, clay, and sandstone dressing following the practice begun in phase 2B.

The eastern range was composed of at least three rooms and even the internal walls were of massive construction. Wall W38 which formed the north wall of the east range had foundations 1.20m wide and 1.20m deep, cut from a level of 53.87m OD. The next wall of the east range, W50, had foundations 1.45m wide and 1.38m deep cut from 53.85m OD. Above foundation level the wall was narrowed by an offset of 0.30m on the north and 0.10m on the south. Further south again wall W51 had foundation 1.35m wide and 1.38m deep cut from 53.9lm OD. Above its foundations the wall was narrowed by an offset of 0.45m on the south. The two rooms formed by these walls were each 8.20m wide (from north to south) and at least 5.50m long. The width of the third room was not ascertained.

There was little evidence for the floors in these rooms. Overlying the wall foundations were make-up layers of grey and brown clay flecked to a greater or lesser extent with mortar, charcoal, and sandstone which probably

represent the upcast from the foundation trenches. The upper layers of-these deposits included large quantities of small slate fragments and the surface level varied from 54.24m OD in the north to 54.50m OD in the south. Floor surfaces at a level of 54.38m were perhaps indicated by the layer of slate and mortar (268) sealing the robber trench of wall W44 and the adjacent make-up layers in the northern room and by a pile of broken roof tiles lying on top of the make-up (349) in the central room, Further west in this room a patch of mortar at the same level may be the remains of an actual floor. Within the third room a spread of mortar (122) above layers of upcast overlying the foundation of the west wall W52 may represent a floor in this area but it was very uneven and at a lower level than the possible floor levels elsewhere in this range. Its surface level varied from 53.98m 54.17m OD and it is better interpreted as a spread associated with the construction. It was cut by a single post-hole and above it were further make-up layers to a height of at least 53.65m OD.

Access to the rooms of the east range would have been from the east cloister alley. This passage was only 3.50m wide but once again the walls were set on massive foundations. The east wall, W52, which also formed the west wall of the east range had foundations 1.03m wide and about 1.00m deep. The bottom of the trench sloped upwards towards the north until at the junction with wall W38 the foundations were only 0.60m deep.

The west wall of-the corridor (W53) was even more substantial. Its foundations were 1.25m wide and 1.35m deep and were cut through the deposits of sandstone dressing and red marl of phase 2B on the west from a level of *c* 54.23m OD. Above this the wall was reduced in width by 0.34m on the west but the foundation material continued to a height of 54.38m OD. The offset was overlain by make-up layers of brown sandy clay containing fragments of slate, sandstone, and mortar.

No direct stratigraphic relationship was established between the walls of this corridor and the mortar layer which was described in phase 2B. At first this was thought to be the earliest floor of the corridor but further excavation showed it to be a very localized feature confined to that part of the corridor immediately south of the 2B building. Above it was a patchy layer of red marl and grey clay with a trace of a possible pebble surface. None of these layers was present at the south end of the corridor where deposits of grey and brown sand and clay were recorded. All these layers were cut by the burials of phase 3E (see below, p 22).

The return of wall W53 along the north side of the cloister was not located but it has been conjectured along the line of the modern feature, F8, which cut through the site just north of the earlier wall W44. The later tiled floor of-the east corridor, phase 5C, returned down the north side of the cloister garth across the line of wall W53 which did not continue to a junction with wall W38. There was again no indication of any surface preceding the tiled floor in this area. Layers of brown and grey clay sealed the foundation trench of wall W38 and overlay the base of the internal buttress of phase 2B.

A return of the corridor along the south side of the cloister was indicated by a short stretch of wall foundation, W54, located in a machine-cut trench at the extreme southern limit of the excavation. This foundation could not be fully explored but it appeared to be of similar character to that of walls W52 and W53. The width was not ascertained, nor the depth, but at a level of 54.19m OD the foundation was reduced in width by 0.15m and overlain by a deposit of-brown clayey loam flecked with mortar, sandstone, and charcoal. As in wall W53 the foundation material continued above this point to a level of 54.30m OD.

In the area of the cloister garth a thin spread of mortar was recorded at a level of 54.24m OD above the layers of clay, sandstone dressing, and gravel described in phase 2B. Above the mortar spread was a further deposit of grey-brown loam flecked with mortar, sandstone, and charcoal. Two burials were cut through this layer from a level of 54.46m OD (graves 17 and 18). Grave 17 contained the skeleton of an adult male aged about 23-25 years accompanied by a bronze buckle of 14th century type (see Fig 48). Burial 18 was extremely fragmentary but was probably also that of a male. Both burials were sealed by a spread of mortar and sandstone which may represent a disturbed surface at this level, *c* 54.50m OD.

From the wall foundations and the make-up layers of phase 3C there was a considerable amount of Romano-British pottery and much of the medieval material was also redeposited. Building materials were recovered in some quantity, including fragments of granite, limestone, sandstone, and mortar, but in particular large numbers of roof slates and some ridge tiles. The wall foundations produced fragments of 55 roof slates, of which 46 were from the foundations of-wall W52, and seven ridge tiles all in Early fabrics. Fragments of 45 roof slates were recorded from the make-up layers which also contained innumerable tiny slate fragments. Ten ridge tiles were represented in these layers, all in Early fabrics with the exception of one example in Middle A fabric. From the make-up layers above the mortar spread (VI 122) at the south end of the east range came one fragment of a plain glazed triangular floor tile.

There was not very much medieval pottery from the 3C deposits and all the fabrics and vessel types represented were those already encountered in the phase 1 layers.

From the top layer of make-up in the north room of the east range below the suggested floor level (268), came a jeton of early 14th century type (see below, p 130).

3 D

In Area II a building 7.75m wide and over 38.00m long with a buttressed north wall was constructed to form the north cloistral range on the part of the site previously occupied by the timber-framed building of phase 2A. The buttress foundations projected at intervals of-about 6.50m while at the north-west corner two buttresses were set at right angles.

With the exception of a short stretch of the west wall only the foundations of the main walls survived and these were composed of layers of sand and gravel interspersed with layers of clay and crushed sandstone. Over the top were traces of a thin skim of mortar. The foundations of the north wall, W42, were 1.20m wide and about 1m deep with a deeper channel at the north side. A small fragment of the interior of the wall survived *in situ* and this was composed mainly of diorite with some sandstone and hornstone. The foundations of the west wall, W35, were 1.25m wide and composed of similar material to those of W42. The surviving length of the wall was 1.10m wide and was constructed mainly of granite with some slate and sandstone. The foundations of this wall clearly cut through the construction debris of phase 3B from a level of 54.08m OD whereas the foundations of wall W42 at the east end were cut from the top of the 1A levels at 53.69m-54.01m

OD, any further build-up having been destroyed.

The post-bases of the timber-framed building had been filled with the same material as the foundations of wall W42 and at the same time. Where one of the buttress foundations had cut post-setting (41) it was impossible to separate the fillings of the two features.

Inside, the building was subdivided by at least three and possibly four walls. Wall W37 at the east end had shallower foundations less than 1.0m wide of the same composition as the main walls. No superstructure survived of either wall W42 or wall W37 but the foundations appeared to be contemporary. However, the foundation of wall W37 cut the filling of post-setting (101) so either wall W37 was a slightly later addition or possibly this is another example of the fact that demolition of the earlier building was carried out at the same time as the construction of the next.

Wall W36 has been discussed above (p 10) in connection with the timber-framed building but it is perhaps more likely to be a further partition of this building and, if so, would divide this part of the structure into two rooms of approximately the same size, about 8.50m wide.

The two internal walls W31/32 and W33/34 at the west end of the building formed a narrow passage-way or slype just over 2m wide. Neither had any foundations but each was built directly onto the construction debris of phase 3B. They were constructed mainly of diorite with some sandstone and quartzite pebble and were only 0.60m-0.70m wide. Door jambs of sandstone survived in each wall but the doorways were not set opposite to each other (P1 1). The room to the west of this passage was about 7m wide.

Although walls W31/32 and W33/34 were not of the same construction as the main walls and had not been bonded into them it seems likely that they belong to the initial phase of construction. Both walls lay directly above the construction deposits of phase 3B and the filled in post-settings of phase 2A with no intervening floor level and post-base (235) had been filled in with a large block of granite on which wall W31/32 rested. Moreover the thresholds of the doorways were only a few centimetres above the construction level of the building *c* 54.06m OD. From this it appears that the level of the floors in this range was some 0.30m below that of the eastern range. A doorway led from the north cloister passage through wall W38 into the slype formed by walls W31/32 and W33/34. One of the sandstone door jambs was found *in situ* (P1 1).

There was little construction debris associated with this building, but at the east end, butting up to wall W30, phase 2A, were layers of clean green sandstone chips and a mixture of clay with sandstone fragments. Above these was some brown sand and then a layer of clay. These layers postdate wall W30 which is associated with the timber-framed building. Above the construction levels of phase 3B at the west end and extending partly below wall W31/32 were layers of red-brown gravel and brown clay flecked with crushed sandscone and mortar. Five post-holes aligned along the east face of the west wall and cutting the construction debris of 3B represent scaffolding used during the construction of the wall and the insertion of a large window. Similar scaffold holes were found adjacent to the walls of the slype while another group of post-holes towards the centre of the west end room may perhaps represent a structure within the room.

As in 3B most of the material excavated from the foundation trenches was not deposited in the immediate area. However, disturbance of the earlier levels was represented by the presence of a certain amount of Romano-British material and by sherds from seven medieval vessels which had originally been deposited in the 1A layers, three of which were also found in deposits of phase 3B in Area I. Apart from this redeposited materal there were over 70 vessels represented by the pottery from 3D much of which however was clearly residual in date.

From the foundations of wall W37 came a silver halfpenny of Edward I *c* 1298 (see below, p 130), the only other small finds being a plain bronze ring and a bone knife handle.

Some of the building material from the foundation trenches and the filling of the post-settings may be residual but some is likely to be associated with the construction of this building. Ridge tiles in Early and Middle fabrics were found and a fragment of a possible louver. There was also part of a type II crest in Middle C fabric. Two fragments of undecorated glazed square floor tile, a lead window came, and 3500sq mm of window glass, some of which was painted, were also found.

From the construction layers there were fragments of three ridge tiles in Middle fabrics and from the filling of the scaffold holes at the west end came some tiny fragments of window glass both plain and painted. The window itself was represented by fragments of tracery from a window of the Decorated Period dating to the late 13th-early l4th century (see Fig 11) which were found in the destruction levels at the west end of the building.

3E

A number of burials were made in the east cloister passage before the tiled floor of phase 5C was laid. In the central area seven burials, graves 6-11 and 15, were cut through the mortar layer of phase 2B and the layers of clay above it (phase 3C). The graves were set very close together, sometimes as little as 0.20m apart and grave 11 had been recut for the insertion of a second burial (10). Towards the south end of the corridor graves 12-14 had been cut through the make-up layers of phase 3C. Here again grave 14 contained bones of two individuals. The individuals represented varied in age from the early teens (graves 10, 12, 14) to middle age (grave 11, probably 35-45 years). Most were males but there were two probable females graves 6 and 12. Several skeletons showed evidence of osteoarthritis, mostly of the spine (graves 6, 9, 11, 13) and two had exostoses on the tibia (graves 7 and 13). In one individual (grave 8) wormian bones were present in the skull. Two of the skeletons (graves 6 and 11) had the same malformation of the teeth and this, with other similarities suggests a genetic relationship between these two individuals.

All the individuals except one in this group were buried with the arms in an attitude of prayer. Grave 9 had been disturbed by a modern feature which had removed the right arm but the left arm was underneath the pelvis suggesting perhaps that the body had shifted during burial.

Six of the burials (6, 7, 11, 12, 13, 14) were accompanied by bronze or iron buckles dating to the 14th century. All the buckles were found in the region of the pelvis and in some cases the remains of leather belts were preserved (see Figs 48, 50, 61).

There were a few fragments of pottery, all in early fabrics, in the grave fillings, which had been redeposited from the make-up levels through which the graves were cut. The filling of grave 13 contained two fragments of plain glazed floor tile, one square and one triangular: while in the filling of grave 8 was a fragment of an inlaid floor tile.

There was no indication that burials had been made in the north cloister passage.

3F (see section c-c, Fig 10)

At the east end of the drain the demolition of the culvert walls during the 14th century was represented by a heap of light coloured sand containing sandstone rubble and fragments of slate (142). This deposit was piled against the south wall of the culvert, W40, above the earliest layers in the ditch (34). Above this heap of rubble were further layers of black silt and clay (33, 138) which also extended over the top of Wall W39, the north wall of the culvert. It was only at this point that it was possible clearly to separate the earlier deposits in the ditch from the later and this fact alone shows that, in spite of the demolition of the culvert and the buildings constructed at the west end, for most of its length the character and form of the ditch were unchanged throughout the 14th century. This is supported by the environmental evidence which shows that the same species are represented in the upper ditch deposits as in the lower filling although to a lesser degree. In particular, species indicating damp mud and vegetation at the water's edge, the presence of dry wood, used timber, and the storage of food in the vicinity of the ditch continued to be represented.

About 50 vessels were represented by the pottery from the upper levels in the ditch.. As in the lower filling most of these were jugs but there were some bowls and also urinals which were not found in the lower layers. Sherds of several vessels were found in both the upper and lower layers. The date of the pottery ranges through the 14th century and is weighted towards the second half while a few vessels may be dated c 1400. Two wooden bowls, a wooden lid, and part of a small pewter plate or paten supplemented the pottery vessels from this deposit. Clothing was represented by numerous fragments of shoes including one complete example, daring to the second half of the 14th century, two knife-sheaths, and pieces of two belts and a strap. In addition to the leather there was a bronze belt end of mid 14th century date, two pins, and a lace tag.

Less building material was represented in these deposits but it included a decorated floor tile bearing the arms of Lancaster after 1324, eight plain square tiles, and one triangular example. Some roof slates, a lead window came, and wooden planks also demonstrate the construction or repair of buildings on the site during this period, as do the fragments of 30 ridge tiles in Early, Middle, and Late fabrics which included three examples of crest type V, two of type IV A, and a side-vented ridge tile, There were fewer fragments of mammal and bird bones from phase 3F than from the earlier ditch deposits but the same species were represented. However, more fish bones were recovered from 3F than from any other single deposit (see Table 31). All the identifiable bones were from deep water marine species and marine molluscs also appeared.

Discussion of phase 3

The early 14th century marks a new stage in the development of the friary which is shown not only by the expansion of the buildings onto a new part of the site but more especially by the establishment of regular cloistral buildings on a substantial scale. Despite the coincidence of date it is unlikely that the new phase of building activity was directly associated with the final grant of land in 1304. It has been shown (above, p 8) that this land probably lay south of the church and was utilized as a burial ground; moreover most of the building in phase 3 took place on the original site.

Doubtless it was always the intention to replace the buildings of phase 2 with more permanent accommodation on a conventional plan and at the beginning of the 14th century a combination of factors made this possible. One of these factors was probably the completion of the friary church which enabled the community to turn its attention and its resources in other directions. In addition the Austin Friars of Leicester must have shared in the growing popularity and prosperity of the mendicant orders in general during the later 13th and early 14th centuries. By 1300, houses of friars were established in towns all over the country and their prosperity as evinced in the size and elaboration of their buildings was already occasioning comment. The Austin Friars were later arrivals on the scene than the Franciscans and Dominicans and never became as numerous. In the first 50 years after the establishment of the order they grew fairly slowly, 17 houses having been founded by 1300 (Dickinson 1961, 93). During the first quarter of the 14th century, however, this number was nearly doubled; by 1327 30 houses had been established (Gwynn 1940, 21). This period of general expansion of the order is reflected in the major rebuilding of the house in Leicester. The increased prosperity of the Leicester community is shown not only in the size and scale of the new buildings but also in the sophistication implied by the presence of such materials as floor tiles, window glass, and architectural fragments in the deposits associated with their construction.

During the 13th century restrictions were imposed on the size, height, and ornamentation of the buildings of the Dominican Friars (Hinnebusch 1951, 126-7) but by the end of the century these were giving way. The same tendency can be seen in the Austin Friars at Leicester where, although none of the superstructure remained standing, the impressive nature of the building is shown by the massive wall foundations. The effectiveness of these foundations of layers of gravel and clay is demonstrated by the fact that they lasted for over 200 years. During this time the buildings may have been altered and some repairs. may have been necessary, but there is no evidence that the foundations ever had to be replaced.

The buttressed wall of the north cloister range and the massive foundations of even the internal walls of the east range indicate that each of these buildings carried an upper storey. In the east range it is evident that the room(s) of the first floor extended over the cloister alley; the foundations of wall W53 indicate that it supported no mere pretence roof. Such an arrangement was a common feature of the cloisters of the mendicant orders in England (Hinnebusch 1951, 201) and it is possible that it occurred in the other ranges at Leicester (see below, p 24). The narrow width of the cloister alley is also typical of mendicant building. In these orders the cloister was not intended as a place for study but simply to provide communicating passages between the different buildings. In general the internal width of these passage-ways was no more than 2.00m to 3.00m though the south cloister alley at Cardiff priory was *c* 3.75m (12') wide (Hinnebusch 1951, fig 7). At Leicester the internal width of the east cloister alley was *c* 2.50m. The width of the other sides was not determined but on the basis of the excavated structures two alternative reconstructions are possible. The first of these is based on the dimensions of the rooms in the east range where walls W38, W50, and W51 were equally spaced, giving two rooms each 8.20m wide. If the third room was also the same width the projected line of its south wall would give a south cloister alley rather wider than that on the east, *c* 4.50m between wall centres. A similar arrangement occurred at Cardiff priory where, as at Leicester, the church was sited south of the cloister.

Alternatively the cloister alley mav have been the same width on all sides and on this basis the south room of the east range would be only 7.30m wide.

The position of the north cloister alley, though not its width, was satisfactorily established but the only indication of the site of the west passage was provided by the slype through the north range. If the west cloister alley were aligned on this then a direct line of communication would have existed from the west end of the church, along the west side of the cloister and through the north range. The building 3B(ii) was also aligned on the slype so that direct access was provided to the adjacent building 3B(i) above the ditch and also to the land across the ditch and the small building on the bank of the river, 3A. The importance of this line of communication is demonstrated by its continuation in later building phases when a second cloister was constructed north of the ditch.

With the west cloister alley in this position either of the reconstructions suggested above would give a central cloister area of sub-rectangular shape and measuring about 19.25m by 17.00m. The somewhat rhomboidal shape may be accounted for either by the fact that the reconstructions are based on the foundation trenches rather than the walls, or possibly by the fact that the cloister was laid out while parts of the earlier buildings were still standing thus making diagonal measurements difficult.

The average size of the cloister area of the Dominican friaries was about 21.50m-24.60m (70'-80')'square, rather larger than the average Franciscan cloister (Hinnebusch 1951,200) while that of the Austin Friars in London was 18.50m (60') square. The size of the cloister in Leicester compares favourably with that of other mendicant communities and in itself demonstrates the prosperity and popularity of the Austin Friars in Leicester at this time.

There was little internal evidence from the excavations for the function of the various buildings of phase 3. No floors remained in *situ* and the domestic refuse from the site continued to be discharged into the ditch so that the material could not be assigned to specific buildings.

The major buildings required by the friars would be the same as those found in the older monastic establishments: the chapter house, domestic accommodation comprising dormitory, rere-dorter, refectory, kitchens, and ancillary buildings, a library and room for study, and accommodation for guests and for the sick. In addition the head of the community would have had either apartments set aside for his particular use or a separate building.

The position that these buildings occupied in the older monasteries was largely related to the liturgical routine of the daily round of worship. This aspect of life was less important to the friars who laid more stress on evangelization, preaching, and learning. Consequently on their small, cramped urban sites the layout of the buildings was less uniform. Where, however, as at Leicester, the site was relatively unrestricted there would be no reason wilfully to depart from the established plan.

The chapter house played an important part in both the liturgical and administrative aspects of monastic life and for this reason it was usually sited in the east cloistral range, near the south transept, and often projected eastwards. The upper floor of the east range was usually occupied by the dormitory which sometimes also extended over the chapter house so that a night stair was provided to give direct access to the choir. Few friars' churches had transepts and the chapter house was often placed centrally in the east range. The size of the internal walls in the east range at Leicester may be taken to indicate a structure of some importance in this position, and confirmation of this as the chapter house is provided by the fact that burialsi were made here in a later phase (see below, phase 7C, p 37); this was the only building apart from the church) where burials were permitted. The entire upper floor of this range could well have been the dormitory with a night stair at its south end into the choir. If this were the *case* it is possible that the chapter house projected beyond the dormitory to the east to provide more light.

The room at the south end of this range between the chapter house and the church may have been a parlour or possibly the library, though the latter was often no more than a book cupboard. However, the friars were noted for their large collections of books (Hinnebusch 1951, 184) and their emphasis on study and learning.

None of the excavated buidings can be identified as the rere-dorter but it would have been sited near the dormatory and also related to the sewage system. A possible site rere-dorter would be outside the excavated area extending from the north end of the east range, along the ditch. The demolition of the culvert at the east end of the excavated length of ditch may be connected with the building of the rere-dorter near this point. The possibility that the ditch carried sewage is indicated by the presence of nettle seeds in the environmental samples from phases 2D and 3F while the proximity of the dormitory and rere-dorter is also suggested by the quantities of worn articles of clothing from these deposits and, in phase 3F, by the presence of urinals (see Table 20b).

The refectory was another major domestic building required by the friars and, on a conventional plan, it would be found opposite the church at 90° to the dormitory. At Leicester this would be the north range, the buttressed building in Area II (3D). The buttressed foundations (of this wall were not marched by opposing buttresses on wall W38 perhaps indicating that the thrust was carried over to the south wall of the cloister alley. This wall was not located in the excavations but it is probable that it, like wall W53 on the east, also formed part of the main building and that here too an upper floor was carried over the cloister walk. It is possible that the inside of the walls of the cloister were buttressed but only a short length of one of these, W5, was exposed

From its earliest phase the ground floor of the north range seems to have been divided by partition walls perhaps into a series of store-rooms. The siting of some of these partitions would not allow for centrally placed windows between the buttresses at ground floor level (we are indebted to Mr G Coppack for drawing this fact to our attention).. Also the close proximity of buildings 3B(i) and 3B(ii) at the west end suggests that lighting was of little consequence in these rooms. The refectory, as one of the more important rooms of the friary, probably occupied the whole of the upper floor. The fragments of tracery from the destruction levels of this building indicate a large three-light window in its west wall, probably containing painted glass. Such a window would be more in keeping with a first floor refectory than with the relatively small room west of the slype on the ground floor. At the east end of the exposed length of wall W42 was a buttress larger and more regular in shape than the rest which may indicate the position of the pulpit. This feature was commonly set towards the east end of the refectory within the thickness of the wall. There was no indication of a staircase within the excavated area but a possible site for this would be at the north end of the west range, leading up from the cloister alley parallel with wall W38 so that the entrance to the refectory was in the south-west corner.

On the basis of this interpretation the ground floor of the north range could have provided conveniently situated store-rooms. This arrangement is often found on other

monastic sites where the refectory occupied the upper floor. Cereal pests were still present in phase 3F of the ditch but in very much lower numbers. Evidently grain was still being stored on the site but perhaps further away from the ditch or possibly this may reflect the change in construction from timber to stone of the store buildings.

The kitchen as well as the stores would be sited near to the refectory. In none of the excavated buildings however was there any evidence of the hearths, ovens, or fireplaces which would have been essential features of this building. The structure straddling the ditch, 3B(i), would have provided a convenient site for the kitchen as it was near to the refectory and also the kitchen refuse could have been discharged directly into the ditch. However, the ditch deposits of 2D and 3F produced relatively little in the way of kitchen refuse.

By far the most numerous of the vessel types represented in the pottery recovered from these deposits were jugs of various forms (see Tables 20a, b). Very few vessels could be certainly identified as either cooking pots or storage jars and there were no dripping dishes and few bowls. It is possible that jugs were, on occasion, used for cooking (Henisch 1976, 129) and storage purposes as well as on the table. The relatively small quantities of animal bone from the ditch deposits of 2D and 3F may indicate that to begin with meat was more rigidly excluded from the diet than in later phases. Another possibility is that the bulk of the kitchen refuse was being deposited elsewhere, and that the material in the ditch was derived from the refectory.

In this context the material recovered from the construction deposits of 3B in Area I may be of significance. Besides the building materials these deposits produced both pottery and animal bone in much larger quantities than the ditch fillings. It is difficult to say to what extent these finds are residual in this context but the evidence suggests that most of the material from the foundation trenches was deposited elsewhere on the site. Only a low percentage of the medieval pottery sherds was from vessels originating in the earlier phases and the quantity of Romano-British material was also small.

Again most of the vessels represented here were jugs of various types but there was a considerably higher proportion of bowls and cooking/storage vessels than in the ditch deposits. One dripping dish was also present. A similar range of mammal and bird species was represented in the 3H deposits as in the ditch fillings 2D and 3F but in very much larger quantities. By way of contrast, however, over 60% of the total number of fish bones from the site was recovered from 3B and 3F; their absence in 2D has been commented on above (p 15).

All this material strongly suggests that waste from the kitchen area was being deposited in Area I during the construction phase of 3B. The nearest building at this time was 3A but this was not a very substantial structure, set apart from the main domestic buildings, and there was no structural evidence to suggest that it was a kitchen. It may however have been a workshop (see below, p 26) and perhaps connected with the slaughter and butchery of animals. Another possibility is that this material was derived from a kitchen midden associated with the phase 2 occupation of the site and that it was redeposited in Area I when the site was cleared to make way for the major reconstruction of phase 3. More bones from 3B showed evidence of having been gnawed by dogs than those from other deposits. Dogs were not welcome in monastic establishments (Dickinson 1961, 10) but they might more easily have gained access to a kitchen midden on the original friary site while building work was still in progress.

Some kitchen refuse, however, was finding its way into the ditch in phases 2D and 3F, although not in very large quantities, suggesting that the kitchen was not one of‘ the buildings in close proximity to the ditch; possibly it occupied part of the west cloister range.

In the smaller monastic houses accommodation for guests was often provided in the west range and this arrangement would have been appropriate at the Leicester Friary. In the friars' churches the large nave, west of the walking place, was reserved for the lay congregation, the friars using only the choir. Thus any lay visitors to the Austin Friary at Leicester could have proceeded directly from the church to a guest house in the west range via the west cloister alley without passing through any-other part of the friary. A kitchen at the north end of the west range could have served both the refectory and the guest house.

Building 3B(i) at the west end of the drain was not large in area but its construction was massive and suggests that it too was of considerable height. The nature of the foundations and the massive buttresses may be partly explained by the position straddling the ditch, though it was not thought necessary to provide buttresses for the later building, 7A, above the ditch. A drawing of 1722 (Bodleian Library MS Top Gen d 14 f7) shows a ruined tower-like building near the east end of Bow Bridge which must be very close to the site of building 3B(i). It may be this building which was described in 1618 as the ‘tenement at the bridge foote' (see above, p 3). An engraving in Nichols (l(2) pl XXIII) shows the same scene in more detail but the perspective is distorted and it includes some more imaginative touches. In both scenes the building stands to a considerable height although it appears to have no windows. The evidence from the construction material associated with building 3B(i) indicates that it had glazed windows, the roof was surmounted by crested ridge tiles, ventilation was provided by decorative louvers, and it incorporated various architectural features of moulded stonework. Moreover its siting in this particular position was evidently important for it was constructed here with its south wall actually in the ditch at a time when there was plenty of space available elsewhere on the site.

The prior's lodging was sometimes found in the west cloistral range, at the end opposite the church (Dickinson 1968, 70), and was sometimes an isolated building. The superior's apartments were usually sited with a view to providing convenient access for the guests whom the head of the community would entertain. Building 3B(i) at Leicester was situated at such a point. The importance of the line of-communication from the church via the west cloister alley and through the slype in the north range has already been mentioned (above, p 24). If the suggested plan of the buildings is correct then visitors could have passed from the church to either the guest house or the prior's lodging without intruding on any of the other friary buildings.

On a number of grounds it is apparent that 3A does not form part of the series of buildings so far discussed. It was of less substantial construction and was set apart from the major domestic buildings, across the ditch, on a different alignment. The position of the building and the angle at which it was set indicate that it was aligned along the river bank, perhaps to facilitate the disposal of waste.

There is an apparent similarity in plan between this building and the earlier structure 2B especially if the small building 2C is interpreted as an annexe of the latter rather than a separate building. Each appears to have a single internal buttress on the same wall as the annexe in approximately the same position. In 2B there was no corresponding buttress on the south wall but the possibility

of one on the west wall of 3A could not be checked. However, in 3A the buttress was apparently associated with an external soak-away chamber and there was no evidence to suggest a similar chamber projecting from 2B.

It has been suggested above (p 15) that 2B provided domestic accommodation during an early stage in the development of the fryary and was replaced in the early 14th century by the formal cloistral ranges. However there is evidence to show that the demolition of the phase 2 buildings was proceeding at the same time as the construction of-the cloistral ranges so that for a short time alternative accommodation would have to be provided. Despite the apparent similarity of plan, however, it seems unlikely that this is represented by building 3A.. It was smaller and less substantial than the earlier building and there was nothing to suggest that its walls were plastered as was indicated by the fragments of wall plaster associated with the destruction of 2B. Moreover it was awkwardly placed for a domestic building and access to it would have been difficult, especially during the construction of-the phase 3 buildings when building debris and other rubbish was allowed to accumulate immediately outside. In later phases there were traces of mortar floors inside the building and a metalled yard outside on the east. The function of the soak-away chamber is not entirely clear. It does not appear to have been a garderobe; its pitched stone floor was covered with a layer of-clean brown soil and there was no discolouration of the stonework nor of the surrounding earth into which the contents would have seeped (though see below, p 28). Moreover waste material from this building could easily have been discharged directly into the river. The chamber could however have held a tank to supply water for one or more of the many subsidiary activities which were carried out on the site.

Some of these have been mentioned above in connection with the evidence from phase 2 for the pasturing of animals, their subsequent slaughter and butchery, leather working, etc. Fish as well as meat would have to be prepared for the kitchen and facilities were doubtless provided for brewing. Building 3A was set apart from the major domestic ranges but access was provided, over the ditch by the structure 3B(ii) and through the north range. It would thus have provided a convenient site for some at least of these activities and may represent a replacement in stone of the timber building of phase 2.

It is not easy to determine the exact sequence in which the various buildings of phase 3 were constructed as the material associated with them was not capable of the close dating required and there was little direct stratigraphic relationship. However, the most logical sequence would be for the main cloistral buildings to be constructed first followed perhaps by the workshop in Area I (3A) and the prio's lodging (3B(i)) and the adjacent building above the ditch (3B(ii)). This sequence would also help to explain why walls W21A and W14B had to be inserted in the ditch as space WAS restricted by the proximity of the north cloister range (3D). However, if this were the case, the crushed sandstone deposits (111) in Area II described in phase 3B(i) (see above, p 19) cannot have been derived from the construction of the prior's lodging and must rather be associated with the building of the west cloister range. In any case it is evident that all the structures were part of the same overall plan and work on several buildings may have been proceeding at the same time. It is possible that repairs were already taking place within the church itself which could explain the presence of the worn tile bearing the arms of the Ferrers family in the packing of post-hole (15 3) in Area I, phase 3B(i).

Finally the burials inserted in the east cloister alley require some consideration. Most of the skeletons were male and aged between 20 and 35. Another feature distinguishing this group is that all except one were buried with the hands clasped either on the breast or at the waist. Several had evidently been buried fully clothed, a fact indicated by the remains of leather belts and bronze or iron buckles.

The burials in the west cloister alley at the Dominican Priory, Oxford are thought to be those of the friars themselves and it is suggested that the other cloister alleys here were also reserved for members of the community (Lambrick & Woods 1976, 203). This was evidently not the case at the Austin Friars in Leicester. Here there was no evidence that burials had been made in the north cloister alley which is of-interest as those in the cast were packed closely together and in at least one case a grave had been recut for the insertion of a second burial.

The evidence cited above from the burials in the cast cloister alley suggests that these too were friars though the presence of two probable females in the group is interesting. They may have been female relatives of members of the community who were allowed burial here. This suggestion is strensthened by the evidence of a possible genetic relationship between one of the female skeletons (number 6) and a male (number 11). The younger burials in the group may be those of novices.

There was no trace in the east cloister alley of the original floor through which the burials had been cut, although the fragments of glazed floor tiles in the grave fillings suggest an earlier tiled floor in this area preceding that of phase 5C.

Some burials were also made in the cloister garth itself which seems to have been a more unusual practice among friars. None was found in the cloister garth at Oxford although only a small area was excavated. At the Guildford Blackfriars, however, the whole area was stripped and no burials were found (Lambrick & Woods 1976, 194). Only two burials were found at Leicester. in the limited area examined, and burial in this area does not appear to have been common.

Phase 4

4A (see plans, Fig 70, Fig 6, phase plan, Fig 7)

The second cloister wall W1 (Area l), W11 (Area IV), W24 (Area III) was built about the middle of the 14th century. Its foundations survived on the north, west, and east sides of the central area. It is possible that a wall was constructed on the south side also but if so all trace of it was removed when the later stone drain was built. It is more likely, however, that at this time the area was enclosed on three sides only, the fourth side being formed by the south ditch which was still open. The enclosed area measured 25.00m from east to west and 22.00m from north to south.

The walls of the second cloister, like those of the first, were built on foundations composed of layers of gravel, clay, and crushed sandstone. The foundations were 1.00m deep and varied in width between 0.80m and 1.00m and, where it remained, the superstructure had been carried straight up without offsets on either side. The walls themselves were constructed basically of irregularly shaped pieces of Dane Hills sandstone with some diorite (Enderby), Swithland slate, and quartzite pebble. There was some tendency to use larger pieces of sandstone for the sides and

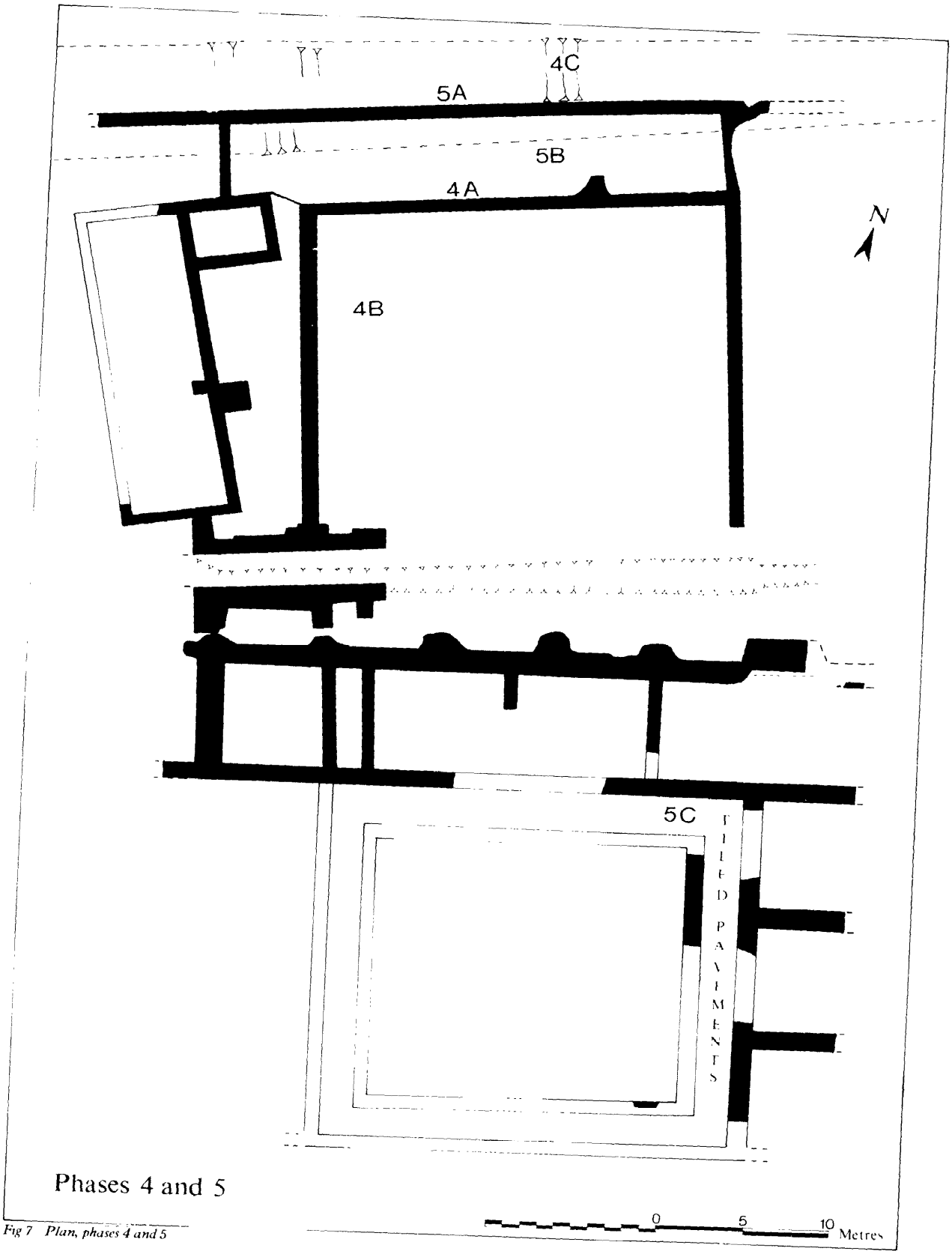


Fig 7 Plan, phases 4 and 5

smaller ones in the centre. Mortar samples from the three walls were highly insoluble and belonged to the same group (see Fig 25). At the north-east corner one large, square corner stone was still in position, but this was not matched at the north-west corner. At this point, however, the wall had cut through an earlier pit (R4.11, phase 3B) and had subsided slightly into it. The builders had evidently been aware of this possibility for a buttress foundation (R4.15) was provided at this point, 1.05m wide, 0.90m deep, and of the same construction as the wall foundations. Apparently the foundation itself was deemed sufficient for the purpose for it was never carried above ground level. No similar strengthening was provided where wall Wl cut through the shallower pit (33) of phase 3B.

From near the middle of the north wall (W11) there was a projection on the north side. This feature appeared to be contemporary with the wall but there was no depth to its foundations which consisted of a layer of gravel only a few centimetres deep. The west side of the feature was curved but its purpose remains obscure; it seemed too slight to have any structural significance.

In Area I the foundations of wall Wl cut through the construction debris of phase 3B from a level of c 54.10m OD.

The earlier stone building in Area I, 3A, was still standing,when the cloister wall was constructed. In Area IV a thick patch of charcoal (15) terminated to the south along a straight line between the corner of the cloister wall and the north-east corner of the projecting room of the workshop indicating that, for however short a time, the gap had been closed with some form of partition, of which however no other trace was found (Pl 5). The whole of the space between the two walls was then filled with layers of dark soil and clay, heavily flecked with charcoal, which sealed the pit (R4.11) and the buttress foundation and extended above the charcoal patch into Area IV where they were later cut by the north precinct ditch.

South of the projecting eastern room the space between the cloister wall and the workshop was provided with a compact cobble surface (R2.9) which extended south as far as the line of the later wall W5. This surface was cut by a large shallow feature (39), roughly semicircular in shape and measuring about 7.00m in diameter although its greatest depth was no more than 0.40m. It was filled with crushed sandstone debris probably redeposited from the construction levels of phase 3B into which it was cut, above a lining of dark brown loam heavily flecked with charcoal. The position of the feature suggests that it may have been associated with the projecting soak-away chamber of the earlier building.

Some of the material excavated when the foundations of wall W1 were dug was deposited in the area immediately to the east of wall W1, within the cloister area. Here layers of dark brown loam flecked with charcoal were deposited above the crushed sandstone layers of phase 3B. In Area III layers of dark sandy soil, flecked with mortar, sandstone, and charcoal with some sandstone debris, may be associated with the construction of wall W24.

Twenty-five vessels were represented in the pottery from the foundations of the cloister walls and sherds from five more were redeposited here from earlier contexts in Areas I and II. Two of the latter were also represented by sherds in the upcast from the foundation trenches and one in pit (39) cutting the cobble surface. Other finds included two fragments of leather probably derived from the pit (R4.11) (3B(i)) which was cut by the wall foundations, a little Romano-British material, and a few fragments of ridge tile in Early and Middle fabrics, including part of a pottery louver.

Sherds of fifteen vessels were found in the layers of soil which sealed the buttress foundations at the north end of wall W 1. At least one of these was residual and formed part of a vessel which was first deposited in the phase 1 levels in Area II and then in the 3B construction levels of Area I. Sherds from this vessel were also found in the cobble surface of phase 4A. There were few other finds from these layers: a bronze wire loop, six nails, and a little Romano-British material. Building materials were represented by two pieces ofsandstone and a roof slate

The cobble surface (R2.9) produced sherds of only five vessels, two of which were redeposited from the phase 1 levels in Area II. One of these was also represented in the 4A layers sealing the buttress foundation (see above). There were also two fragments of ridge tile in Early and Middle fabrics.

There was considerably more material from the pit (39) which cut through the cobble surface. The pottery fragments represented 29 vessels one of which was also found in the foundations of wall W1 and another in the upcast material from the foundation trench. Sherds from a further eleven vessels were redeposited from the phase 1 level's of Areas I and II and from the construction deposits of phase 3B in Area I, and one of these was also found in the buttress foundation at the corner of wall WI. Other finds from this feature were a bronze belt end and some Romano-British material, while 45 nails; five ridge tiles in Early fabric, and fragments of nineteen roof slates perhaps indicate roof repairs to the workshop although it is possible that this material also was redeposited from the construction deposits of phase 3B.

The upcast material from the foundation trenches of the cloister wall W 1 produced a large quantity of pottery much of which was clearly residual. A total of 61 vessels was represented, eighteen of which were redeposited sherds from earlier contexts in Area I and two of which were also represented by sherds from the wail foundations. There was also some Romano-British material while building activity was indicated by 54 nails, five roof slates, a lead window came, and six ridge tiles all in Early fabrics, It is impcssible to tell how much of this material should be associated with the construction of the cloister wall and how much may, like a large proportion of the pottery, be residual.

The layers in Area III which may be associated with the construction of wall W24 only produced one fragment of pottery in fabric N and pieces of three ridge tiles in Early and Middle fabrics.

Much of the material associated with this phase of construction was residual and was probably redeposited from earlier contexts which were disturbed by the digging of foundations for the cloister walls. There were several sherds of vessels in a soft-fired P(xv) fabric and examples of four ridge tiles in Middle fabric which suggest a date of *c* 1350 for the construction. From the foundations of the cloister wall, Wl, itself however, there were tw o sherds, probably from the same vessel, in a very hard-fired I? (xv) fabric which might be expected to date somewhat later.

Animal bone was also recovered in some quantity from these deposits, in particular from the upcast layers to the east of wall W1. The most notable feature of this group was the sudden decline in the numbers of fish bones (see Table 31).

4B (see plan, Fig 6, phase plan, Fig 7)

Most of the evidence for this phase comes from a strip *c* 3.00m wide immediately east of the cloister wall Wl where layers of soil had accumulated to a depth of 0.80m. Above

the upcast material of 4A were layers of dark brown clay and loam more or less heavily flecked with charcoal and a little mortar and sandstone. Above these deposits were traces of possible surfaces represented by two patches of cobbles in yellow sand and a heavy scatter of fragmentary roof slates and then more layers of brown soil containing a quantity of-crushed sandstone with some sandstone rubble and charcoal flecking and cut by two rather ill defined features. The upper layers in this area were composed of dark soil with a fairly high rubble content flecked with mortar, sandstone, and charcoal. The general impression was of an area which had been subject to continual disturbance over a considerable period of time. In Area III similar layers of dark soil flecked heavily with charcoal and including patches of crushed sandstone, red clay, and some rubble had accumulated to the west of wall W24. There were no similar deposits in Area V which had been disturbed down to the top of-the Roman levels during the 19th century, but a few sub-rectangular features of medieval date had cut into the Roman levels, and were filled with light grey or brown clay and loam with some mortar and charcoal flecking. Some of these features were defined by a series of concentric yellow lines probably formed by water evaporation. Over 300 vessels were represented by the pottery from these levels, 49 of which were redeposited from earlier contexts. Three vessels were represented by joining sherds from the deposits in Areas I and III. More than two-thirds of the pottery was found in the accumulated deposits east of the cloister wall in Area I. Forty-one of the vessels were represented by joining sherds from different layers throughout the accumulated material and sherds from a further sixteen were redeposited from the upcast material in this area in phase 4A. These links between the various layers reinforce the impression given by the lack of coherent stratification that the deposits had been subject to continual disturbance. Sherds from eleven more vessels were redeposited here from other features of phase 4A, the wall foundations, the cobble surface, and the pit cutting through it. A very large proportion of all this material was residual in dare but it also included several examples of vessels in Midland Purple fabrics. The three main vessel types represented were jugs, cooking or storage vessels, and bowls but there were a few examples of other forms such as cisterns, dripping dishes, and a urinal.

There was a considerable amount of animal bone in these deposits also. In addition to the usual domestic species there were also bones of-the red kite, partridge, and dove while the decline in numbers of fish bones continued.

A considerable quantity of building material was also recovered; 272 nails, 41 roof slates from Area I, six window cames, some plain window glass, fragments of four floor tiles, one of which was decorated, one small column shaft of‘ 14th century date, 49 ridge tiles and a side-vented ridge tile in Early, Middle, and Late fabrics, and fragments of three louvers. One of-the features in Area V produced fragments of seven ridge tiles in Early, Middle, and Late fabrics, part of a louver, and a lead window came. From this feature there were also some twigs of oak, sloe, and poplar. The 4B deposits in Area III produced fragments of 40 ridge tiles in Early, Middle, and Late fabrics.

There were few other finds from these deposits but Area I produced a silver penny of Edward I *c* 1300, a large stone mortar of‘ 14th century type (Fig 54), a bronze belt end, and a ring, while two more bronze buckles were found in Area III (Fig 48).

The terminal date indicated by the finds for these deposits is about the beginning of the 15th century-*c* 1425.

4C (see plan, Fig 70, phase plan, Fig 7, sections d-d, e-e, Fig 10)

Meanwhile, following the construction of the cloister wall, a new boundary ditch was dug to the north of the area now occupied by the Friary buildings. The new ditch was 1.50m deep and over 6.00m wide at the top, with a flat bottom about 2.50m wide at a level of 51.78m OD. It cut the deposits of soil which sealed the buttress foundation at the north-west corner of wall W1. The north side sloped gently down to within 0.50m of the bottom from which point in the east section it fell sharply. Just above this point was a row of stakes. It was possible to identify the wood from seven of these, a group at the west end of the ditch, which proved, in contrast to those from the earlier ditch at the south, to be mainly oak with one example of ash and one of hazel. The south side of the ditch was filled in when the later wall W18 was built. This, like the north side, had a gentle slope and there were indications of stakes having been set in this side also. Numerous fragments of wood were found in the back-filling and two stakes were still in situ, although it is possible that they were associated with the construction of the wall rather than the initial phase of the ditch. The lowest layers in the ditch were of clean, dark grey clay (74), compacted black silt, and black stained gravel. These primary deposits were not very thick and yielded very little material and it would not appear that the initial phase of-the ditch was of very long duration, nor that it was used for the disposal of domestic rubbish to the same extent as the ditch at the south of the site.

The few sherds of pottery from this phase date to the first half of the 14th century and, perhaps significantly, include sherds of a vessel which was also deposited in the upper filling of the south ditch (3F). The only other material represented was ridge tile of which two examples in Early fabrics were found, a type IX crest in a Middle fabric, and one tile in a Late fabric and two slates.

Phase 5

5A (see plan, Fig 70, phase plan, Fig 7, sections d-d, e-e, Fig 10)

The northern boundary of the buildings was soon demarcated even more clearly by the construction of wall W18, which was built actually in the ditch itself at the base of the south slope. This wall must have formed an impressive facade for it was solidly constructed, mainly of Dane Hills sandstone, though with some markfieldite, diorite, grey Swithland slate, and quartzite pebble. On the north side the wall was faced from immediately above the footings which consisted of one course of angular and rounded blocks of granite laid in the filling of the ditch at 51.91m OD. The wall was about 1.00m wide and the footings projected a further 0.20m-0.25m on each side. In addition the wall was pierced with at least one window. Towards the west end a large section of wall had collapsed into the ditch and around and underneath this were remains of window tracery including fragments of-blind cusps from trefoil lights and an example of hood moulding, indicating a window of a later 14th century date than that in the refectory (Pl 6). The collapsed fragment of wall had one straight vertical edge indicating an opening at this point although the edge was nor faced. Also there were sufficient fragments from this area to indicate a window rather than reused fragments of tracery in the wall. The wall extended across the whole width of the excavated area, a length of *c* 35.00m. There can be no doubt that it was all of one construction but the analysis of mortar samples

from either end of the wall produced different curves suggesting differing sand sources (see below, p 78).

The part of the ditch to the south of wall W18, now within the enclosed area, was filled in first with layers of blue clay (37) which contained fragments of wooden stakes and a block of sandstone. Possibly this material was dredged out of the initial filling of the ditch and redeposited behind the wall. Above this was a thin layer of trampled fragments of-sandstone (76) representing a construction level for wall W18, and above this were layers of brown clay (36).

Two sections were cut across the ditch north of wall W18 and, although broadly similar, they were not identical. At the east end the foundations of the wall were covered with layers of clay (59) containing lumps of sandstone probably derived from the construction of the wall. More clay, gravel, and silt formed another bank (63) against the base of the north slope and between the two banks was a very thin layer of dark blue clay (70) which may have been a ditch lining. The bottom of the ditch was reduced to a width of 1.50m by the addition of the banks. None of these features was present in the section at the west end but in both sections following the construction of wall W18 deposits of silt and gravel (61, 62, 65) had accumulated, in one of which, in the east section, a pattern of ripple marks was preserved (P17).

The pottery from the back-filling of the ditch behind wall W18 represented *c* 15 vessels. Some of this material could have been derived from the initial deposits in the ditch (phase 4C) and indeed much of the pottery is residual in date although there were no joining sherds from the two deposits. However sherds from four vessels were redeposited in the back-filling from earlier contexts in Areas I and IV including two which joined sherds from the deposits of phase 4B east of the cloister wall W1. Some Romano-British material was also redeposited.

The vessel types represented included bowls and jugs with one example of a dripping dish. The deposit also included fragments of five ridge tiles in Early and Middle fabrics, several nails, and pieces of four, possibly six, leather shoes from the basal deposit and again possibly derived from the initial deposits in the ditch (phase 4C). There were also numerous fragments of wooden stakes and a large block of sandstone.

There were few finds from the banks of clay which covered the foundations of wall M18 in the east section and narrowed the channel. Only three vessels were represented but these included a small sherd in a soft-fired P(xviii) fabric which probably dates to the second half of the 14th century. There was a little redeposited Romano-British material, a few fragments of roof slates, some scraps of leather from five shoes of pre-1500, and a bronze ring brooch of late 13th to early 14th century date (Fig 49). A date in the second half of the 14th century must be postulated for the construction of the north precinct wall and this is born out by the material which accumulated in the ditch following its construction.

Here about 50 vessels were represented, three of which were redeposited from earlier contexts-phases 3B(i) and 4A-in Areas I and IV. **A** sherd from one of these was also found in the back-filling of the ditch behind wall W18. A wide range of vessels was represented. Jugs were still by far the most common form but bowls, urinals, and cisterns were also recovered. There were also two crucibles and a fragment of a cucurbit. Earlier fabrics still predominated but a few vessels in true Midland Purple fabrics appeared and also the first example of imported pottery-a jug from Siegburg in Germany.

Animal bone was also recovered in some quantity from the deposits in the ditch. The usual domestic species were represented and in addition bones of a dove and a carrion crow were found. Only seven fish bones were recovered from these deposits.

Other domestic refuse was only represented by pieces of leather from shoes dating to the 14th-15th century and a bronze belt clasp of rather earlier date.

Fragments of 25 ridge tiles were found of which all but four came from the section at the west end of the ditch. The four from the east section were in Early and Middle fabrics but of those from the west nine were in Late fabrics indicating roof construction or repair in this area during the 15th century. Fragments of two louvers were found in the east section and one in the west. Floors were also being repaired or replaced during this period as is shown by the fragments of six floor tiles from the west section. Four of these were decorated and one of the others was triangular. A fragment of a small column shaft, typical of the 14th century, a piece of window came, and fragments of stone and mortar also indicate construction or repair work in the vicinity during this period.

Altogether the finds from these deposits indicate that material was being deposited in the ditch from the later 14th century onwards.

The evidence from the environmental samples from these deposits indicated the existence of drier pasture in the vicinity at this time although there was little to show the presence of grazing animals or cultivated land. The death watch beetle and wood worm found in the early deposits in the south ditch were absent here. There was a marked drop also in the numbers of species associated with stored grain and fodder, indicating that the north ditch was further removed from the buildings.

5B (see plan, Fig 70, phase plan, Fig 7)

Following the construction of wall W18 and the back-filling of the ditch behind it another wall, W12, was built between wall W18 and the north wall of the domestic building in Area I. Wall W12 was 0.65m wide, with a foundation trench on the east side which was a further 0.25m in width, and was constructed almost entirely of grey Dane Hills sandstone with occasional fragments of granite towards the base. The foundation trench was back-filled with sticky brown clay containing lumps of sandstone and mortar and was cut through the deposits of clay which filled the north ditch behind wall W18. Mortar from wall W12 was analysed and found to be similar to that from the west end of wall W18 (see below, Fig 25).

Towards the east end of Area IV a linear feature 0.55m wide and 0.25m deep was located running north-south between wall W18 and the north cloister wall W11. The feature was filled with brown soil containing mortar and sandstone and may represent a robber trench or a cill-beam trench of a partition wall in the north range. There were no finds from this feature.

West of wall W12 were deposits of sandstone, granite, and slate rubble with lumps of mortar in a matrix of clay and soil also heavily flecked with mortar. These layers, which were immediately below deposits of much more recent date possibly associated with the construction of the railway, were only uncovered in a very restricted area and it was difficult to associate them with any particular phase. However, the few vessels represented by the pottery were all in early fabrics and included sherds from a vessel also

deposited in the upper levels of phase 4B in Area I. Seventeen ridge tiles from these layers were again all in Early or Middle fabrics and there was a little redeposited Romano-British material, fourteen nails, two roof slates, and a small fragment of plain window glass.

From the foundation trench of wall W12 two vessels were represented in fabrics P(xii) and P(xvi).

East of wall W12 further deposits of crushed sandstone, layers of brown clay, and fragments of slate were spread along Area IV and may be associated with construction or repair work in the north range. The only finds from these deposits were- pottery sherds representing four vessels in early fabrics, one of which was also represented by sherds from the later deposits of phase 4B in Area I.

5C (see plan, Fig 70)

While the second cloister was the scene of the major building operations during phases 4 and 5 some alterations were also made in the main cloistral ranges. The evidence for this comes from the east alley of the main cloister where a new tiled floor was laid.

The tiled floors in both the north and east alleys were represented mainly by the mortar bedding in which clear impressions of the tiles remained (P18). The tiles were laid in a diaper pattern with the exception of a single line of tiles set parallel with the walls in the north corridor. This line terminated on the line of the west wall of the eastern alley, and at this point also there was a clear joint in the mortar bedding, perhaps indicating that the surviving floors in the north and east passages were laid at different times. The surviving floor in the eastern alley was clearly a secondary feature as it cannot have been laid until the burials in this area had been inserted (phase 3E) but there is no reason why the surviving pavement in the north alley should not have been the original floor laid in phase 3C. No burials appear to have been made here nor was there any trace of an earlier floor below the tiles. If the original intention was to use the east cloister alley as a burying place then it may have been provided initially with only a temporary, perhaps wooden, flooring. Alternatively there may have been an original tiled pavement here which was cut through by the series of graves and eventually replaced entirely. This seems more likely in view of the fact that fragments of glazed floor tile, including part of an heraldic tile with the arms of the Ferrers family, were found in the filling of graves 8 and 13.

The tiles themselves were represented mainly by broken fragments in the destruction debris, though in the eastern alley fifteen tiles were found *in situ* (P19), among them an inlaid tile bearing the arms of England after 1340 (see below, p 73). Among the broken fragments from the destruction debris immediately above the mortar bedding in the east alley a number of other coats of arms was represented. These are listed below with their catalogue numbers and the date range during which each device was current:

29, L10	Arms of Lancaster	1276-1360
3 5	?Arms of Mauley	1308-1348
3 7	Arms of Beauchamp	1268-1401
40, 44	Arms of Ferrers	1299-1415
4 9	Arms of Grey	1299-1496
5 4	Arms of Deincourt	1299-1422
5 7	Arms of Despenser	1265-1400
L 4	Arms of Cantilupe of Ilkeston	1299-1376
L 1 2	Arms of Plessitis	after 1299

Discussion of phases 4 and 5

Phase 3 saw a period of building expansion in the early years of the 14th century, a period which coincided with the growing popularity of the friars in genera1 and, in particular, with the expansion of the Augustinian houses both in number and in size. By the end of phase 3 the pattern for the later development of the site at Leicester had been set. The church was established at the south end of the site, near the road, and, in the more secluded area behind it, the first cloister had been constructed incorporating the major domestic buildings. An impressive building had been provided for the head of the community and, early in phase 3, a workshop of some kind was built in the meadow to the north of the cloister. However, by the end of phase 3, there seems to have been a radical change in plan consequent on the growing prosperity of the community. This involved the construction of a second or 'little' cloister behind the first to supersede the workshop of phase 3A and to provide a wider range of ancillary buildings.

This expansion of the ancillary buildings and the provision of a second court would have been a natural development for a prosperous community once the major buildings were completed and it seems likely that the construction work of phase 4A followed immediately on the completion of phase 3. The layout of the second cloister was closely related to that of the first. The west wall of the new cloister was aligned on the east buttresses of the prior's lodging and the west wall of the slype through the north range of the first cloister. It may even have been the intention at this stage to provide covered alleys in the second cloister as well so that the line of access established in phase 3 from the church through the west alley of the main cloister and over the ditch would lead directly into the west alley of the little cloister. The wall foundations of phase 4A were composed of layers of stone dressing and gravel like those of the main cloistral buildings but this type of construction was not used in subsequent phases.

It seems clear that the second cloister was planned as a development of the first and, in fact, that the construction work of phase 4A should be seen as part of the same phase of prosperity and expansion as the major buildings of phase 3. The 'little' cloister was conceived on a grand scale; it was in area larger than the first or 'great' cloister and the foundations of phase 4A were evidently intended for load-bearing walls of a further series of substantial and impressive buildings.

The range ofmaterial recovered from the various features of phase 4A was very similar to that from 3B and much of it was in fact redeposited from earlier levels disturbed by the digging of the foundations for the cloister walls. This is clearly shown by the number of joins between sherds recovered from the various features of phase 4A and from earlier deposits in Area I (see above, p 28). An indication of a somewhat later date is however provided by the two sherds in P(xv) fabric from the foundations of wall Wl. This fabric is harder-fired than the rest but it is not yet the true Midland Purple which appears later in phases 4 and 5 and the occurrence of two sherds (one vessel) need not indicate a date much after 1350.

A date about the middle of the 14th century fori phase 4A may also be inferred from other evidence. In 1341-2 the Austin Friars paid £2 'for stones sold to them from the lane behind (?the friary)' *(RBL* **2,** 51). At this date such a sum must have represented a considerable quantity of stone, especially if, as appears to be the case, the stone was

obtained from close by the friary so that no carriage was involved. In 1325-6 during major building work on the West Bridge the sum paid for purchase of stone was £2 13s 5d (*RBL* 1, 349-52). Evidently some major building was under construction at the friary in 1341-2 and, while it is not possible to connect the purchase with any particular building, its context must lie towards the end of the period of major expansion described in phases 3 and 4A.

Although the intention of building a second cloister on an impressive scale is clearly indicated in phase 4A it is also apparent that the work was not completed at this time. Certainly on its north and west sides the cloister wall existed for some time as a free-standing structure. On the west the workshop in Area I remained standing. This is shown not only by the date of the material associated with its destruction (see below, p 33) but also by the evidence for some kind of partition closing the gap between the north-east corner of the workshop annexe and the north-west corner of the cloister wall (see above, p 28). On the north the digging of the ditch (phase 4C) postdated the construction of the cloister wall and wall W18 was not inserted until even later. Even at this time the workshop in Area I was still standing as wall W12 of the north range was butted up to its north wall.

Evidently the prosperity of the community which had made the expansion possible came suddenly to an end and the construction of the second cloister was abandoned. The most likely context for this is provided by the recurring plagues of the mid 14th century which had a serious effect on all the monastic orders, leading to a sharp decline in total numbers (Gwynn 1940, 101; Dickinson 1961, 112). Probably the friars suffered more than most through being an open order, one of whose chief characteristics was contact with the people, and the mendicant orders in general won great popularity for their work among the people during the Black Death (Gwynn 1940, 75). The plague certainly visited Leicester severely in 1348 when we are told by Henry Knighton, the Abbey chronicler, that 'the calamity was so great and everyone so apprehensive of imminent death that nobody minded riches or anything else' though 'the pestilence in this year seized mainly on the meaner sort of people'. This was in contrast to the second visitation in 1361 when the plague was 'not so universally fatal as that of 1348 but much more destructive of the nobility and gentry' (Nichols l (2), 366 7).

The digging of the north ditch seems to have postdated the construction of the cloister wall though not necessarily by very long. Possibly this was in part an interim measure forced on the community by a temporary shortage of funds. Certainly it would have been a laborious undertaking but it would not have involved the expense of buying materials nor the payment of skilled craftsmen. Its position however, at the northern limit of the expanded built-up area, and the stakes near the base of the north slope indicate that it was dug to replace one of the functions of the earlier ditch which now ran through the midst of the buildings. Evidently the demarcation between the buildings and the meadow land was still regarded as important.

The initial phase of the ditch, however, does not appear to have lasted for very long. The deposits of this phase were not very thick and contained very little material. Possibly the ditch was cleaned out when wall W18 was inserted, which would account for the lack of material, but another possibility is that the ditch was inconveniently placed for the disposal of rubbish and was anyway not intended to function as a drain but simply as a boundary or barrier. It was situated at the edge of the inhabited area and a special journey would have been needed to deposit rubbish here while the earlier ditch, which was still open, now ran through the middle of the site and would have been more accessible. Moreover from the mid 14th century a new midden site appears to have come into use which was even more conveniently situated.

This was the area enclosed by the walls of the second cloister which, whatever the original intention, seems to have degenerated immediately into little more than a piece of waste ground on which rubbish was allowed to accumulate. The evidence for this was particularly marked in the vicinity of the west cloister wall, W1, where large quantities of broken pottery, animal bone, and building debris had been deposited and the ground had been repeatedly disturbed by the burial of rubbish. There was some evidence of spasmodic attempts at providing a hard surface in this area but these were very patchy. The most consistent of these attempts was the spread of broken roof slates at the south end of the area which would have been most used by traffic across the south ditch.

Prosperity seems to have returned to the friary later in the 14th century, and building was resumed with the construction of, at least, a north range in the second cloister. This involved the partial back-filling of-the ditch in which wall W18 was set. Once again the building was envisaged on a grand scale and its north wall must have presented an impressive facade, despite the fact that it can only have been visible from a distance. It is impossible to escape wondering whether this was intended partly for the benefit of the Blackfriars, who would have had a good view of the building from across the river. Not only did it present an impressive facade but it was solidly constructed, with traceried windows and perhaps other architectural features, such as arcading. To judge from the building materials from phase 5A and subsequent deposits in the north ditch, the building was also provided with decorative roof furniture and inlaid floor tiles.

At about the same time the eastern alley of the main cloister was given a new floor also incorporating inlaid tiles. The significance of the heraldic tiles is not entirely clear, and the terminal dates of the devices must be used with caution (see below, p 73). What does emerge, however, is that the surviving pavement in the east cloister alley cannot have been laid before 1340 when the arms of England were quartered with those of France. The fact that several of the devices represented in this floor are those of local families may lend some credence to the idea that they represent a connection between those families and the friary, though only the lords of Lancaster are known to have extended their patronage to the Austin Friars of Leicester.

All the coats of arms associated with this pavement (see above, p 31), with the exception of the arms of Mauley which is a doubtful identification, were current between 1340 and 1360, and it is tempting to conclude that the pavement was laid between these dates. However, in view of the number of unknown factors involved, it would be safer to extend this date towards the 1380s.

The documentary sources also provide evidence that the community was flourishing in the later 14th century. If' building work were being undertaken in the 1370s the gift of two oak trees from John of Gaunt in 1375 would have been very welcome, though as the same gift was also given to the other two friaries in the town ir nerd not be associated with any particular building. In 1372 the Austin Friars of Leicester were hosts to a general chapter of their order. This must have been a costly business for Gaunt gave them £10 towards their expenses. Evidently though, by this time, the friars were able to provide adequate accommodation for such a gathering. It is perhaps in this context that the fragment of the jug from Siegburg should be seen. Accommodation would also have been required for the

grammar school, which was apparently flourishing towards the end of the 14th century, as a student from Bruges is recorded as being sent there in 1389-90 (see above, p 2).

The community appears to have recovered fairly rapidly from the set-back in the middle of the 14th century but there was nevertheless some falling away from the original standards. The projected west range of the second cloister was not built until much later and the workshop in Area I continued in use although it was a much less substantial structure than the other buildings and on a different alignment and must have detracted from the otherwise regular and impressive appearance of the friary.

This drop in standards is also shown by the use of the area enclosed by the walls of the second cloister as a midden. Monastic establishments as a rule had a high standard of hygiene and efficient systems of waste disposal. However, while the cloister walls remained free-standing and before the new ranges were built, the central area would have been little used and largely out of sight. During this time the cobbled area between the workshop and wall W1 was, by contrast, kept clean; no rubbish was allowed to accumulate here.

It may be suggested that the rubbish deposited in the cloister area was derived from the nearest building-in Area I. One of the objects found in the midden deposits was a large stone mortar which was unfit for use but whose size and weight make it unlikely that it was transported very far. This object and the very large amount of animal bone from the midden deposits suggest that the workshop building in Area I was concerned with the preparation of food for the kitchen. Later in the 14th century it appears that more accommodation of a fairly high standard was provided in the new north range of the second cloister. The range of building materials from the north ditch deposits indicates a structure of some sophistication, while the presence of a fairly high proportion of urinals among the pottery forms represented in these deposits suggests that the building incorporated a dormitory or rere-dorter.

In the cloister midden the range of vessel types and fabrics was very similar to that from 3B and in much the same proportions. It is evident that a quantity of material from earlier levels was incorporated in the 4B deposits though the appearance of new vessel types such as cisterns and wide-flanged bowls and also the Midland Purple fabrics indicates that the midden was in use until the early 15th century. By contrast the ditch deposits of 5A yielded a very much smaller proportion of the earlier fabrics with a corresponding rise in the percentage of vessels in Midland Purple fabrics. The range of vessel types from 4B and 5A was very similar though the occurrence of fragments of distilling equipment and crucibles in the ditch deposits suggests that brewing, perhaps of herbal decoctions, was another activity carried out in this vicinity in the late 14th and early 15th century.

Phase 6

6A and 6B (see plans, Fig 70, Fig 6, phase plan, Fig 8)

The next stage in the development of the site involved the destruction of the workshop in Area I (6A) and its replacement by a western cloister range (6B).

The northern part of the workshop was demolished completely, the walls being removed leaving only the very bottom of the foundations with the exception of a short stretch of wall W17 which was incorporated in the construction of wall W2. The soak-away chamber was also destroyed down to its base but the internal buttress at this point was left standing to a greater height. South of this point, however, the destruction was much less complete and it is possible that the walls at this end of the building were left more or lest intact at this time. However, the whole of the interior of the building was filled with deposits of brown loam and light sand containing crushed sandstone, small rubble, and patches of red clay all flecked more or less heavily with mortar and charcoal. These deposits covered the remains of the internal buttress, wall W28, and also filled the robber trenches of the walls at the north end of the building. The pottery recovered from these deposits represented 22 vessels of which seven were also represented by sherds from earlier contexts in Area I-phases 3A, 3B, 4A, and 4B. Sherds of one of these vessels were found in the rubbish deposits of phase 4B in the cloister area, in the robber trench filling of wall W17, and in the internal levelling layers west of wall W9. Most of the pottery was in fabrics current from the later 13th century onwards but there was one fragment of a Midland Purple P(xxi) fabric which can hardly date before 1400.

There were a few redeposited sherds of Romano-British tile and pottery and a surprisingly small quantity of building debris. Most of the material derived from the destruction of the building must have been reused or deposited elsewhere on the site. Besides a few nails and fragments of mortar, granite, and roof slates, a tiny fragment of decorated floor tile and pieces of four ridge tiles may have been derived from the demolished building.

The construction of wall W2 seems to have followed immediately on the demolition of the workshop in phase 6A. It was aligned parallel with the west cloister wall W1, 4.50m west of it and continuing the line of-wall W12 (phase 5B). At its north end wall W2 overlay the demolished walls of the eastern room of the earlier building and butted up to the end of wall W12. Further south however wall W2 converged on the line of the earlier wall W9 until for a short stretch the two walls ran parallel with no space in between. Wall W2 did not continue south beyond this point, nor did it return; wall W5 which ran from the south end of wall W2 to join wall W1 was very much slighter and seems to have been a later addition.

The walls at the south end of the workshop were not destroyed to the same extent as those of the northern part of the building in phase 6B; at the time of excavation they were still standing above foundation level. Moreover at the point where walls W2 and W9 overlapped they were later robbed in a single operation. The implication is that the south end of the earlier building remained standing at this time and was incorporated in the reconstruction of phase 6B.

Wall W2 itself was not a very impressive structure. Only its foundations survived and these were insubstantial. The wall was about 1.00m wide with foundations no more than 0.50m deep, composed of rough pieces of granite and sandstone, many of which were reused as they were caked in mortar, set in a matrix of brown clay and sand. In places there were indications that the sides of the wall were composed of small, roughly shaped blocks of sandstone. At its north end the wall was cut through the make-up levels inside the eastern room of the earlier building, and a short length of the south wall of this room was incorporated in the new structure. Further south the western side of wall W2 was aligned on the west edge of the soak-away chamber which had been destroyed down to its base in phase 6A. South of the soak-away however the line of wall W2 was offset slightly to the west and here the foundation trench clearly cut pit (39) of phase 4A.

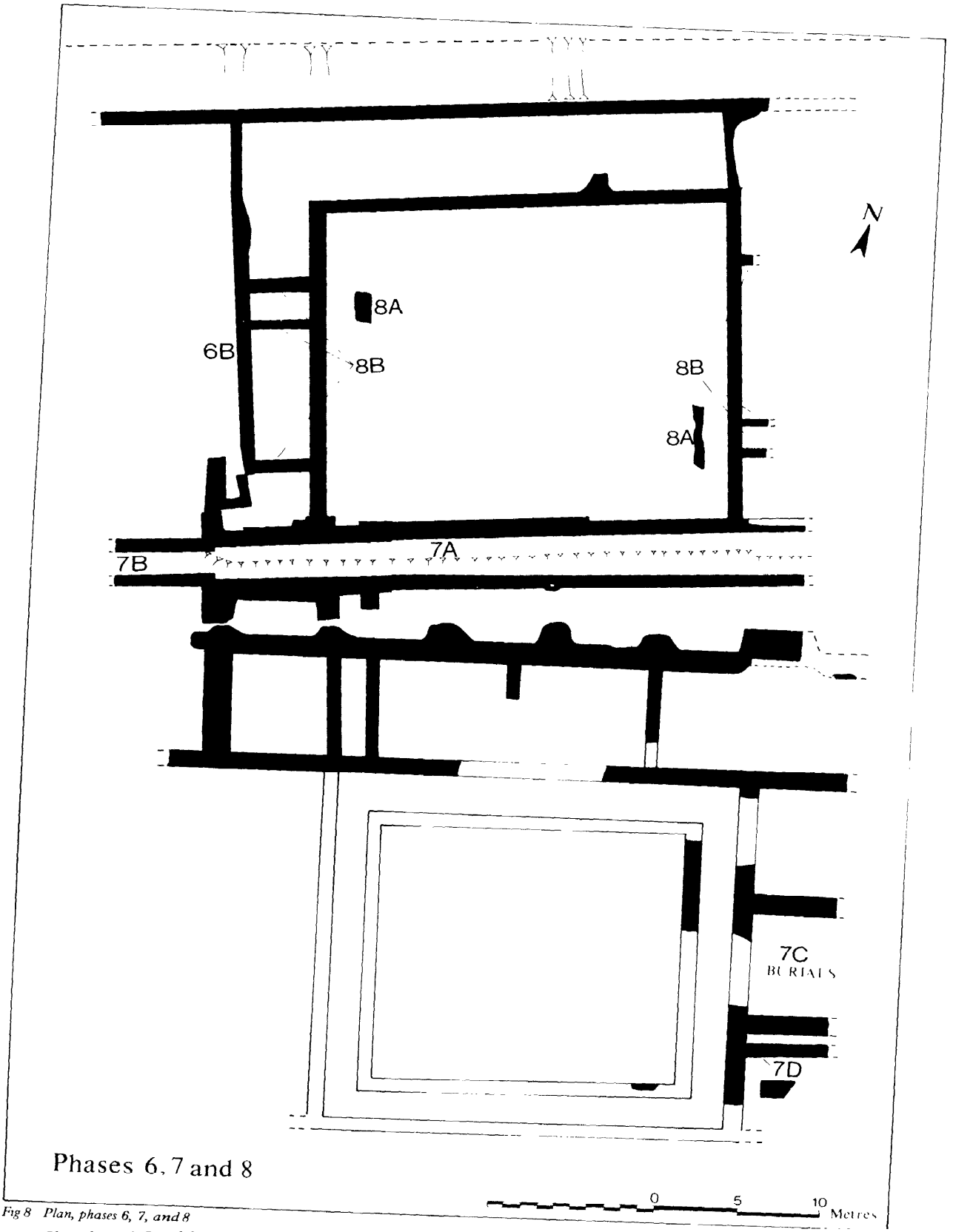


Fig 8 Plan, phases 6, 7, and 8

Fig 8 Plan, phaser 6, 7, and 8

Possibly the function of the soak-away chamber was preserved in a similar feature in wall W2 in the same position. Wall W2 was robbed at this point but a vertical mortar face was preserved between two different fillings of the robber trench.

Subsequently wall W2 was widened to the west by 0.40m for a stretch of *c* 4.00m to the north of the earlier soak-away chamber. The foundations of this wider wall were only 0.20m deep and were again composed of sandstone and granite rubble set in a matrix of sand and clay. A ridge of the brown clay into which the foundations were dug survived between the two structures. As only the foundations survived of both structures and there were no finds from the additional feature it was not possible to assess the date at which the alteration took place; it may have been a change in plan during the construction of the building or an addition later during its lifetime. On the whole wall W2 gave the impression of an insubstantial and fairly ramshackle structure which had been subject to several alterations and additions.

Midway along the eastern side of wall W2 was a feature composed of large unshaped blocks of granite set in red sand and crushed sandstone (R2.8). The feature had a more substantial appearance than wall W2 itself and it may have functioned as the base for a further support to the wall or for some other feature such as a large tank or a hearth (Pl 10). There was no indication of any superstructure and the blocks of granite were covered by a spread of soil and rubble above which was a patch of charcoal.

Above the gravel surface and the levelling layers of phase 4A were two linear features adjacent to the west side of wall W1 composed of compact sand or clay with some sandstone (not shown on plan). These features in turn were sealed by further deposits of sand, soil, and clay with some sandstone and granite rubble which may represent make-up for a floor. The only trace of any surface between walls W1 and W2 at this stage however was a spread of broken roofing slates (R2.4) at the south end above the make-up layers.

West of wall W2 above the levelling deposits filling the interior ofthe earlier building were patches of mortar floor (eg 150, 160) indicating a range of rooms in this area. The floor is clearly associated with this phase for it extended over the robbed walls of the earlier building (not shown on plan). The level of the floor was some 0.20m-0.30m above that of the.make-up deposits between walls WI and W2. Towards the north end of the area there were traces of later floors above further make-up levels.

There was very little material associated with any of these features but pottery fragments representing twelve vessels were recovered from the foundation trench of wall W2. Three of these were from vessels previously deposited in earlier contexts in Area I which had been disturbed by the digging of the foundations. In addition to the few fragments of Romano-British material most of the vessels were in early medieval fabrics but there was one example of fabric P(xv) and another of P(xx) which must be dated after 1400. Fragments of one roof slate and nine ridge tiles in Early fabrics were also probably redeposited.

From the mortar floors there was only one vessel represented in fabric P(i) and several fragments of two ridge tiles in Middle A fabric with a type VII spike knob crest.

Material associated with the stone foundation was also residual in date. Of the seven vessels represented two were also found in 4A and 4B contexts and sherds from two other vessels from these contexts were also deposited in the linear features adjacent to wall W1 ..Fragments of ridge tile in Early fabrics were also recovered from these features.

The levelling deposits from the north end of the area between walls Wl and W2 produced pottery representing 23 vessels of which twelve were redeposited from earlier contexts. Nine of these were from vessels in the 4B midden deposits east of wall Wl suggesting that some of the levelling material was derived from here. Two of the vessels were also represented by sherds in the levelling material of phase 7A west of wall W2. Fragments of ridge tile in Early fabrics and some roof slates were presumably derived from the destruction of the earlier workshop.

Phase 7

7A (see plans, Fig 4, Fig 70, section c-c, Fig 10)

During the 15th century a south range was constructed in the second cloister converting the earlier ditch into a stone-lined drain running below the ground floor of the building. The new range was at least 24.00m long and nearly 4.00m wide and continued the line established by the buildings at the west end of the ditch (3B(i) and SB(ii)) about a century before.

The north bank of the ditch was cut right back for the insertion of the north wall, W13B, which was built right up against the new face so that no foundation trench was left. Until the wall was at least partly constructed it seems likely that a baulk was left to retain the ditch filling which, on the removal of the baulk, was allowed to spread over the level platform thus created in front of the wall. Such an operation was not possible on the south side where space was restricted by the proximity of the north range of the first cloister. Instead, following the practice begun with the earlier buildings at the west end, the south wall of the new range was constructed in the side of the ditch. The south bank was cut back for the insertion of the wall leaving a wide foundation trench which was then back-filled with the excavated material.

Both walls were of similar construction and were built mainly of angular fragments of granite with some Swithland slate and Dane Hills sandstone. The north wall also incorporated reused mullion fragments from a 14th century window and another block showing 14th century moulding (Pl 11).

At its foundation level the north wall, W 13B, was 1.10m wide and was set on large unmortared angular fragments of granite above which were two or three rough courses of smaller fragments set in thick layers of mortar. Above this on the south side was a narrow offset 0.10m-0.l5m wide continuing the level of the offset of the earlier walls at the west end. Above the offset were several rough courses of granite and slate. At a higher level the width of the wall was reduced to *c* 0.80m by an offset of 0.25m-0.30m on the north side which was covered by a layer of stiff brown clay which appeared to have extended over a large part of the central area and certainly sealed one of the sub-rectangular features in Area V in phase 4B. Towards the east end of the wall less mortar was used in the construction and the pieces of stone were considerably larger. In at least one place there was a break in construction which probably marked the junction of two working parties. However, at a point opposite the end of wall W25 the change in construction was so marked as to require separate consideration (Pl 11).

From this point east the wall, now W13C, continued the line of wall W13B and was about the same width, but its south side was faced with at least four courses of small, dressed, rectangular blocks of Dane Hills sandstone up to

0.60m long and 0.10m-0.15m thick above a mortared foundation of granite fragments. This face was set back *c* 0.l0m from the edge of the foundation but the offset was at a lower level than that of W13B, at 52.85m OD.

There was no matching constructional change in wall W14A on the south side of the drain. Here the footings were composed of large, unmortared fragments of stone set in the side of the ditch behind the face of the wall. Above these were one or two courses of heavily mortared smaller fragments. At this level the wall was 1.40m wide but was then narrowed by an offset on the north of up to 0.20m continuing the level of the offset of the earlier walls. This offset was not consistent however and towards the east the wall was made narrower by a gradual slope. At a higher level there was an offset of *c* 0.40m on the south side. Above the offset on the north were five or six courses of granite and slate fragments above which were traces of sandstone blocks which had been robbed out. About mid-way along the excavated length of wall was a garderobe shaft within the thickness of the wall itself which was somewhat wider at this point. The shaft was rectangular, 0.40m by 0.30m, and discharged into the drain.

At the east end of the drain the flow was now channelled between banks of stiff brown and blue clay on either side (134, 137). On the south the clay was piled against the base of wall W14A but on the north it was deposited on the berm created by the cutting back of the north bank and also extended over the remains of the earlier culvert wall W40. Wall W13C was cut through the lowest layers of clay but its foundations were sealed by the upper layers.

The clay banks did not extend west beyond the end of wall W40. From this point on the north side fragments of granite, probably associated with the construction of the building, formed a line extending west for about 15.00m. On the south side there were only occasional fragments. Deposits of grey and yellow sand had accumulated down both sides of the drain (60, 61). On the north a continuous bank had been formed extending from the end of wall W40 to the west end of wall W22A. On the south side there was a gap in the deposit in the vicinity of the garderobe shaft. The deposits sloped towards the centre of the drain and there was a definite channel between them.

Most of the material from the foundation trench for wall W14A was residual. The pottery fragments represented about 25 vessels all in early fabrics, five of which were redeposited from the phase 1 levels in Area II through which the trench was cut and one from the earliest filling of the ditch itself which would also have been disturbed by the construction of the wall. Sherds of two of these vessels were also found in the brown clay sealing the north offset of the north wall of the drain, W13B. A fragment of leather, a repair piece from a shoe, was also probably redeposited from the earlier filling of the ditch. Other finds from the foundation trench included Romano-British material, seventeen nails, a bronze pin or rivet (not illustrated), fragments of two plain square floor tiles, and a few fragments of plain window glass. In addition fragments of eleven ridge tiles and part of a louver in Early and Middle fabrics probably derive from earlier contexts though fragments of two tiles in Late fabrics may be more contemporary with the construction though probably not associated with the building itself.

The pottery from the brown clay sealing the north offset of wall W1 3B represented about 35 vessels of which four were redeposited from the phase 1 levels in Area II and four from the midden in the cloister area, phase 4B. There was also one vessel represented by sherds from the brown clay and from the layers of sand within the drain itself. Again most of the pottery was residual but the deposit also included sherds of fabrics P(xviii) and P(xix) as well as two fragments of Cistercian ware. There was a little redeposited Romano-British material and fragments of four ridge tiles in Early and Middle fabrics.

Only three vessels were represented in the pottery from the clay banks at the east end of the drain. One of-these was redeposited from the phase 1 levels in Area II and sherds from the same vessel were also found in Area I in layers associated with phases 3B, 4A, and 4B. The other two vessels were both in soft-fired P(xv) fabrics and are also residual. Fragments of worked wood and shoe leather were probably redeposited from the earlier ditch filling. There were also pieces of nine ridge tiles, one of which was in a Late fabric.

In contrast the deposits of sand down the sides of the drain produced a relative mass of material. About 90 vessels were represented of which twelve were redeposited from earlier fillings in the ditch itself and one from the phase 1 levels of Area I. Sherds of one vessel were also found in the filling of the north ditch in phase 6A and the levelling layers of phase 7B in Area I. A wide range of' fabrics and vessel types was represented. Earlier fabrics were still present though as a relatively small proportion, while the Midland Purple, Cistercian, and Tudor Green wares accounted for 38 of the total number of vessels. The range of forms included jugs, cisterns, urinals, and various types of cup while there were very few examples of cooking storage vessels and bowls.

There was also a large collection of leather from these deposits including two knife sheaths, two belts, six complete shoes, and fourteen soles as well as numerous fragments, repairs, and pieces of scrap. Although the same conditions would have also preserved wooden objects only two of these were found, one of which was a stake and the other a knife with a wooden handle. The only other finds of' a domestic nature were a bronze lace tag and a whetstone. In addition the head of a small pottery figure was recovered (see Fig 51).

Building materials were also represented. Fragments of' twenty floor tiles were found, five of which were decorated and two triangular. There were four pieces of lead window came and 1600sq mm of plain window glass. Eight roof slates were recovered and fragments of 26 ridge tiles of which seven were in Late fabrics.

7B (see plans, Fig 6, Fig 70)

The width of the drain at the west end was reduced to *c* 2.50m by the construction of stone walls added to the existing walls of the prior's lodging at the west end, so that the drain now extended across the whole width of the excavated area, a length of *c* 40.00m. The north wall of this extension, W22B, was set on foundations of granite fragments which were more heavily mortared towards the east. Above this the wall was reduced in width to 0.95m by an offset of 0.20m on its south side at a level of 52.80m OD. Above the offset the wall was faced with two courses of rectangular dressed sandstone blocks, *c* 0.20m thick and 0.34m-0.50m long. The blocks forming the upper course were somewhat smaller. Above this there were several courses of granite fragments though with two blocks of a third course of sandstone at the east end. The foundation trench for this wall was cut through a layer of crushed sandstone which may be associated with the levelling deposits of either phase 3B or 6A. The south wall of the extension, W2lA, was of similar construction but its full width was not ascertained. Within the drain a layer of yellow clay sealed the offset of wall W2lA.

Possibly at the same time further alterations were made to the western range. The south wall of the early domestic building, W8, was finally destroyed and a large foundation, W6, was constructed overlying the foundation of wall W8. The new foundation was 1.20m wide and extended north for *c* 3.00m where it terminated abruptly with no return. It was built mainly of markfieldite but also included fragments of Swithland slate, Dane Hills sandstone, hornstone, and quartzite pebble.

There were very few finds from any of these features. The foundation trench for wall W22B produced pottery representing only three vessels, all of which were in early fabrics (N and P(xii)) and one example of ridge tile in a Middle fabric. However, from the yellow clay sealing the offset of wall W21B there was a large fragment of a Cistercian cup.

The narrow space between wall W6 and the south end of wall W9 was filled with soft dark soil and similar material was deposited between walls W8 and W22B. The only finds from these deposits were a few fragments of ridge tile in Early and Middle fabrics.

7C

While these building operations were taking place in the little cloister the occupation of the main cloistral buildings continued. Burials were still being made in the chapter house in the late 15th-early 16th century so the group is described here, but it is possible that the practice of burial in this area began earlier.

The six burials located in the chapter house form an interesting group which contrasts in several respects with the earlier group of burials in the east cloister alley (see above, p 22, phase 3E). Two of the burials were those of men in their early 20s, one was a boy in his early teens, and the remainder were children aged between eight and ten. One of the young men was buried with his arms in an attitude of prayer like the majority of the earlier group and this burial, which cut two of the others, was accompanied by a bronze buckle of late 15th-early 16th century type (Fig 48). The rest of the group, with the possible exception of grave 16 which was represented only by the skull, were buried with the arms extended by the sides. A further point noted by Mrs Stirland (below, p 168) was the presence of wormian bones in most of-the skulls of the chapter house burials.

There were few associated finds apart from the buckle though the presence of a tiled floor in the chapter house was indicated by fragments of inlaid tiles in the filling of grave 3.

A further group of eight inhumations was recorded in 1967 from an area south of the church (see above, p 8). The group could only be dated to the post-Roman period so it is described here for convenience. The burials were all those of adult males aged between 17 and 45 and of-robust physique though many of them showed evidence of severe arthritis. Again the presence of wormian bones in five of the skulls should be noted.

7D (see plan, Fig 70, section a-a, Fig 9)

At some time structural alterations were made in the east range of the great cloister. Two walls were added in the room south of the chapter house. While the foundations of these walls were of similar dimensions to the earlier walls they were of much less solid construction. At the south edge of the site wall W55 was cut from *c* 54.23m OD. Its foundations were l.l0m wide and *c* 1.70m deep but were composed of layers of clayey loam with small scattered fragments of sandstone and mortar. The foundations did not extend as far west as wall W52 though it is possible that the superstructure was butted up to the earlier wall.

Between wall W55 and the earlier wall W51 a further wall, W56, was added. This was cut from a level of 54.82m OD and its foundations overlaid those of wall W52. The foundations were 1.00m wide and 1.10m deep and again composed mainly of layers of clayey loam with occasional spreads of soft mortar and, at the bottom, some unmortared lumps of granite. Above the foundations the wall was offset by *c* 0.30m on the south. It was constructed of fragments of sandstone and granite and was of fairly rough workmanship.

The finds from the foundations of these walls were all residual, consisting mainly of pottery sherds in early fabrics. There were also two ridge tiles represented in Middle fabrics and an undecorated square floor tile from the foundations of wall W55.

Phase 8

8A (see plan, Fig 70)

Overlying the midden deposits of phase 4B were two short stretches of wall which may originally have been part of the same structure. Wall W10 was about 2.50m east of wall Wl and parallel with it. It had no foundations and its remains consisted of only one course. The stone represented was very mixed within the short length, *c* 2.00m, which survived and included markfieldite, diorite, grey sandstone, quartzite pebble, hornstone, and limestone. The stones were not dressed but were sub-angular or sub-rounded and there was little trace of mortar. On the east side of the cloister area a longer stretch of wall, W25, survived parallel with wall W24. Wall W25 was of very similar construction to wall W10 but was slightly narrower.

Wall W10 and wall W1 now continued the line of the passage through the north range of the main cloister and over the ditch although there was no corresponding line of' access along the east. There was no dating evidence for the construction of walls W10 and W25 apart from the fact that they postdate the midden deposits of phase 4B which terminated in the early 15th century.

8B (see plan, Fig 70)

Cross walls were added in both the east and west cloister ranges. In Area III, east of wall W24, there were three subdividing walls, W26, W43, W27. A trace of mortar floor remained adjacent to wall W43 above layers of dark sandy soil flecked with mortar and charcoal. There were no finds from any of these deposits.

In Area I there were three cross-walls, W4, W3, W5, between walls Wl and W2. Wall W5 was constructed from the south end of wall W2 forming a return from here to wall W1. It was represented only by a linear feature a few centimetres deep and *c* 1.00m wide composed of fragments of sandstone resting on the slate scatter of phase 7B. Walls W4 and W3 had deeper foundations, especially the northern one, W4, but were also composed of sandstone fragments. Wall W4 was cut through a rectangular feature filled with brown loam which itself cut the levelling deposits associated with phase 7B. No floors associated with the rooms formed by these cross-walls survived. In Area IV within the north range were deposits of mixed dark soil and sand, heavily flecked with mortar, charcoal, and sandstone.

There was not much material associated with any of these

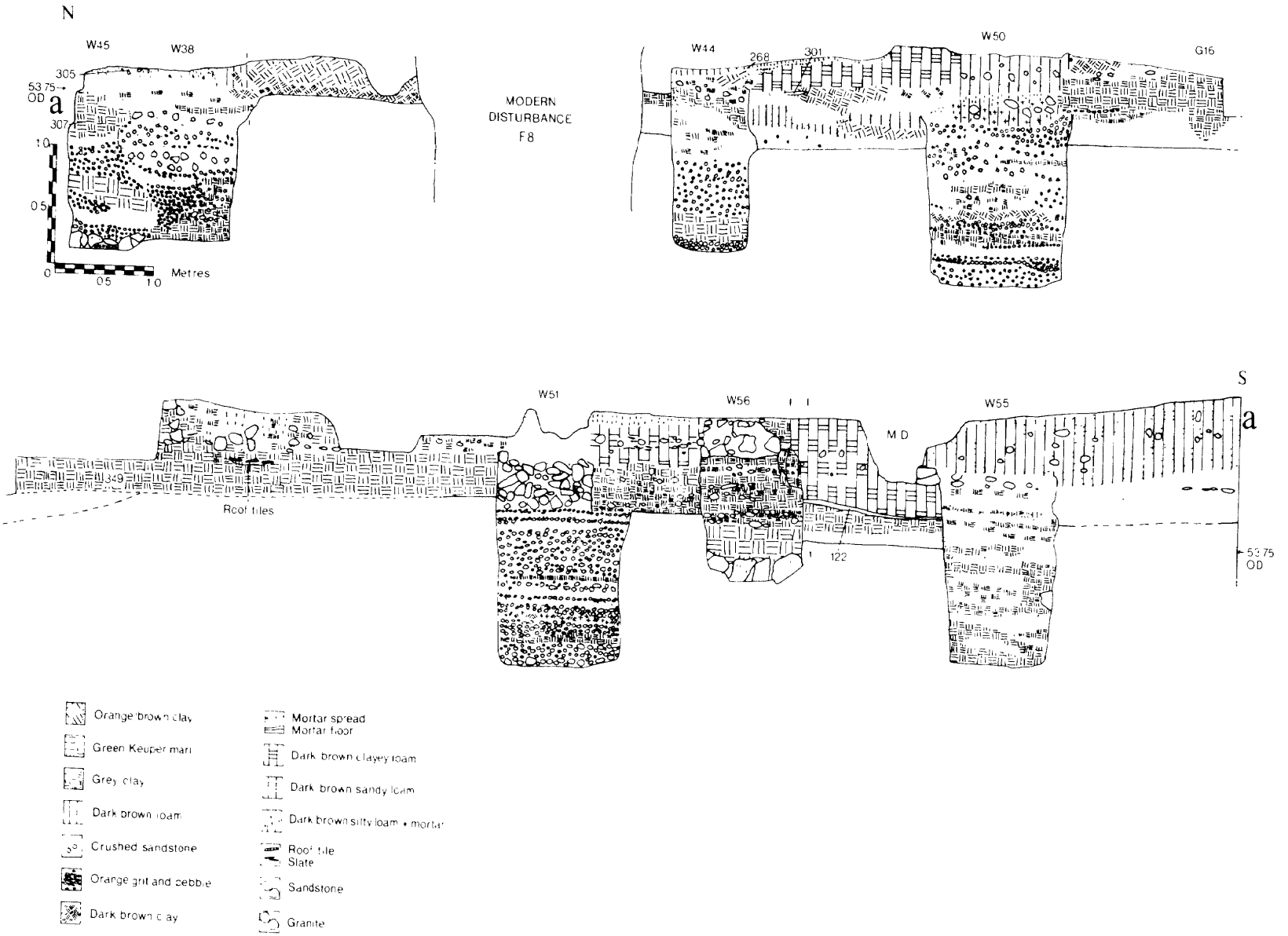


Fig 9 Section a-a. Area VI, east section

features and most of it was residual. The rectangular feature predating wall W4 contained pottery representing seventeen vessels of which seven were redeposited mostly from the levelling deposits of phase 7B through which the feature was cut. The latest vessel however dated to the second half-of the 14th century and the only other find was a fragment of ridge tile in an Early fabric. There were a few sherds of pottery from the cross-walls in Area I, all but one sherd from wall W4, and mostly redeposited from the 7B deposits through which wall W4 was cut. This residual material included a sherd of fabric P(xxi) dating to the early 15th century and there was nothing of any later date. The walls also produced two fragments of decorated floor tile dating to the mid 14th century and pieces of two ridge tiles in Early fabrics.

The pottery from the deposits of this phase in Area IV represented ten vessels of which one was also represented by a sherd in the foundation trench of the cloister wall, W11. This group also included one sherd from a cistern in fabric P(xviii) which can hardly date before 1450. The only other finds were a plain square floor tile and fragments of three ridge tiles of which one was in a Late fabric.

Phase 9

9A (see plan, Fig 70, sections c-c, e-e, Fig 10)

No further major building phases were recognized after the construction of the south range of the little cloister but the continuing occupation of the site was demonstrated by the accumulation of large quantities of rubbish in the new stone-lined drain and in the north ditch.

Above the banks of grey sand of phase 7C in the south drain and filling the central channel was a thick deposit of coarse sand and pebble (32) variously stained grey, brown, or black and extending for the whole length of the drain. The difference between this deposit and the soft black mud which filled the earlier ditch was very marked and must demonstrate a significant change in the function and character of the feature from an open ditch to a stone-lined dram. The filling of the north ditch in this phase was of similar sand, silt, and gravel again stained brown, grey, and black (57, 56). Here however there was a high rubble content consisting mainly of fragments of-sandstone, limestone, and mortar and, in the upper levels, quantities of roofing slate. In any comparison between the two features it must be remembered that while the south drain was completely excavated the material from the north ditch was recovered from only two sections.

The pottery recovered from the south drain represented *c* 360 vessels of which 149 were in Cistercian ware. There were also a few examples of Tudor Green and imported stone wares and two vessels in Midland Yellow ware bringing the total of fine wares up to 163. Of the coarse wares the most numerous were the various Midland Purple fabrics which accounted for *c* 95 vessels followed by P(xv) (44 vessels) and P(viii) (23 vessels). While the starting date of the two latter fabrics lies in the mid 13th century they probably continued through the 14th century and may well be contemporary with some of the Midland Purples and line wares. The earlier fabrics represented only a small proportion of the whole group. Sherds representing a further 48 vessels were redeposited here from earlier contexts, the majority from earlier deposits in the drain or the preceding ditch, phases 7C and 3F.

Among the coarse wares the most numerous vessel types were jugs (77-80), cisterns (33), and urinals (28) but bowls, cooking/storage vessels, dripping trays, pipkins, flasks, and lids were also represented, and there was one example of a mortar, More exotic forms, as might be expected, were represented in the tine wares which included various types of cup, posset-pots, lobed cups, jugs or flagons, chafing dishes, candlesticks, and an inkpot.

In addition to the pottery there was also a small wooden lid and part of the rim of a bronze bowl, while the two small pewter patens (Fig 45) which found their way into this deposit may have had a ritual function and been derived from the church.

Over 1500 fragments of animal and bird bones were recovered from this deposit. Most of these were from the domestic species but fallow deer evidently formed part of the diet and a few wild birds were also represented.

Leather was also preserved in this deposit. The collection included thirteen soles, eight uppers, and two knife sheaths, as well as numerous repairs and pieces of scrap. Two of the repair pieces indicated shoes belonging to the Tudor period, *c* 1520, but most of the examples reflected earlier fashions. Also from this deposit was a bronze belt fitting.

The only other find of a domestic nature from this deposit was a lead spindle whorl with the wooden spindle still intact.

Building materials were represented mainly by surprisingly large quantities of tiles. Fragments of eighteen decorated floor tiles, 21 plain glazed square tiles, and four triangular ones indicate the repair or replacement of a floor either in the building over the drain or possibly in the church. Roof repairs were also indicated by fragments of fourteen slates and 63 ridge tiles of which eighteen were in Late fabrics. Apart from the tiles there was a fragment of a column in Dane Hills sandstone, eighteen nails. two lead window cames, and a few pieces of wood which showed signs of having been worked.

The large numbers of aquatic species from the environmental samples gave a strong indication of the presence of running water in the drain during this phase. There was also evidence for pasture and the presence of grazing animals in the vicinity and the species indicating vegetation at the water's edge were still present. Food storage pests were still present but in very much lower numbers than in the samples from the earlier phases.

From the two sections across the north ditch pottery representing 108-118 vessels was recovered. Two of these were redeposited from earlier fillings within the ditch itself and one from the upper layers of the cloister midden of phase 4B. The fine-wares from this deposit represented a very much lower proportion of the whole group, accounting for only 22 vessels. Twenty of these were in Cistercian ware. two in Tudor Green: Of the coarse wares the Midland Purples were again the most numerous representing 36-38 vessels followed by P(xv) (12-17 vessels) and P(viii) (9 vessels). The earlier fabrics from this deposit accounted for a much higher proportion, *c* 35%, of the whole group than those from teh-south drain. Two vessels were represented by joining sherds from both the east and the west sections.

The most common vessel types among the coarse wares were jugs (21-25 vessels) but, in contrast to the south drain, bowls were next in order of frequency with 17 vessels followed by urinals and cisterns. Cooking/storage vessels and one dripping tray were also present. The range of forms here was not so great as in the south drain probably because of the smaller sample. The fine wares were represented by cups, a chafing dish, and a vessel which had been reused as a lamp. Over half of the total number of vessels was recovered from the west section and this

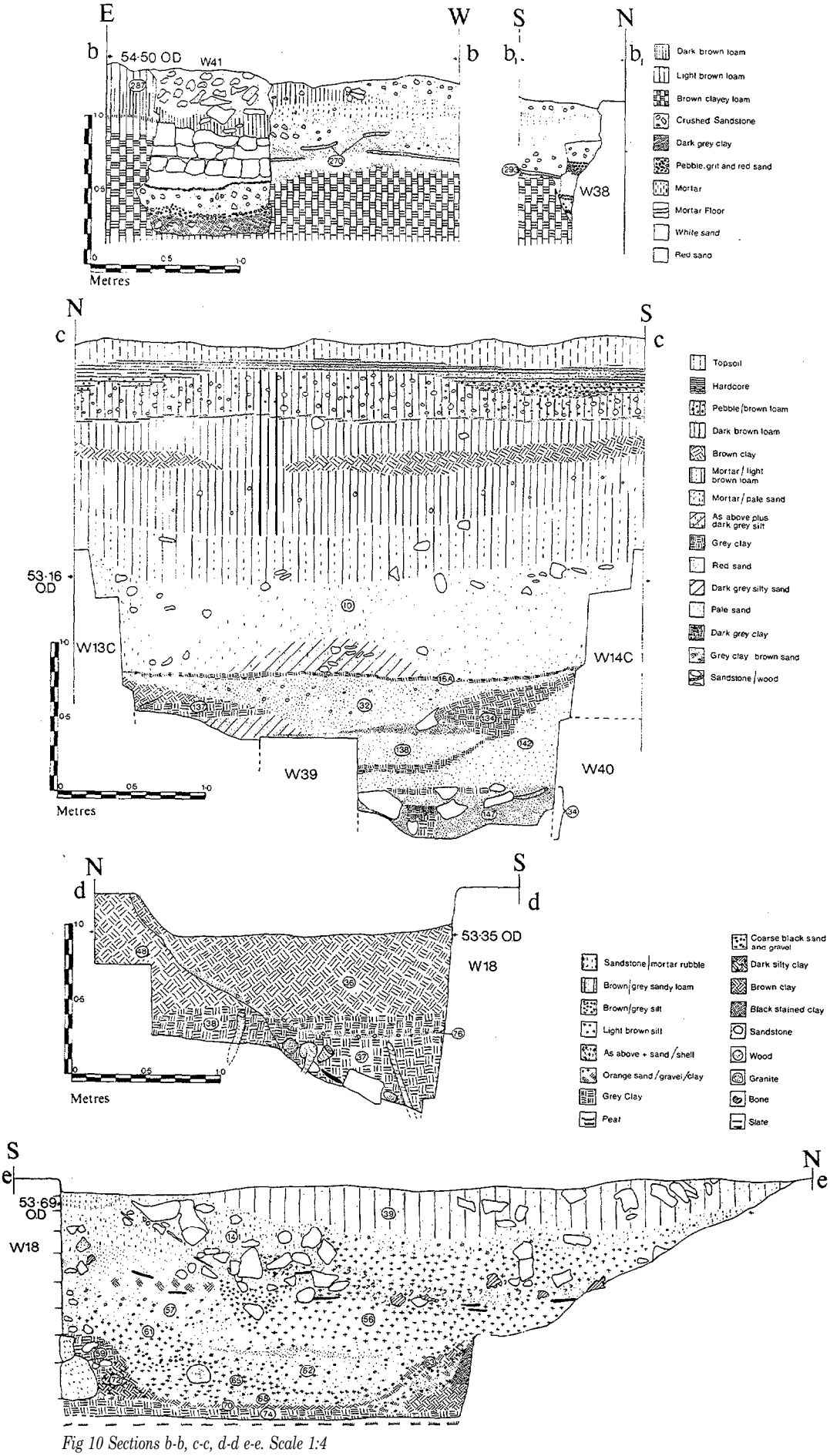


Fig 10 Sections b-b, c-c, d-d e-e. Scale 1:4

included most of the fine wares and all but eight of the Midland Purple vessels.

Part of the base of a bronze bowl was also recovered from this deposit.

A collection of leather was preserved in the north drain but it was composed almost entirely of upper fragments, repair pieces, and scrap with one complete, sole. Costume accessories however were represented by seven bronze lace-tags, a belt end, and 34 bronze pins, while the fragment of a double-sided wooden comb is probably better associated with the preparation of wool (Fig 53).

Nearly 1000 fragments of animal bone were recovered from the two sections of the north ditch and it seems likely that if the whole deposit had been excavated the collection would have been considerably larger than that from the south drain. The species represented were basically the same in both features, the main difference being in the kinds of wild birds represented.

From both the north ditch and the south drain large numbers of marine molluscs were recovered from the 9A deposits. The most common species were oysters and mussels but cockles and whelks were also represented (see below, p 172).

Apart from the high content of stone and mortar rubble in the north ditch which has already been mentioned there were, as in the south drain, large numbers of tiles. From the west section there were fragments of 40 floor tiles, six of which were decorated and two of the remainder triangular. In contrast the east section produced only four fragments of which two were decorated. From the east section 70 roof slates and 32 ridge tiles were recovered of which 13 tiles were in Late fabrics, while from the west section came 22 slates and 76 ridge tiles of which 40 were in Late fabrics. From the west section, in the vicinity of the window in wall W18, there were four fragments of lead window came and 1100sq mm of plain window glass.

As in the south drain the environmental samples produced strong evidence of the presence of running water in this phase. There were also indications of pasture and grazing animals in the neighbourhood, and the numbers of food storage pests remained low as in the earlier samples from the north ditch. There were slight indications of the presence of rotting vegetation and there was one beetle which feeds on carrion.

From both the south drain and the north ditch there was a moderate amount of Romano-British material which is rather surprising unless it was derived either from the banks or from earlier deposits within the features whence it was washed out by the action of the running water.

Discussion of phases 6A to 9A

The fortunes of the Austin Friars in Leicester, as demonstrated by the archaeological evidence, seem to have fluctuated during the course of the 15th and 16th centuries. Old buildings were replaced and new ones added but the standard of construction varied considerably. The planned second cloister was finally completed with the construction of a western range of buildings replacing the old workshop in Area I, and the addition of an impressive south range. Apparently covered alleys were provided in the second cloister during this period. Alterations were also carried out in the east range of the main cloister though these are virtually undatable, and burials were inserted in the chapter house.

The construction of the west range of the little cloister seems to have been undertaken in a series of rather makeshift operations. The earlier workshop was not completely destroyed at first but partially incorporated in the new range; wall W2 which formed a central wall of the new west range was not itself a very substantial structure, and various additions and alterations to it were necessary either during its construction or during its life. This wall was constructed parallel with the cloister wall W1 and evidently intended to form part of the same building but its foundations could not have supported such a massive building as had been intended when the cloister ranges were first planned. The mortar floors to the west of wall W2 indicate that at least a double range was constructed here, and the western wall of this range may well have been more substantial with wall W2 forming a central partition and the main weight of the building being carried by the two external walls,

The function of the west range is not clear but the replacement of the mortar floors indicates continuous occupation of some kind. Unfortunately the only possible trace of a floor surface in the area between walls Wl and W2 was a slate scatter towards the south end. Over the rest of the area any floors of this and succeeding phases had been destroyed. However the stone foundation, perhaps the base for a tank, and the traces of burning suggest that the functions of the earlier workshop were still carried out in the new west range. There was no material from Area I which could be associated with the occupation of the new building rather than with its construction, but it is worth noting that not even from the destruction levels of Area I was a single sherd of Cistercian or any other fine ware recovered. This pottery however was found in quantity in the south drain (phase 9A II) and, to a lesser extent, in the later phases of the north ditch.

At some later stage the south end of the earlier building in Area I was also demolished and wall W6 was constructed over its remains. In this way the wast range could have been linked with the walls at the west end of the drain, W22B and W21B, so that the west and south ranges were joined. Above foundation level the west range may well have presented a more symmetrical and impressive appearance than is apparent from the ad hoc nature foundations.

The new south range, however, presented a very different picture. It was constructed close to the north range of the main cloister and continued the line of the earlier buildings at the west end of the ditch. The material recovered from the drain below this building included large quantities of animal bone and shell which must have derived from the kitchens or refectory while the discarded pottery includes kitchen, storage, and table wares as well as the urinals indicating the presence of a dormitory and/or rere-dorter. The quantity of costume fragments also reflects domestic occupation although the number of repair pieces and scrap leather indicate that leather-working *was* practised nearby. It seems unlikely that all these activities were being carried on in a single building but some of this material may have been discharged into the drain from the south end of the west range of the second cloister. It seems likely that this range, like the preceding building in Area I, was concerned with the preparation of food and perhaps other ancillary domestic activities, and waste from here could have been discharged into the west end of the main drain especially if, as suggested above, the west and south ranges were finally linked together. The single garderobe shaft in wall W14A seems inadequate for a building of this length and it may be that this shaft simply served a dormitory on the first floor which would account fc r the numbers of urinals and discarded shoes. It has been

suggested above that the rere-dorter of the main cloister was situated east of the excavated area and it may be that this continued in use throughout the 15th century. If this were the case then any flow in the drain must have been from west to east so that it would serve the kitchen and refectory before the dormitory and rere-dorter.

Significantly very much the same range of material was found in the north ditch as in the main drain, and in comparable proportions. The most noticeable difference in the pottery from the two deposits was in the proportion of fine wares to coarse wares which was considerably higher in the south drain. In the coarse wares the most numerous vessel forms were much the same in both deposits suggesting that a similar range of activities was represented.

Besides large quantities of-animal bone, both deposits also produced some fish bones but these represented only a small proportion of the total assemblage, As in the earlier deposits the fish represented were deep water marine species but the most noteworthy feature of the animal remains from phase 9A was the dramatic increase in the numbers of marine molluscs. These species were recovered from earlier deposits on the site but in very much lower numbers. It has been noted above that the 3F deposits of the south ditch produced the highest number of fish bones from a single phase. Thereafter the importance of marine fish in the diet at the Friary appears to have declined. The cloister midden and subsequent deposits in the ditches and drains produced relatively little in the way of marine fish or the mollusca which might have taken its place until phase 9A.

There is no evidence to show that the main cloistral ranges were abandoned in the 15th century and indeed it is unlikely that this would have been the case. Burials were still being made in the chapter house in the late 15th or early 16th century. If the main cloistral ranges were still occupied it seems that at least two and possibly three separate ranges of domestic buildings were in use at the same time. Presumably the friars themselves continued to occupy the main cloistral buildings and perhaps the new south range in the little cloister was built to accommodate their increasing numbers, but there is no evidence of the size of the community at this period. However, the buildings in the second cloister are more likely to represent other sections of the community such as the students attending the grammar school, increasing numbers of guests, perhaps lay-brethren or servants. If the buildings of the main cloister and the south range of the second cloister were reserved for the friars and their guests, such as those representatives of the order who attended the provincial chapter at Leicester in 1532, this would account for the relatively high proportion of fine table wares which were discarded into the south drain. The north range, further away from the church and thus probably serving the students or lay-brothers, would produce similar kinds and quantities of rubbish apart from the better quality wares. The floor tiles from the two features are also significant here, the south drain producing a higher proportion of decorated tiles, again suggesting a higher standard of accommodation in this area.

An additional possibility is that the north and south ranges of the second cloister were not occupied at the same time. The south building may have replaced the north range which would also help to account for the smaller quantity of late fine wares from the north ditch and for the relatively high proportion of earlier fabrics represented here. The high content of building materials in phase 9A of the north ditch also perhaps suggests that the north range was allowed to fall into disrepair before the Dissolution, perhaps earlier in the 16th century, while occupation of the rest of the site continued. Such a contraction was not unknown among the monastic houses at this time and indeed the fact that buildings were being allowed to fall into disrepair was one of the reasons urged in favour of dissolution. The evidence of the Dissolution documents shows that by 1538 only four friars remained in the Austin house at Leicester, though this may well be an exaggeratedly low figure (see below, p 45).

The building materials from this phase of the south dram are more difficult to explain. The amount of material recovered is hardly sufficient to represent the destruction of a building but it indicates extensive repairs to roofs and floors in this area. There was a much greater quantity of building materials from the higher levels in the drain which are associated with the actual destruction of the buildings.

A complete change in the character of the south ditch was effected in the 15th century when it was converted into a stone-lined drain. This change was reflected in the fillings of the feature, and cannot be explained solely by the construction of the stone walls. The deposits in the earlier ditch were of soft black mud and the samples contained species indicating damp mud and vegetation at the water's edge and on the banks of a pond or stream. These species were still present in the samples from the filling of the stone drain, though in fewer numbers, while aquatic species indicating running water appeared in dramatically large numbers in this phase. A flow of water was also indicated by the channel down the centre of the drain between the banks of grey sand, while the final deposits were of coarse sand and pebble. The evidence suggests that it was at this time that the drain was cut through to join the two arms of the river, and that sluice gates were provided so that the flow could be controlled. All the finds from these deposits were spread fairly evenly along the length of the drain and had not accumulated at any particular point, while the number of joining sherds of pottery from phase 9A and earlier deposits in the drain and preceding ditch may also be explained by disturbance due to periodic surges of-water. The stone walls which narrowed the drain at its west end may be connected with sluice gates and control of the flow, while the species associated with stream or river banks which still occur in the later deposits could have been swept in from the river itself. No fall was provided within the drain so some other way of establishing and controlling the flow of water must have existed.

The north ditch seems to have been cut through to the river at an earlier stage in the history of the site. Here the aquatic species were present from phase 6A onwards in deposits of sand and pebble, while a flow of water was also indicated by the ripple marks preserved in phase 6A.

The marked change in construction between walls W13B and W13C deserves some consideration although it is difficult to explain. It is possible that wall W13C formed the south wall of an eastern range and was constructed at the same time as the covered alley in the second cloister which would explain why there was no matching constructional change in the south wall of the drain. Stratigraphically however, wall W13C appears to be contemporary with the clay banks which are associated with the construction of the stone drain. The evidence seems to suggest that the east range too was completed at a late stage at about the same time as the building of the south range and the covered alley.

The burial of children in the chapter house is paralleled at the Dominican priory, Oxford where it is suggested that the area was reserved for the children of lay benefactors (Lambrick & Woods 1976,203). This does not seem to have been entirely the case at Leicester where, in addition to the children, two adult males in the early 20s were found. One

of these may also have been a member of a local family, but in burial 3 the position of the arms and the presence of a buckle suggests a connection with the earlier burials in the east cloister alley and that this too was one of the friars. The fact that burial 3 cut graves 5 and 16 and the date of the buckle suggest that the burial of-the friars in the chapter house was introduced at a later stage in the history of the site the area having previously been reserved for members of-important local families, in particular children.

The group of eight inhumations from the 1967 excavation seems to represent yet another section of the community. The position of these burials, south of the church and near the road, might suggest that this area was reserved for local benefactors who were not important enough to be buried in the church, The desire for burial in the friars' churches and churchyards was strong enough during the Middle Ages to be a cause of considerable conflict between the friars and the parish clergy (Dickinson 1961, 91 -2). The list of burials in the Blackfriars of London (Clapham 1912, 82- 3) shows that some of the churches must have been closely packed with graves while some wills request burial in the churchyard (Clapham 1912, 65). From the late 14th century onwards there is a considerable number of-bequests, most of them not very large, to the Austin Friars at Leicester in return for masses or prayers and, though none of these specify the place of burial, it is possible that some might have been buried in the churchyard. However this group of burials was composed entirely of adult males which suggests that they represent a restricted group of the population, perhaps of lay-brethren. They were all of robust physique and several showed signs of having been engaged in hard physical labour. No buckles were found in this group.

Mrs Stirland suggests (below, p 168) that the presence of wormian bones in several of the skulls in this group might indicate a related population drawing on a fairly restricted gene pool, and it is interesting that these bones also occur in five out of the six chapter house burials which are also thought to represent the local lay population. It is possible that the lav-brethren were also drawn from local families while the friars themselves are more likely to have come from further afield. The friars were professed to the order as a whole, not to a particular house, and there was considerable movement about the province, shown sometimes in widely fluctuating numbers at a priory over a short period of time (Hinnebusch 1951, 273). Thus the friars are more likely to represent a 'foreign' or at any rate non-local element in the population.

During the 15th century the friary was sufficiently prosperous to be able to complete the ranges of the second cloister which had been planned a century earlier. Evidence of-their local popularity is provided by the records of bequests which continued undiminished until the time of the Dissolution. There appears to have been some contraction of the site during its latter years and inmediately before the Dissolution the meadow lands were leased out. Until then however there is sufficient evidence to show that the house was flourishing and continuing to play an important role in the life of the local community.

9B (see section c-c, Fig 10)

Above the deposits of phase 9A in the south drain was a very thin band of grey clay *c* 0.02m thick (16A) and a similar layer of brown clay was recorded in the west section of the north ditch: These layers produced only a few fragments of pottery, ridge tile, and animal bone. Two of' the pottery sherds were from vessels also represented in the deposits of phase 9A. Samples were taken from the clay layer in the south drain and the results from these and from the succeeding deposits showed a dramatic change in the environment. Aquatic species were still present in the samples from phase 9B but in considerably fewer numbers and there was still evidence of weeds, pasture, and fewer numbers of dung beetles. The food pests which had been such a prominent feature of the earlier deposits were completely absent as were those associated with structural timber and there were only low numbers of-other synanthropes (see Table 26).

Phase 10

Phase 10 concerns the evidence from the site after the dissolution of the friary and deals mainly with the destruction and collapse of the buildings and the evidence for the subsequent use of the site.

10A

Within the north range of the main cloister there was very little material which could be associated with the immediate post-Dissolution period. The north wall of the building had been completely removed down to the level of the gravel foundations and no trace remained of any floor levels. The fragments of window tracery from the west end of the building (see above, phase 3D, p 22) lay immediately above the construction levels of phase 3B in a mixed deposit of red clay, soil, sandstone, and mortar below modern disturbance. The small group of pottery from this deposit included two sherds of Cistercian ware and one fragment of a vessel dating to the 18th or 19th century which may have intruded when a brick coal cellar was inserted.

10B

Much more evidence was forthcoming from the buildings above the south drain. Immediately above the deposits of phases 9A and 9B was a distinct line of sandstone and granite rubble lying across the drain north of the garderobe shaft. Pottery representing six vessels was recovered from within the shaft itself, three of which were nearly complete-a Cistercian cup, a jug, and a urinal in a Midland Purple fabric, P(xxi). Sherds from these vessels were also found in the line of rubble across the drain. Other pottery from this rubble brought the total number of vessels up to 29 some of which were also represented by sherds from the 9A deposits in the drain. Other finds from within the shaft were a lead window came and a hone, while the line of rubble also produced fragments of four decorated floor tiles and one plain one and sherds representing seven ridge tiles.

1OC (see section c-c, Fig 10)

Above the deposits of phases 9A and B and 10B the drain was filled with a thick layer of mortary sand (10) with some sandstone and granite rubble, dark soil, and mortar. The superstructure of the building had been completely removed as had most of the facing blocks of dressed sandstone lining the drain. A large group of pottery was associated with these rubble deposits representing a total of 436 vessels of-which 181 were also represented by sherds in earlier contexts. Over 160 of these residual sherds were from vessels in the 9A deposits in the drain itself but there were some from vessels in earlier contexts in Areas I and IV. A large proportion of the pottery was in (Cistercian and other fine wares while most of the coarse wares were in Midland Purple fabrics.

There were numerous other finds reflecting the domestic nature of the building. Five iron blades, five bronze bowl

fragments, a chain, a strainer, two pewter spoons, and a quern runner stone probably derive from the kitchen and refectory although the spoons like the two patens from an earlier context may be associated with the church. Costume was represented by fragments from three bronze belt-plates, four buckles, three pins, and three pieces of leather. An iron spur, a stirrup, and a harness ring were also found.

Besides the rubble itself, which included a fragment of a door jamb, other building materials were represented in large quantities. Fragments of 120 ridge tiles were recovered and over 200 floor tiles, about 25% of which were decorated. Other structural debris included seventeen lead window tames, 3600sq mm of plain window glass, 200 + nails, fragments of-sixteen roof slates, and remains of' seven nibbed roof tiles.

In the environmental samples from the rubble deposits the species indicating habitation and the activity of man were no longer present. The species which remained indicated open water in the vicinity and surrounding pasture land.

10D

Above the rubble deposits within the drain but also spreading over a wider area were layers of dark soil often flecked with mortar and charcoal some of which contained small quantities of rubble. A large group of pottery was recovered from these layers, representing 185 vessels some of which were redeposited from earlier contexts. Material dating to the 17th, 18th, and 19th centuries was included in this group as well as from the period of-the friary occupation. Numerous fragments (119) of ridge tile and floor tile were also redeposited in these layers.

10E (see section e-e, Fig 10)

The high rubble content in the upper fillings of the north ditch hag been mentioned above as indicating that the north range was already falling into disrepair before the Dissolution. The next deposits in the ditch, however, were composed almost entirely of rubble which included the fragments of window tracery from the west section which are discussed below, p 46. A large section of the wall itself had also collapsed into the ditch at this point. The rubble included fragments of seventeen floor tiles of which six were decorated, sixteen roof slates, and sherds representing 25 ridge tiles in Early, Middle, and Late fabrics.

A small group of pottery was recovered from the rubble deposits representing 29 vessels, four of which joined sherds from earlier deposits in the ditch. The pottery included eleven examples of the fine wares and there were two sherds of later, ie 17th-19th century, vessels which must be intrusive. Costume was represented by three pieces of leather and four bronze pins, and there was also a quantity of animal bone. The most noteworthy feature of the latter was the sudden increase in the number of horse bones which included several complete pelvic girdles. The environmental samples from these deposits contained high numbers of the species indicating pasture and grazing in the vicinity, while the aquatic species were also represented in higher numbers than in the south drain at this period. Again, however, there were none of the species indicating human habition.

10F (see section e-e, Fig 10)

The rubble deposits of 10E showed clear evidence of having been disturbed at a later date (39). Most of the small group of pottery from the disturbed layers was of 16th century date but the deposits also included the sole of a 19th century boot dating to the 1830s (Fig 60).

10G

Most of the stone from the cloister wall W1, W11, W24 had been removed leaving only the gravel foundations although one or two courses of sandstone remained in places. Of wall W2 only the foundations remained and in places these too had been removed. The internal partition walls between walls W1 and W2 were only indicated by their foundations and the floors in this area had also been removed. Above the layers associated with phases 6B, 7B, and 8B there were deposits of mixed rubble and dark brown soil between walls Wl and W2 while west of wall W2, above the patches of mortar floor, were deposits composed mainly of slate and mortar with some brown soil heavily flecked with charcoal. The pottery from these layers represented 5.3 vessels of which 18 were redeposited from earlier contexts within Area I. The latest fabric represented was P(xvii) and most of the vessels were in 13th or 14th century fabrics and included examples of the still earlier fabrics F, L, and N. There were fragments of three plain floor tiles and 33 ridge tiles of which seven were in Late fabrics.

The later cloister wall W10 and W25 had been completely removed leaving no trace except for the two short lengths which remained in Areas I and III.

10H and 10J

In the east range of the main cloister, as in the north, the destruction was virtually complete, The floors were removed or destroyed with the exception of occasional tiles in the cloister alleys which remained *in situ*. Over the whole area were layers of silty loam with a very high content of small fragments of sandstone, slate, and mortar, through which the robber trenches of some of the walls were cut. For this reason the deposits were subdivided to distinguish the general spread of the destruction material (10H) from the robbing of the walls (10J). However, as in fact the material from both contexts is very similar and includes nothing later than the date of the Dissolution the evidence from both phases is here summarized together.

Roofing materials were represented mainly by over 200 nibbed tiles which came largely from within the eastern range, and also by 97 slates. In addition there were fragments of 30 ridge tiles in Early, Middle, and Late fabrics, and of three louvers. There were a few small fragments of arcading dating to the second half of the 14th century from the east cloister alley, a fragment of a capital, and a small column shaft. A small quantity (5700sq mm) of' window glass, both plain and painted, was also recovered while innumerable fragments of glazed floor tile were found in the debris above the mortar bedding in the cloister alleys.

A few sherds of pottery were recovered from these deposits, mainly in Midland Purple and Cistercian fabrics; there was nothing of any later date.

Discussion of phases 9B and 10

Unfortunately the report of the king's officers on the Augustinian Friary at Leicester does not appear to have survived but records of their visits to other mendicant houses all over the country comment on the extreme poverty of the friars and on the ruinous state of their buildings. Bishop Ingworth at Lincoln writes of 'iiij powre howseys, non thing lefte but stonys and pore glasse' and Dr London that the buildings of the Austin friars at Oxford were 'notably ruynose' (Knowles 1976, 247 9). In many places the friars had tried to raise money by leasing out their lands and buildings and selling off-their goods. In May 1538 Richard Ingworth writing to Cromwell after visiting friaries in the West Midlands reports 'In every

place is poverty and much shift made with such as they had before, as jewels selling, and other shift by leases' (Cook 1965, 170). Occasionally, as at Grey Friars, Gloucester, there is mention of a 'goodly house, much of it new builded' though even here there are 'divers leases let out for years of lodgings and gardens' (Cook 1965, 175), but in general the picture is one of poverty and decay, both structural and moral.

Something of this situation can be seen at Leicester where an indication of the lowering of moral standards is provided by the presentation to the ecclesiastical court in 1526 of one Joan suspected of-holding evil conversations with a certain brother of the order of St Augustine (Moore 1906, 200. We are indebted to Janet Martin for bringing this reference to our attention).

The Austin Friary at Leicester had never been large and its lands never exceeded 3 or 4 acres but in the months preceding the Dissolution much of the land had been leased out (see above, p 2) which again reflects the general picture.

There are numerous records of bequests to the friary during the 1520s and 1530s which seem to show that the Order had lost none of its popularity with the local inhabitants, though none of these bequests was very large. In 1532 the house was able to provide accommodation for a general chapter of the Order despite the indications from phase 9A of a possible contraction of the site during its latter years.

The deed of surrender was signed on 10th November 1538 by the prior, sub-prior, and two friars who were by this time the only remaining members of the community, It must be remembered in this context that the house at Leicester had never been large and that all those concerned must have been aware of the impending dissolution for some time; the numbers may well have been higher than this until the last few months. In some cases the final picture is even worse; at the Austin Friars at Shrewsbury Richard Ingworth found 'no friars there but the prior, a man like to be in a frenzy, and two Irishmen' (Cook 1965, 185).

Shortly after the Dissolution the dormitory was sold to the Dean of-the Newarke College which was in turn dissolved in 1545. Whether the sale was of the standing building or the stone from it is not clear but in any case it appears that by 1542-3 all the buildings of the Austin Friary had been demolished as the king's receiver then accounted for 2s 'for the soil and land within the precinct of the said late house where the houses and buildings there once were built and situate' (see above, p 3). The evidence from the site itself indicates a period, however short, when the site was deserted (phase 9B), when water was lying in the drain and the ditch, the sluice gates were no longer functioning, and there was little evidence of habitation before the final destruction of the buildings took place.

The king's officers would have rendered the buildings unmhabitable though without carrying out wholesale destruction. Dr London, writing at Oxford in 1538, says that he had 'pulled down no Howse throwly at noon of the Fryers, but so defacyd them as they should not lyghtly be made fryerys agen' (Knowles 1976, 247). Other buildings as well as the dormitory at Leicester may have been sold off and the final destruction and despoliation of the site was probably accomplished by the local populace. This was certainly the case elsewhere for again Dr London tells us that 'the poor people thoroughly in every place be so greedy upon these houses when they be suppressed that by night and day, . . they do continually resort as long as any door, window, iron or glass or loose lead remaineth in any of them' (Cook 1965, 212).

Certainly the destruction of the Austin house at Leicester was thorough and, in the main buildings at least, it seems to have been accomplished soon after the final surrender, though the precinct wall was still standing in the 18th century (Bodleian Library MS Top. Gen. d14 f7). Little trace remained of any of the buildings above the level of the foundations and it seems that the blocks of dressed sandstone were particularly prized. Lead from the windows, roofs, and guttering would also have been valued as would any movable furniture or wooden screens. The garderobe shaft in the south range of the little cloister seems to have collapsed with its contents into the drain probably after the wall had been weakened by the removal of its outer facing of dressed stone. The large number of links between the pottery from phases 9A and 10C suggests that some of this was still in the building when it was finally demolished. Apart from the joining sherds the other material from these destruction deposits reinforces the evidence from the final phase of the occupation for the various aspects of domestic accommodation provided in this building. Similarly in the north ditch the relatively small group of pottery and other finds from the destruction deposits supports the evidence from the pre-Dissolution context for a contraction of the site. The complete absence of later 15th and 16th century material from Area I has already been noted (above, p 41) but the recurrence of pottery of the 12th and 13th century in the destruction deposits still poses a problem. This material may have been redeposited from earlier levels during work connected with the widening of the river.

The environmental evidence from the destruction deposits indicates that the site was given over to pasture and meadow and the numbers of horse bones from this deposit in the north ditch may be significant here. The north ditch was evidently still wet at this period to judge by the numbers of aquatic species still present in these deposits, and indeed in 1597 the north meadow is described as being divided from the rest of the site by a 'lytle guttere of water'. The documentary records also support the environmental evidence for pasture and meadow land, for no buildings are recorded on the site in any of the transactions until 1795 when there were two messuages at the south of the site with a close behind, between the two arms of the river. It was in this area that Throsby recorded the foundations of buildings revealed by people making a garden, an activity probably represented on the site by the soil and rubble spreads of phase 10D.

The latest material from stratified deposits was represented by the boot sole of the 1830s from the disturbed rubble in the north ditch and must be associated with the construction of the railway in 1832. Elsewhere on the site the railway deposits clearly sealed the remains of the Friary and its destruction levels and the final phase of activity on the site was represented by the four railway turntable bases which were found in position.

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The small finds-structural

Patrick Clay

Architectural fragments

(I would like to thank Dr E A Gee for his help in identifying these items.)

Relatively few architectural fragments were recovered from the site owing to extensive robbing and the unavailability of the church for excavation. The fragmenrs that remain, where datable, belong to two periods and the most significant items to three destruction groups.

From the north-west corner of-the refectory, tracery fragments from the west facing window were recovered, having collapsed inwards (II 108). These consisted of a group of ten butt-end soffit cusp fragments, twelve mullion fragments, and the junction of two trefoil lights from a window of geometrical tracery of the Decorated period. Similar cusps placed on the inner reveal of the window and with blunt ends may be seen on the great east window of Lincoln Cathedral. From the length of wall with which these items were associated, this would probably have been a three light window below a central cusped circle (A) and would be late 13th to early 14th century in date.

A second group of window tracery was recovered from the destruction levels of the north wall which had collapsed outwards into the ditch (IV 14), the space for the window still being discernible (P1 6). Fragments of a hood moulding, four chamfered blind cusps from trefoil lights, and a sill remained. The mullion extension on 20 and the shape of the hood moulding indicate a shallow arched window of curvilinear or rectilinear tracery probably of mid to late 14th century date (B). There was also a fragment of an unleaded arch recovered from this level (see below).

A small group from the destruction levels above the walk at the east end of the cloister (VI 69, 526) consisted of' unleaded trefoil arch fragments. These again had chamfered blind cusps (11) and would have been from arches of approximately 0.8m span. From their size and position these would have been from arcading. The small fragment from the north ditch (17) suggests there may have been similar decorative arches in the northern range of buildings.

All of the 65 architectural fragments found on the site were made of Dane Hills sandstone from the nearby quarries. Although conveniently local (see Fig I) the weathering qualities of the stone, as seen on some of these fragments, were poor.

Figure 11

1 Phase 3B I 38A
Door jamb with ogee moulding. Early 14th century

2 Phase 7A II W 13R
Very worn moulding with gaps for leading, reused in the north drain wall (see P1 11)

3 Phase 10C II 29
Door jamb (cf Colchester Magdalen Chapel. Bond 1905, 702 3)

4-7 Phase 10A II 108
Butt-end soffit cusp fragments probably from a circle in a window of Geometrical tracery

8 Phase 10 A I I 1 0 8
Butt-end soffit cusp widening at one end towards a junction

9 Phase 10A II 108
Junction of two trefoil lights with soffit cusps. The mullion offset from the junction of the lights is unusual and would appear to put pressure on the weaker part of the arch. The nave west window at Howden, Yorkshire (*c* 1310) has the prolongation slightly offset but not to the extent of this example (cf Bond 19 13, 2, 6 18). This would be part of the same window containing 4-8 and is probably the junction of-the central and outside lights of a three light window similar to A. At the top of the mullion extension there is a mason's mark in the shape of a crescent.

10 Phase 10A II 108
Part of a mullion. Twelve fragments of mullion were recovered from these levels varying between 37mm and 500mm in length. Two similar fragments, 480mm and 510mm in length, were found reused in the north drain wall (Phase 7A II W 13).

11 VI unstratified
Fragment of unleaded trefoil arch with chamfered blind cusp

12, 13 Phase 10H VI 69
Fragments of unleaded tretoil arch. 12 has a mason's mark below the start of the cusp.

14 Phase 10H VI 69
Fragment of circular abacus. As with 11 13 this would have probably been part of arcading decoration.

15, 16 Phase 10E IV 14
Hood moulding fragments, 15 with triangular stop

17 Phase 10E IV 14
Fragment of unleaded arcading similar to 12 13

18 Phase 10E IV 14
Chamfered blind cusp fragment from trefoil lights.

19 Phase 10E IV 14
Junction of two trefoil lights with chamfered blind cusps

20 Phase 10E IV 14
Mullion from the window edge of a trefoil light with chamfered blind cusps (see reconstruction B)

21 Phase 3B(i) II 111
Scroll moulding fragment. 14th century

22 Phase 4H 117
Fragment of small shaft. 14th century

23 Phase 5A IV 29
Fragment of small shaft. 14th century

24 Phase 7A V 157
Fragment of small shaft. 14th century

25 Phase 10A II 108
Scroll moulding with iron traces adhering. 14th century

26 Phase 10H VI 2
Fragment of small shaft. 14th century

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The small finds-structural

Patrick Clay

Architectural fragments

(I would like to thank Dr E A Gee for his help in identifying these items.)

Relatively few architectural fragments were recovered from the site owing to extensive robbing and the unavailability of the church for excavation. The fragmenrs that remain, where datable, belong to two periods and the most significant items to three destruction groups.

From the north-west corner of-the refectory, tracery fragments from the west facing window were recovered, having collapsed inwards (II 108). These consisted of a group of ten butt-end soffit cusp fragments, twelve mullion fragments, and the junction of two trefoil lights from a window of geometrical tracery of the Decorated period. Similar cusps placed on the inner reveal of the window and with blunt ends may be seen on the great east window of Lincoln Cathedral. From the length of wall with which these items were associated, this would probably have been a three light window below a central cusped circle (A) and would be late 13th to early 14th century in date.

A second group of window tracery was recovered from the destruction levels of the north wall which had collapsed outwards into the ditch (IV 14), the space for the window still being discernible (P1 6). Fragments of a hood moulding, four chamfered blind cusps from trefoil lights, and a sill remained. The mullion extension on 20 and the shape of the hood moulding indicate a shallow arched window of curvilinear or rectilinear tracery probably of mid to late 14th century date (B). There was also a fragment of an unleaded arch recovered from this level (see below).

A small group from the destruction levels above the walk at the east end of the cloister (VI 69, 526) consisted of' unleaded trefoil arch fragments. These again had chamfered blind cusps (11) and would have been from arches of approximately 0.8m span. From their size and position these would have been from arcading. The small fragment from the north ditch (17) suggests there may have been similar decorative arches in the northern range of buildings.

All of the 65 architectural fragments found on the site were made of Dane Hills sandstone from the nearby quarries. Although conveniently local (see Fig I) the weathering qualities of the stone, as seen on some of these fragments, were poor.

Figure 11

1 Phase 3B I 38A
Door jamb with ogee moulding. Early 14th century

2 Phase 7A II W 13R
Very worn moulding with gaps for leading, reused in the north drain wall (see P1 11)

3 Phase 10C II 29
Door jamb (cf Colchester Magdalen Chapel. Bond 1905, 702 3)

4-7 Phase 10A II 108
Butt-end soffit cusp fragments probably from a circle in a window of Geometrical tracery

8 Phase 10 A I I 1 0 8
Butt-end soffit cusp widening at one end towards a junction

9 Phase 10A II 108
Junction of two trefoil lights with soffit cusps. The mullion offset from the junction of the lights is unusual and would appear to put pressure on the weaker part of the arch. The nave west window at Howden, Yorkshire (*c* 1310) has the prolongation slightly offset but not to the extent of this example (cf Bond 19 13, 2, 6 18). This would be part of the same window containing 4-8 and is probably the junction of-the central and outside lights of a three light window similar to A. At the top of the mullion extension there is a mason's mark in the shape of a crescent.

10 Phase 10A II 108
Part of a mullion. Twelve fragments of mullion were recovered from these levels varying between 37mm and 500mm in length. Two similar fragments, 480mm and 510mm in length, were found reused in the north drain wall (Phase 7A II W 13).

11 VI unstratified
Fragment of unleaded trefoil arch with chamfered blind cusp

12, 13 Phase 10H VI 69
Fragments of unleaded tretoil arch. 12 has a mason's mark below the start of the cusp.

14 Phase 10H VI 69
Fragment of circular abacus. As with 11 13 this would have probably been part of arcading decoration.

15, 16 Phase 10E IV 14
Hood moulding fragments, 15 with triangular stop

17 Phase 10E IV 14
Fragment of unleaded arcading similar to 12 13

18 Phase 10E IV 14
Chamfered blind cusp fragment from trefoil lights.

19 Phase 10E IV 14
Junction of two trefoil lights with chamfered blind cusps

20 Phase 10E IV 14
Mullion from the window edge of a trefoil light with chamfered blind cusps (see reconstruction B)

21 Phase 3B(i) II 111
Scroll moulding fragment. 14th century

22 Phase 4H 117
Fragment of small shaft. 14th century

23 Phase 5A IV 29
Fragment of small shaft. 14th century

24 Phase 7A V 157
Fragment of small shaft. 14th century

25 Phase 10A II 108
Scroll moulding with iron traces adhering. 14th century

26 Phase 10H VI 2
Fragment of small shaft. 14th century

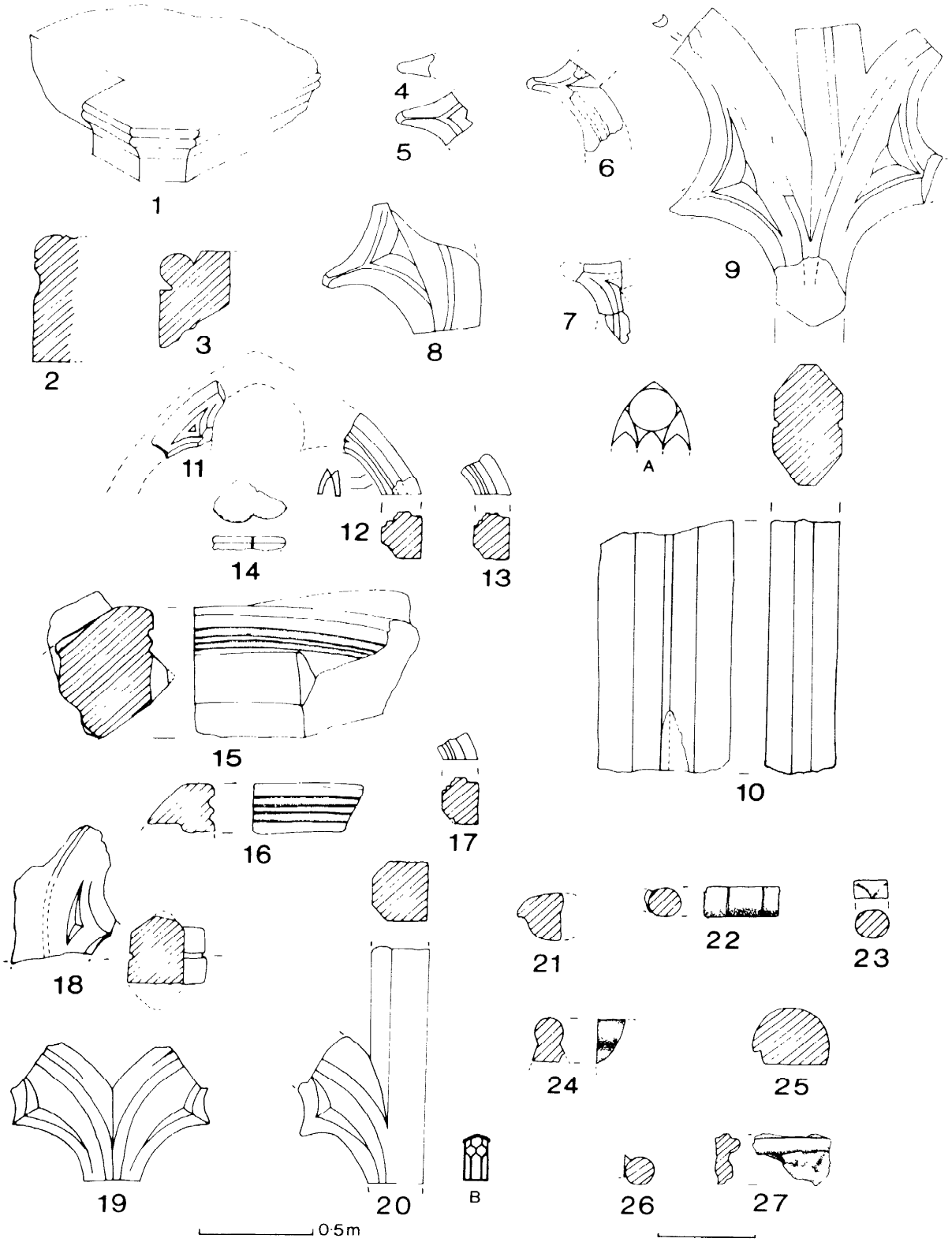

Fig 11 Architectural fragments. 1 20 scale 1:12; 21 27 scale 1:6

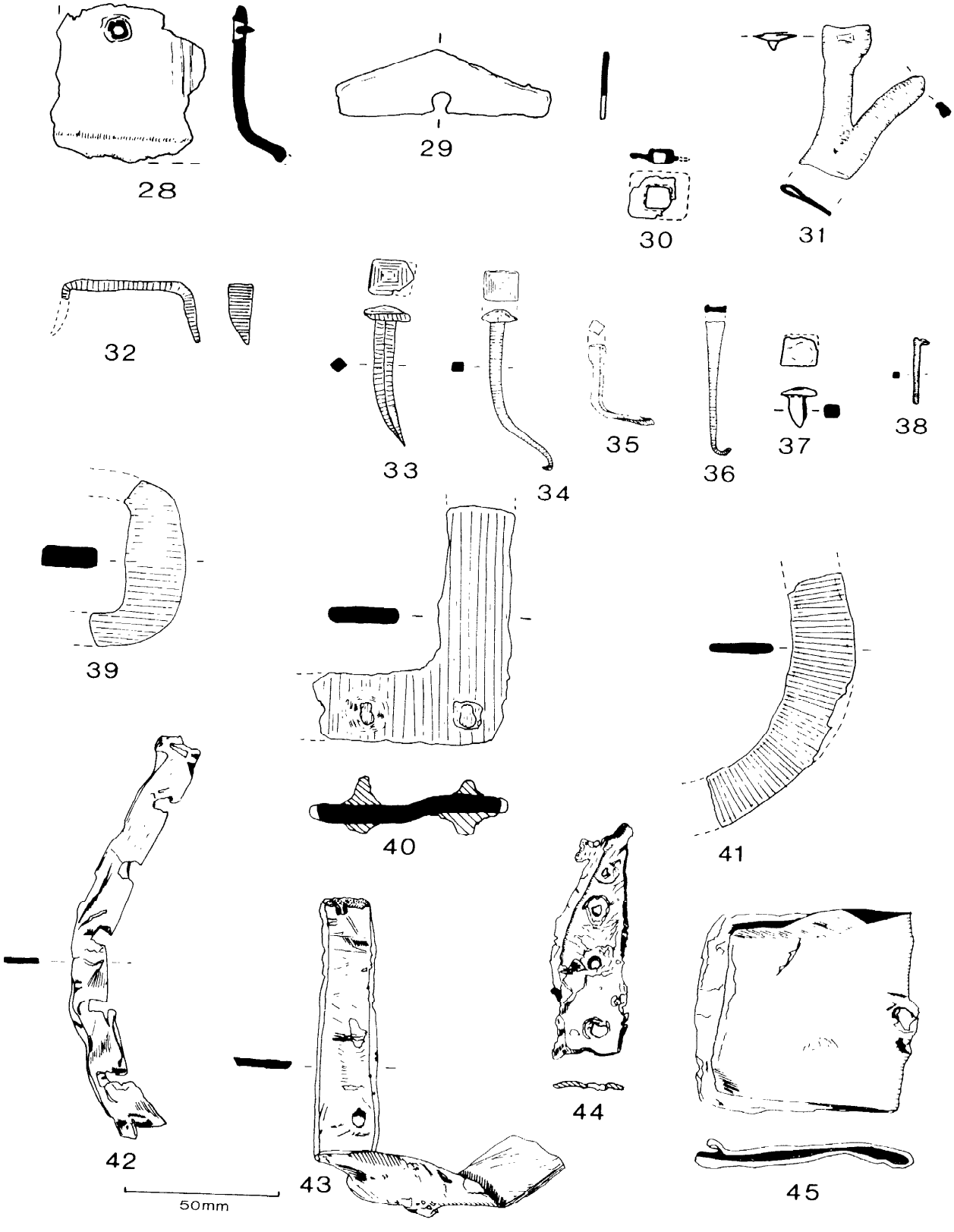

Fig 12 Iron, 28-41, lead, 42-45. Scale 1:2

27 I unstratified
Fragment of string course. Early 14th century

There were also small fragments from phase 3B(i) (II 111 and 118), 9A (II 32), and 10A (II 108).

Structural ironwork

Figure 12

28 Phase 10C II 30
Bent plating with rivet

29 Phase 10C II 30
Small plate with rivet hole

30 Phase 5A IV 65
Small rivet

31 Phase 10C II 30
Hook with rivet attachment

32 Phase 10C II 29
Staple

By far the most numerous iron objects on the site were the nails; 1433 were found, of which some could have been residual from Romano-British deposits. The largest quantities, as would be expected, came from construction (phases 3B and 4B) and destruction (phase 10) deposits. Fourteen nails were recovered from the graves, a relatively small number suggesting that wooden pegs were also used in the coffins' construction.

Nails of the medieval period were referred to by various names in building accounts according to their intended use The records of the Borough of Leicester *(RBL)* have many references to different nails, for example spike nails ('spikyngs'), board nails, the most numerous, lath nails ('clav' lat'), and 'clout' nails used to stud a surface (see also Biddle 1962, 175, fig 29.15). A full discussion of the terms can be found in Salzman 1954, 286.

Where their condition allowed the nails on the site could be divided into six categories.

33 Type A. Large square sectioned nails with square, slightly pyramidal heads. 80mm to 150mm in length

34 Type B. Medium sized (40-80mm long) nails with square heads, sometimes with rounded corners. These constitute the commonest type found on the site.

35 Type C. Square shanked headless nails, some of which were found bent over and hammered flat into timbers.

36 Type D. Wedge shaped, headless nails, some of which were found in association with laths ('lath nails', *RBL* 1,353).

37 Type E. Square headed tacks with very short shanks

38 Type F. Small rectangular tacks with a projection on one side. Horseshoe nails (?)

39 Phase 10C II 29
U shaped bracket

40 Phase 10C II 29
Corner bracket with two rivet fragments along one side

41 Phase 10C II 29
Curved bracket (?)

Lead

42 Phase 2D II 34
Strip with five square indentations

43 Phase 7A II 60
Folded strip with chamfered edges

44 Phase 8B I W3.3
Strip with five holes

45 Phase 10C II 29
Folded sheet with rivet hole

Figure I3

46 Phase 10E IV 14
Window came with square light, part of the window glass remaining

47,48 Phase 10C II 29
Fragments of came. 67 fragments of window came were found on the site, of which 70% were from destruction levels.

49 Phase 3B I 145
Masonry tie showing little sign of use

Window glass

(I would like to thank Dr R Marks of the British Museum for his help with these items.)

Most of the window glass from the site occurred in the destruction levels (phase 10) although over 1500sq mm came from phase 3B(i) II 111 and II 118 associated with the construction of the building at the west end of the drain. These were very similar to glass found in the north-west corner destruction levels (phase 10A II 108) and the absence of abrasion suggests they were damaged and thrown away during construction.

The glass occurred in diamond, square, triangular, and small rectangular shapes with rough grozing and the pieces were 4mm thick, blackened but originally clear. The painted glass shows part of a figural scene in dark brown paint, some showing painting on both sides. Although no figures survive, the elaborate canopy with ogee gable (66), naturalistic floral borders (50 - 58), and the thickness of the glass suggest an early 14th century date.

50-58 Phase 3B(i) II 111
Fragments of border, with naturalistic foliage (50, 52) and dot and circle decoration

59 Phase 3D II 64
Border fragment

60 Phase 10A II 108
Part of the background, painted on both sides with naturalistic foliage backed by four-leafed clover motifs

61-63 Phase 10A II 108
Border fragments

64 Phase 10A II 108
Part of background with fleur-de-lys type motif on the other side

65,69 Phase 10A II 108
Border and background fragments

66,67 Phase 10A II 108
Parts of a canopy. 67 is possibly from a side shaft enclosing a central figure.

68,70 Phase 10A II 124
Two border fragments

71 Phase 10H VI 2
Border fragment with foliage (?)

72,73 Phase 10H VI 2
Border fragments with outlined oakleaf pattern (72) and diaper pattern (73)

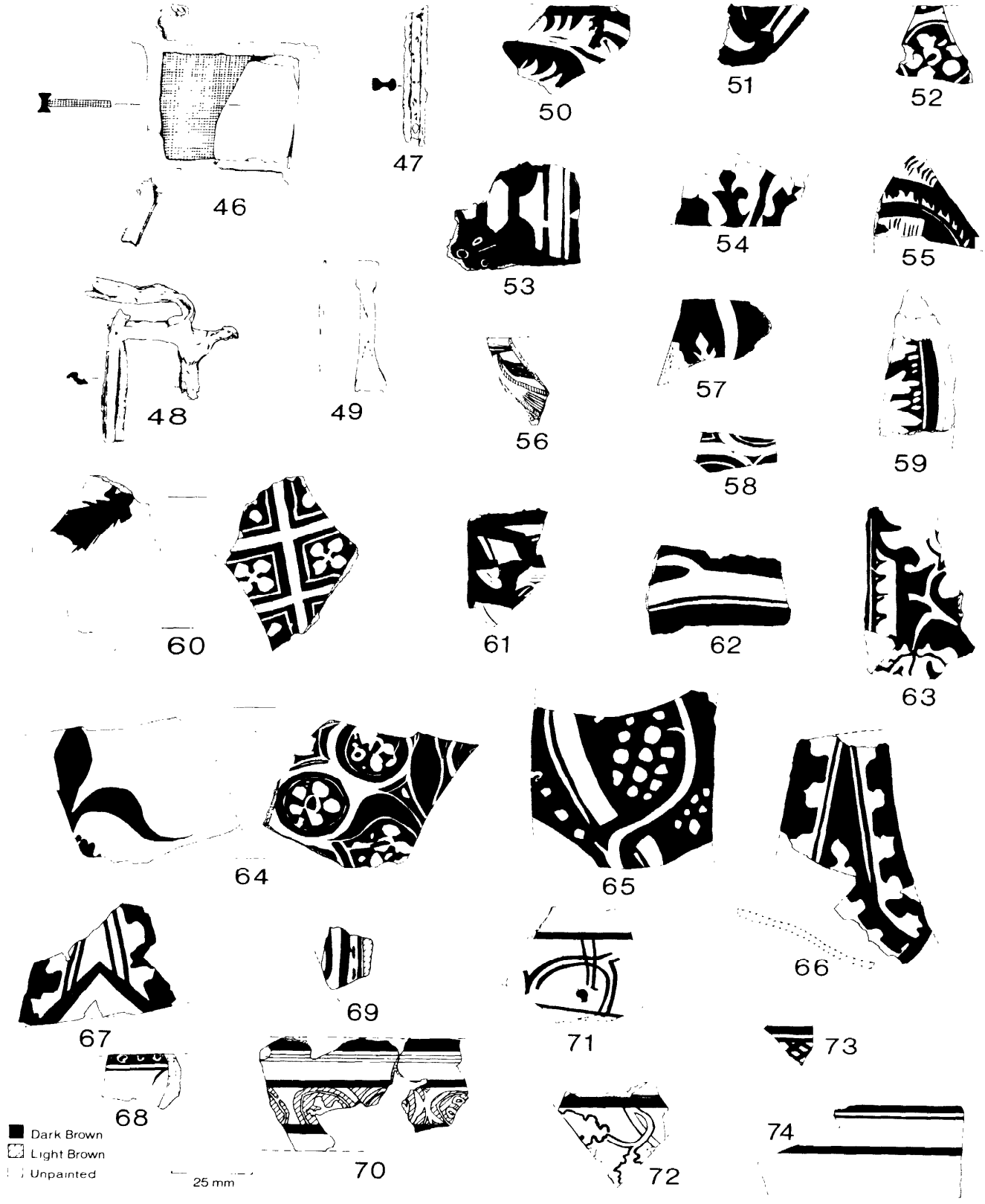

Fig 13 Window lead, 46-49, window glass, 50-74. Scale 1:2

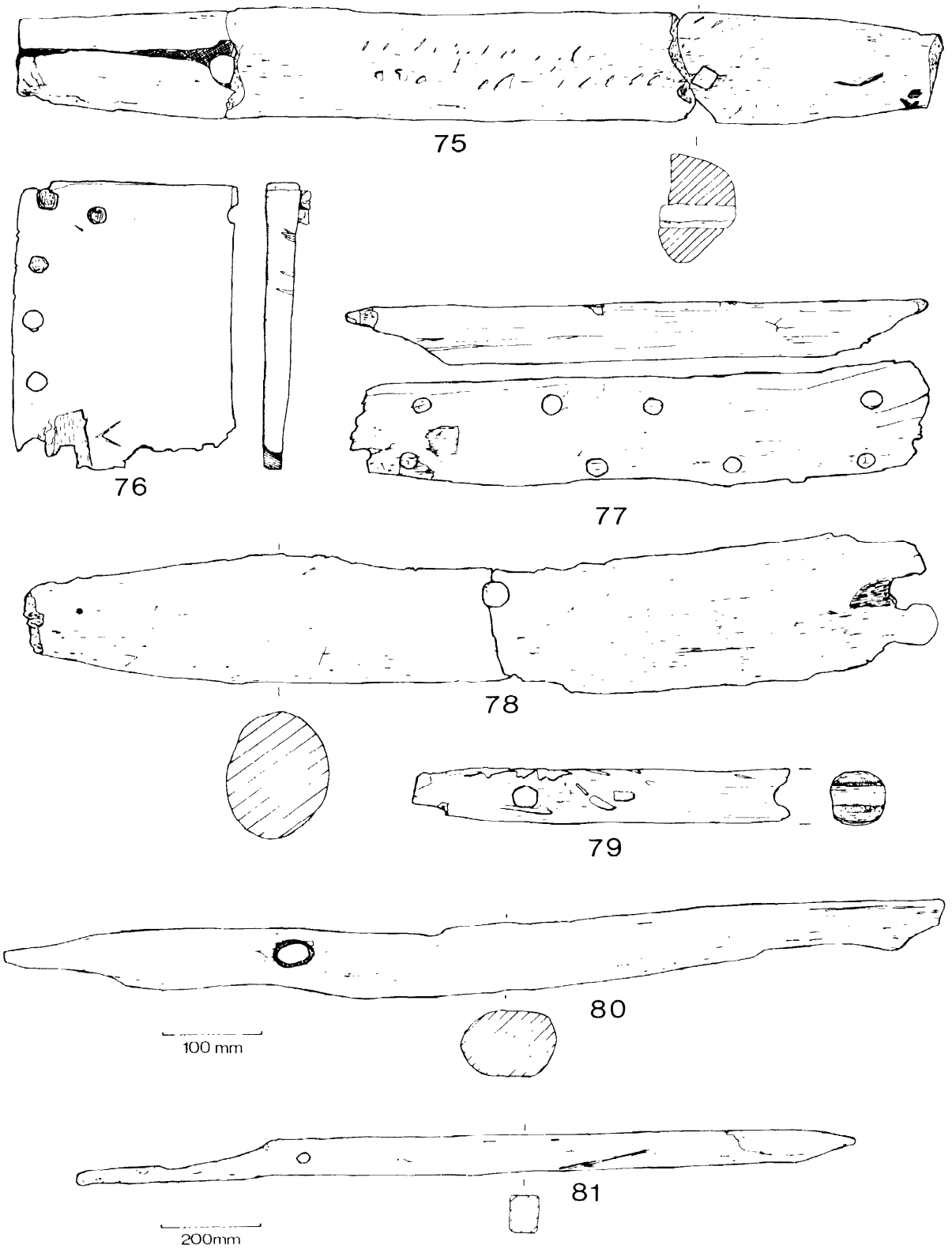

Fig 14 Wood, 75-81 scale 1:6, except 81 scale 1:12

74 Phase 10HVI 2
Part of a rectangular border fragment

Worked wood

Figure 14

75 Phase 2D II 34 (see Fig 4)
Plank with two peg holes, one peg in situ. Ash *(Fraxinus excelsior)*

76 Phase 2D II 34
Plank fragment with five peg holes, three pegs in situ. Oak *(Quercus sp.)*

77 Phase 2D II 34
Plank with wedge shaped ends and eight pegs. Lintel (?). Oak *(Quercus sp.)*

78 Phase 2D II 34 (see Fig 4)
Plank fragment with two holes, one with peg. Oak *(Quercus sp.)*

79 Phase 2D II 34
Part of ladder upright. Oak *(Quercus sp.)*

80 Phase 7C II 55
Stake with peg holes. Oak *(Quercus sp.)*

81 Phase 2D II 34 (see Fig 4)
Large stake with peg hole. Oak *(Quercus sp.)*

There were many other fragments of wood, usually stakes, with less obvious signs of workings.

A length of wattle fence (Fig 4, Pl 3) 1.2m x 0.5m consisting of hazel *(Corylus avellana)* branches, 10mm diameter, intertwined around 20mm diameter supports was recovered from the west end of the first precinct ditch (phase 2D II 34). This would have been part of the fence indicated by 28 closely grouped stakes along the north edge of the ditch. These varied in diameter between 40mm and 100mm and where identifiable consisted of seven hazel stakes and six poplar. Three ash stakes, two oak, one hazel, and one elm formed a second group at the base of the later drain (see Fig 4).

A similar fence along the north bank of the second precinct ditch was indicated by two lines of five oak, one ash, and one hazel stakes (phase 4C IV 30, 74).

Ninety-eight lath fragments were found at the east end of the first precinct ditch along its south side (phase 2D II 34, see Fig 4, Pl 2). These would have served as underlay onto which roofing slates were secured and were probably from the destruction of the early timber-framed building to the south of the ditch. A large oak timber (200mm diameter) impossible to recover beneath W14 at the west end of the ditch (phase 2D II 34) was also probably associated with this building (Pl 4).

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The ridge tiles

Clare E Allin

The earliest archaeological and documentary evidence for medieval ridge tile in England dates from the 13th century. There is a late 13th century documentary reference to a kiln producing ridge tile at Penn, Oxfordshire, whilst for the same county the archaeological evidence implies that tiles with hand-moulded crests date from the early 13th century and were superseded in the late 13th century by knife-cut, serrated crests (Jope 1951, 86). There are references to 'crestes voc' hypetyl' from Clarendon in 1363 priced at 2s 6d per hundred and also to 'riggetyle' or 'rigtighell' selling at 2s (?per hundred) in York and 3s 6d (?per hundred) in London (Salzman 1952, 231). In Leicester itself the earliest reference to ridge tile in the Borough Records is in the Mayor's accounts for 1314-15 'Item in crestis iiiid' *(RBL* 1, 297) and the same amount recurs in 1317-18 for reroofing the West Gate *(ibid,* 316). Certainly the archaeological evidence suggests that by the late 13th century crested ridge tiles from the local Potters Marston (Haynes 1952, 60-2) and Chilvers Coton, Nuneaton kilns were finding their way on to the roofs of various buildings in Leicester. Presumably they were used in conjunction with either the local Swithland slate or the nibbed clay roof tiles, evidence for both of which has come from the friary. The 13th century date must also reflect a change from thatch to more substantial roofing materials in the urban environment.

The site itself produced the remains of over a thousand crested ridge tiles dating from the late 13th century through and into the early 16th century. This span of some 250 years can not only be traced through the advances made in kiln technology which affected the glazes and fabrics, but also in the various crest types which occur. The shape and thickness of the tiles do not seem to provide such good dating evidence, although changes are discernible, nor do the fabrics, unless they can be shown to derive from a particular known kiln source.

The methods by which ridge tiles were manufactured could be numerous and are certainly open to debate. However, it is possible to draw some conclusions from examining individual tiles and by studying contemporary accounts such as the 14th century Hull brickyard account (Brooks 1939, 151-74). The late 13th/early 14th century tiles seem to have been made by cutting out a clay slab, either rolling or beating it out, and then laying it onto some form of support which shapes it and allows it to dry out to the required leatherhard state prior to firing. Some of the later 14th and 15th century tiles, though, have a ledge at either end and along the sides as if the tile was cut out by a rectangular frame or even laid in a wooden sanded mould, in some way similar to the method of manufacture of hand-made bricks and also to roof and floor tiles.

Another question which arises is: at what stage were the crests added? If dowelled through a hole or smeared onto a pushed up clay mound, the crest/tilemaker would need to get one hand underneath the tile and this suggests that the tile may originally have been laid on an open wooden frame rather than a solid mould. Once the crests were added then the tile may have been transferred onto a sanded or limed solid mould/support made presumably from wood or clay. However, contrary to this theory, there is a tile with dowelled Pinnacle crests (Type VI) which the evidence suggests may have been added to the tile while it was lying in a sanded mould. On the other hand this also implies that perhaps the tiles were allowed to dry out to a strong enough

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The methods by which ridge tiles were manufactured could be numerous and are certainly open to debate. However, it is possible to draw some conclusions from examining individual tiles and by studying contemporary accounts such as the 14th century Hull brickyard account (Brooks 1939, 151-74). The late 13th/early 14th century tiles seem to have been made by cutting out a clay slab, either rolling or beating it out, and then laying it onto some form of support which shapes it and allows it to dry out to the required leatherhard state prior to firing. Some of the later 14th and 15th century tiles, though, have a ledge at either end and along the sides as if the tile was cut out by a rectangular frame or even laid in a wooden sanded mould, in some way similar to the method of manufacture of hand-made bricks and also to roof and floor tiles.

Another question which arises is: at what stage were the crests added? If dowelled through a hole or smeared onto a pushed up clay mound, the crest/tilemaker would need to get one hand underneath the tile and this suggests that the tile may originally have been laid on an open wooden frame rather than a solid mould. Once the crests were added then the tile may have been transferred onto a sanded or limed solid mould/support made presumably from wood or clay. However, contrary to this theory, there is a tile with dowelled Pinnacle crests (Type VI) which the evidence suggests may have been added to the tile while it was lying in a sanded mould. On the other hand this also implies that perhaps the tiles were allowed to dry out to a strong enough

state so that they could stand without the need of a support and then the crests were added in holes already made in the tile. Finishes such as sanding, lime on the Potters Marston tiles, crushed shell, and grog are characteristic of the interior surfaces of many of the tiles and these of course would prevent the tile from adhering to the mould and the support.

Glazing would be the next process prior to firing. The liquid glaze was either brushed on, poured on, or, in some cases, either dusted or sprinkled on in a dry powder form. In some cases the glazes are mottled or speckled which indicates that the various glaze components have not mixed properly but I think that this was a deliberate effect. Also, where the glaze has not fused correctly with the fabric, a contrasting effect to the main glaze colour is produced. It is interesting that the earlier tiles, especially the Early B group (see p 54), have a more or less all-over glaze which presumably protected their softer fabrics and made them more weatherproof. This is in marked contrast to the sparse glaze of later 15th century tiles, for example Late D, which were so well fired that they did not require more than a token gesture of glazing along the ridge.

Whilst the glaze was still wet the tiles would be stacked in the kiln, often with the pottery, and fired. This was certainly the case at Nuneaton where excavation has shown that the tiles were stacked at a sloping angle around the kiln. The direction of the glaze flow on both these and the Potters Marston tiles shows the angle at which they were stacked and this seems to have a direct bearing on the associated crest types. The Looped-Handle (Type II) and Looped (Type V) crests helped to keep the stacked tiles separate during firing. Often there is a dot of glaze on the interior, below the crest, where the peak of one crest rested against the interior of the next tile which it supported. This was not always successful as sometimes the tiles were fused together by their glazed crest as has been the case at Nuneaton. This argument does not apply to the other crest types as their glaze does not indicate stacking at an angle and it is not so easy to rest one against another in the same manner. These must have been stacked by an alternative method.

It has been suggested that there was a standard Midland length for ridge tiles of 380-480mm (Dunning 197 -2, 38) and an Act of 1477 regulating tile manufacture refers to ridge tiles/crests as being '13½in by 6¼in' (340mm by 160mm) (Salzman 1952, 230). Most but not all of the ridge tiles from the friary fail within this Midlands limit and where possible their slab sizes are mentioned in the text (this does not allow for shrinkage during firing). Their shape certainly varies, ranging from the semi-cylindrical profiles of the Potters Marston tiles to the more flaring, tunnel-shaped profiles of some of the later tiles, eg Late A. Thicknesses vary not only on the tiles themselves but also between tiles, and range from 5mm to 16mm, perhaps 8mm being a good average. The crests were applied by one of four methods according to the type of crest. These methods were:

1. Dowelling. The pegged crest was inserted through a hole in the tile roof. In this method the crests were therefore made as separate entities. All the Type VII and IX crests were made like this, as were most of the Pinnacle crests (Type VI) and one example of each of Types II and V (see Fig 16.11).

2. Simply smearing onto the tile roof. This is true of some of the Looped-Handle crests (Type II) and one example of' a Type VI (Middle F).

3. Smearing onto a clay mound, peak, or 'tube' pressed up from within the tile roof. Again this is characteristic of some Type VI crests and certainly Type I, III, and V crests. There are four examples of Type VI crests (Late B) that consist simply of pointed crests pinched off the surface (or pushed up from within).

4. An applied clay strip along the length of the tile roof which was then knife cut. Often the crests have broken off leaving a long, unglazed strip. This method was used for Pyramid (Type IV) and Serpentine (Type VIII) crests.

Crestmaking certainly may have been a separate craft. A 1403 Manorial Court Roll from Lyveden, Northamptonshire, refers to one 'Richard Crestmaker' which implies that it was a recognized skill (Steane 1967, 6, 27). The crests themselves seem to have been purely aesthetic in some respects but they could also be functional, as has already been shown. The nine different crest types (I-IX) from the friary not only reflect typological and chronological changes but also what could be different kiln sources.

Once in position, the ridge tiles were mortared astride the tile/slate roof and also to one another. In some cases they were butted up end to end, with mortar between them but they also seem to have overlapped-this is certainly true of one of the Potters Marston-type tiles (Fig 15.2). The tiles probably had quite a long life span as the earliest tiles on the site were still occurring in the destruction levels, phases 9A and 10 especially in Area I. Certainly it is possible to see something of the architectural vicissitudes of the site during its long history and even to link certain tiles with specific buildings.

Since very little work has been done on roofing material found in Leicester this report represents the first attempt to try and classify ridge tile found in Leicester on a chronological and typological basis. Consequently it will be open to reinterpretation and amendment in the light of later research but I hope that it will act as a framework for future work on the subject in the area.

It was decided to study the ridge tile using basically the same criteria as for the pottery, that is on a fabric basis with due consideration being given to crest form and glaze. Initially the tile was visually divided into 36 fabric groups, some of which were subdivided, and then, for the purposes of this report, they were regrouped into three broad categories-Early, Middle, and Late-with approximate date ranges. These three categories were subdivided where the tiles formed distinctive sub-groups on crest forms.

Like the pottery, the tiles are basically all derived from the boulder clays of the Trias which lies in west Leicestershire stretching as far west as the Malverns. These clays contain quartz and ironstone (red and black haematite and magnetite) which form the main surviving inclusions in both the tiles and pottery. Although it was possible to divide the tile into fabric groups, on the nature of the inclusions the main dating criteria proved to be the crest forms and the effects on the glaze and fabric of the advances in kiln technology.

The three main tile categories with their approximate dates are:

Early	*c* 1270- *c* 1300/1325
Middle	*c* 1300/1325- *c* 1400
Late	*c* 1400- *c* 1525

Obviously one should allow for overlap and continuity between these groups. Close dating is difficult because most of the tile comes from the later destruction levels (see Table 1) which contained tiles of all types and periods.

Table I shows how the tiles relate to the phases and Table 2 shows the associated crest types within these phases.

Table 1 Ridge tiles related to fabric groups and phases

Phases		RB/1	1	2A	2B	2C	2D	3A	3B	3B i	3B ii	3C	3D	3E	3F	4A	4B	4C	5A	5B	5C	6A	6B	7A	7B	7C	7D	8A	8B	9A	9B	10A	10B	10C	10D	10E	10F	10G	10H	10J	US + Mod	Total number of tiles	
Phase total		1	24	–	5	–	65	16	53	14	2	15	10	7	27	20	94	4	30	17	–	5	19	57	5	4	3	–	6	182	2	5	7	120	119	25	19	33	11	23	127	1176	
Fabric total		–	2	–	–	–	8	–	–	1	–	–	–	–	5	–	5	1	9	–	–	1	–	11	–	–	–	–	1	52	1	1	5	53	42	5	14	7	–	9	24	257	
Late c1400–c1525																														1				3	1	1?					1(i)	6 + 1?	
	E		1?				3								2				1					3					1	6			1	6+ 2?	3(i)			1		1	5(i)	33 + 2?	E
	D						5			1							3		5					3						20			3	16	10(i)	3	4(i)	2		4	8	87	D
	C														1?		1		2					2						6				2(i)	1(i)			1			1	16 + 1?	C
	B														2				1?			1?		2						6				8(i)	14						3	35 + 2?	B
	A		1?														1(i)	1						1?						13	1	1?	1	17(i)	13(i)	1?	10(i)	3		4	6(i)	70 + 4?	A
Fabric total		–	3	–	–	–	24	–	–	1	–	1	1	2	14	4	31	1	14	17	–	3	4	26	2	1	2	–	1	104	1	3	2	56	53	15	4	12	2	4	47	455	
Middle c1300/25–c1400							3?								(i)		1							3					1	9	1		1	2	2(i)	1		1			2	24 + 3?	
	G																													1				2		2				1	1	7	G
	F																															1				2						3	F
	E																1					1?								29				15(i)	20			1	1		6(i)	73 + 1?	E
	D															1?		1?						1						3			1	2(i)		3	(i)		1		2	13 + 2?	D
	C		1												3		10		6	10		2	1	6	2					9 +9?				14	7	5	2	5		1?	13(a)	96 + 10?	C
	B		1				18			1				2	9	2	10		4	3				10(a)		1	1			15(i)				(i)	6			2		1	7(i)	93	B
	A		1				3					1	1		2	1	9		4	4			3?	6			1?			29		2		21(i)	18(i)	2	2	3(i)	(i)	1	16(a)	126 + 4?	A
Fabric total		1	19	–	5	–	33	16	53	12	2	14	9	5	8	16	58	2	7	–	–	1	15	20	3	3	1	–	4	26	–	1	–	11	24	5	1	14	9	10	56	464	
Early c1270–1300/25			3										(i)				3		1																				1		1	9	
	C	1	2				8	3	3						1		4		1											3				1	2	1		2	1		(2)	33	C
	B		9		3		18(i)	10	33(i)	10	2	9	6(i)	4	4(i)	9	28(2)	1	3				8	12(2)	1	2	1		2	10		1		5	18			5(1)	3	3	34(i)	254	B
	A		5		2		7	3	17	2		5	3	1	3	7(i)	23(i)	1	2			1	7	8(i)	2	1			2	13				5	4	4	1	7(3)	4	7	21(i)	168	A
Phases		RB/1	1	2A	2B	2C	2D	3A	3B	3B i	3B ii	3C	3D	3E	3F	4A	4B	4C	5A	5B	5C	6A	6B	7A	7B	7C	7D	8A	8B	9A	9B	10A	10B	10C	10D	10E	10F	10G	10H	10J	US + Mod	Total 1176	

KEY: Number in brackets () means that part of the tile occurred in an earlier phase
? means possibly that fabric group

Early c 1270–c 1300/1325

The tile from the earliest phase, I, may be residual, predating the earliest friary building or it could be connected with the friary church possibly built at the end of the 13th century (see p 14). Most of the tile derives from two main local kiln sources which were producing both tile and pottery at the end of the 13th century and through into the 14th century.

Early A: Potters Marston and Potters Marston type (pot fabric N)

Fabric: red-orange with grey core. Inclusions, quartzite with black haematite, and a little magnetite, calcite, and mica. Layered appearance when broken.
Glaze: apple to browny-green with some dull whitish tinges, poured along the ridge
Size: 380/403 by 220/175mm (slab size 380/405 by 340/380), 106/120mm (internal) high, 6–8mm thick

Early B: Nuneaton

Three distinctive groups

1. Fabric: cream to pale pink with grey core. Inclusions, iron stained quartz and slate
   Glaze: All-over, mottled cucumber-green
   Size: 500 by 100mm (slab 500 by 400mm), 140mm high, 7–13mm thick
2. Fabric: pale pink/white sometimes reduced to grey/white. Inclusions, red or black haematite and a lot of ironstone and quartz
   Glaze: All-over, pale yellowish-green
   Includes a crest closely dated to *c* 1300 (Mayes forthcoming)
3. Fabric: brown with grey/brown core. Inclusions, a lot of quartz (same as Nuneaton kiln material)
   Glaze: mossy-green with brown specks, poured along the ridge
   Size: 460 by 100mm, 90mm high

Early C

Two distinct groups

1. Fabric: pink. Inclusions, a lot of quartz and ironstone. Soft texture
   Glaze: glossy brown or yellow
2. Fabric: pale pink with grey core
   Glaze: mottled green

Early

Miscellaneous group; early on fabric, but not necessarily in context

Table 2 Ridge crests related to phases

Crest types	I	II	III	IV A	IV B	V	VI	VII	VIII	IX	TOTAL per phase	Phases where Types 1st occur	
RB/1											–		RB/1
I	I	I									2	I, II	I
2A											–		2A
2B		?I				1					1 + ?1	V	2B
2C											–		2C
2D						2 + ?1		1			3 + ?1	VII	2D
3A		I									1		3A
3B		2				1					3		3B
3Bi						1					1		3Bi
3Bii											–		3Bii
3C						?1					?1		3C
3D						1					1		3D
3E											–		3E
3F				2		3					5	IVA	3F
4A											–		4A
4B				1		3		1			5		4B
4C										1	1	IX	4C
5A											–		5A
5B						2					2		5B
5C											–		5C
6A											–		6A
6B		1 + ?1						1			2 + ?1		6B
7A						3	1				4	VI	7A
7B											–		7B
7C											–		7C
7D											–		7D
8A											–		8A
8B											–		8B
9A		1				5 + ?2	9 + ?3	3	1		19 + ?5	VIII	9A
9B											–		9B
10A						?1	1				1 + ?1		10A
10B								1			1		10B
10C	1			1 see VIII 1	2	3	5 + ?1	1	I see IV		14 + ?1	IV B	10C
10D	2 + ?1			1		3	11 + ?1 ← 1 →				18 + ?2		10D
10E				1 see VIII 1		1	2 ← 1 →		I see IV		7		10E
10F				2 see VIII			1		2 see IV		3		10F
10G		1	1		1	2	1				6	III	10G
10H				1			2				3		10H
10J											–		10J
US + MOD				2 ← 1 → 1 See VIII		3	3 + ?1 ← 1 →	4	1 see IV	1	16 + ?1		MOD+ U/S
Crest types	I	II	III	A IV	B IV	V	VI	VII	VIII	IX	Total per phase		

? means possibly that crest type
← → means either one or the other crest type

Summary

Table 1 shows the wide distribution of these tiles and indicates some concentrations associated with the construction of the L-shaped building, the prior's lodging, the cloister wall W1, wall W2 (phases 3A, 3B, 4A, 6B), and the construction and fill of the main drain (phases 2D and 7A). Additionally there are concentrations in the later destruction deposits (phases 9A and 10).

Middle *c* 1300/1325–*c* 1400

This basically 14th century group has been divided into eight subgroups on the nature of the fabric, glaze, crest types, and certain other characteristics. The first two subgroups A and B seem to be Nuneaton kiln products of the first half of the 14th century onwards; C is probably of the same date but not recognizable as a Nuneaton product; D, E, F, and G are possibly mid to second half of the 14th century onwards and as yet their kiln source is not known.

Middle A

A possible development of Early B

Fabric: white/cream white/grey white/pink. Inclusions, quartz. Fairly hardfired

Glaze: green, speckled yellow. Green at edges, poured along ridge

Middle B

Similar to Early B and C and Middle A

Fabric orangey-pink, pink/white. Inclusions, a lot of red haematite, quartz, and quartzite
Glaze: browny-orange, browny-green. Smooth, poured along ridge
Size: 440 by 100mm (slab 440 by 200mm), 125mm high, 6-8mm thick

Middle C

Fabric: cream/pale pink and cream with a cream/pale orange surface colour. Inclusions, a lot of quartz and red haematite. Hardfired
Glaze: green to purple, splashed and sparse, along ridge. Has a distinctive combed surface, with the grooves following the curve of the tile, running parallel to the edges

Middle D

Fabric: pink and white with a pink/pale orange surface. Inclusions, some quartz and a little red haematite. Hardfired
Glaze: bright yellow, purple, browny-green or pale green

Middle E

Possibly from a kiln in the Tamworth area

Fabric: grey/cream/pink, with a pale orange and pink surface. Inclusions, quartz and some green triassic marl. Coarse textured
Glaze: patchy apple-green and orange, splashed along the top

Middle F (small subgroup)

Fabric: red with white slip trails
Glaze: poured, brown

Middle G (small subgroup)

Fabric: pale orange. Inclusions, cream coloured triassic marl, quartz, and a little red haematite
Glaze: orange to brown

Middle

Miscellaneous; includes two distinctive tiles, one with a Type IV A crest, with an grangey-red fabric with a grey core, a soft and sandy texture, and a purple-brown glaze

Summary

Few of these tiles can be associated with particular buildings; most are associated with build-up layers and ditch and drain deposits.

Middle A, B, and C date from c 1300 onwards with the majority occurring in ditch fill phases 2D and 3F (14th century), and in phases 5A, 5B, 4B, and the later destruction levels (phases 9A and l0), where they are joined more noticeably by the remaining subgroups.

Late *c* 1400- *c* 1525

This group is divided into six subgroups. A, B, and C seem to be the earliest groups (first half of the 15th century onwards) and D is later (second half of the 15th century and early 16th century) and is best described as Midland Purple type. Late E is similar to D. The fabrics are harder-fired.

Late A

Fabric: pale orange with a grey core, cream to reddish orange surface. Inclusions, black haematite and quartz
Glaze: splashed or brushed, green to purple
Size: 400/440 by 180/200mm, 1l0mm high

Ledged ends and sides are very characteristic.

Late B (pot fabric P (xviii) and identical to a large cistern dated as 1400 +)

Fabric: orange. Inclusions, red haematite and quartz
Glaze: glossy treacle brown, poured along ridge

Lute C

Similar to Middle A but hardfired

Fabric: dark grey with pale orange or grey surface. Inclusions, quartz and black haematite. Smooth texture
Glaze: dark green and purple, poured along ridge

Late D (pot fabrics P (xix), P(xx), P(xxi), P(xxii))

Fabric: Midland Purple type-grey, purple, purple-brown. Inclusions, quartz and black haematite
Glaze: dark green and purple, sparse and splashily applied

One tile has combed wavy decoration (see Fig 17.18)

Late E

Similar to Late D

Fabric: multicoloured sandwich-pink, brown, grey, with a grey surface. Hardfired

Decorated with two combed flowing lines

Late

Miscellaneous

Summary

Most are from the later destruction layers (phases 9A and 10). Late tile in 2D, 3F, and 5A must be intrusive, having sunk due to the unstable conditions in the ditch and drain. There is little late tile in the build-up layers of the cloister garth (phase 4b); this may simply mean that the bulk of the later tile was thrown into the north ditch and south drain. However, it could also be argued that the later building activity was taking place in the north and south of the site. Certainly the late 15th and early 16th century tile indicates that the buildings were being maintained during this period.

Ridge crest typology (see Tables 2 and 3)

The crest typology I-IX is as far as possible in chronological order. The names given to the crests are my own descriptions, apart from Types II, V, and VII. The conventions used in the illustrations are as for the pottery.

Type I Ram's horn

Early B-five, possibly six, examples (Fig 15.1)
Shape: a single, central crest/finial, with pronounced finger indentations and two curled 'horns' projecting outwards then curving back onto the mound. One horn has three small, decorative knife-cuts forming a swan-like face and neck.
Size: 100mm long, 40mm high at centre, 55mm at peak, 70 by 40mm wide at base.

It could be a late 13th century Nuneaton product which precedes the Nuneaton type looped crests (Friary Type V).

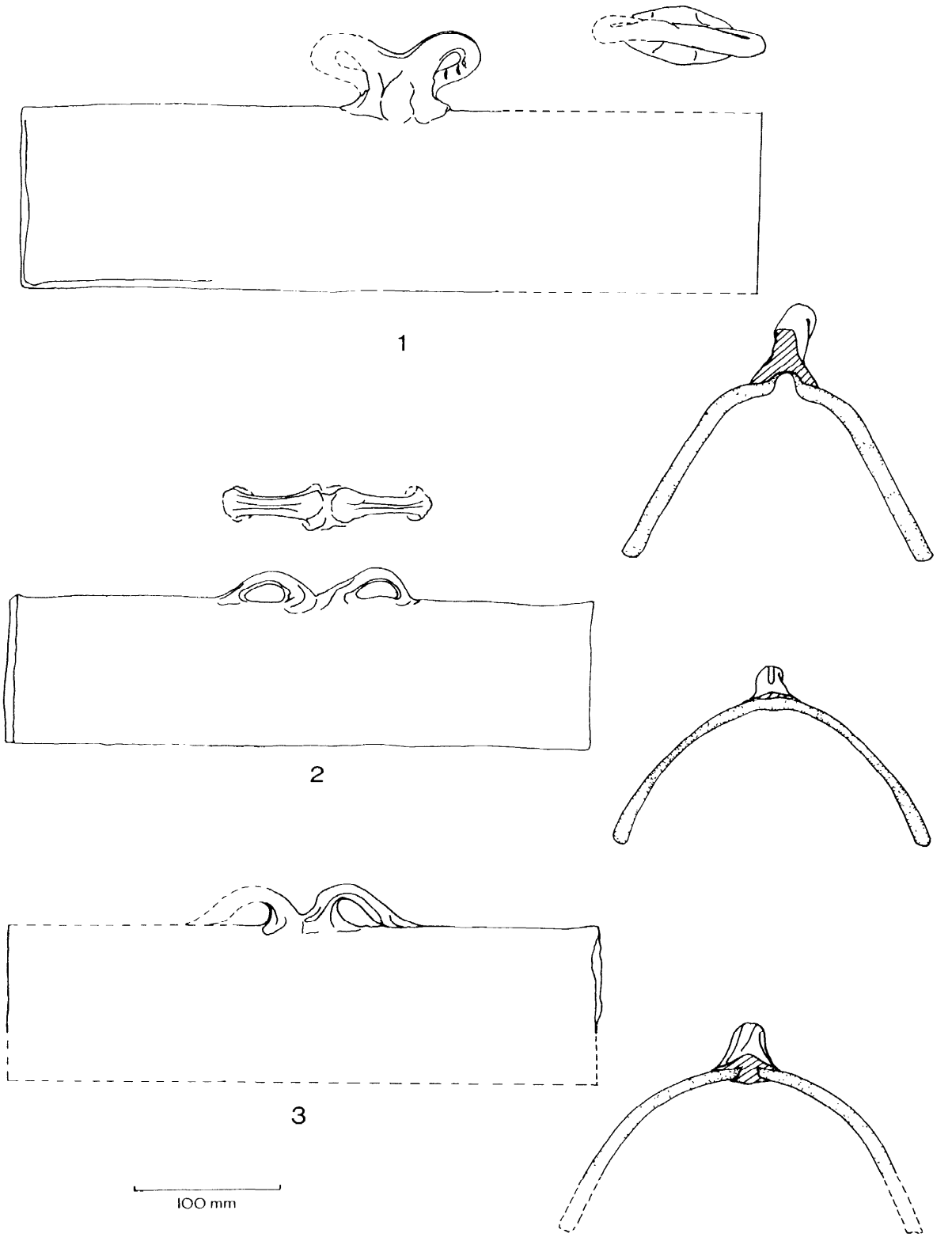

Fig 15 Ridge tile, 1-3. Scale 1:4

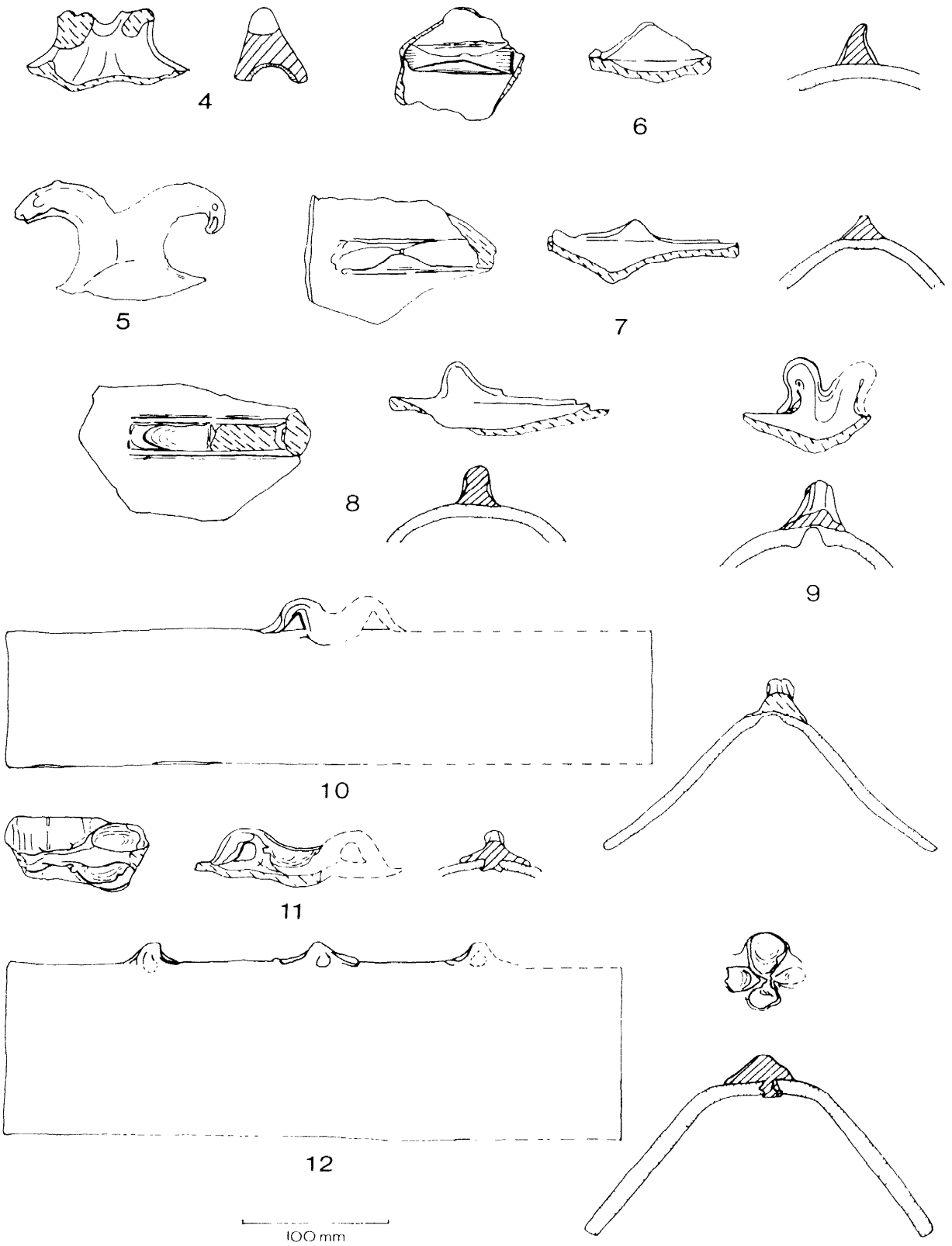

Fig 16 Rigde tile, 4 12 Scale 1:4

Type II Looped-handle

Early A--seven, possibly nine, examples (Fig 15.2)
Shape: a pair of centrally placed handles (although one Leicester example has a series of loops)
Size: 60 130mm long, 25 - 30mm high

Early A-one example (Fig 15.3) which links crest Types II and V
Shape: two central looped handles
Size: approximately 150mm long, 30mm high.

These would seem to be the Potters Marston products of the late 13th and early 14th centuries, both preceding and contemporary with the Nuneaton looped crests (V).

Type III Double-horn

Early A-one example (Fig 16.4)
Shape: large central mound with the bases of two 'horns' springing from it (similar to Type I)
Size: 100mm long, 15mm high at centre, 40mm maximum height, 35mm wide

There arc two good parallels in the same fabric and glaze, both from Abbey Meadow, Leicester (Fig 16.5, Leicestershire Museums Acc No 1333A-1887). This zoomorphic crest/finial with a serpent's head and the head and beak of a bird of prey suggests that the friary example may also have been zoomorphic. They may be the product of a workshop at the end of the 13th/beginning of the 14th century.

Type IV Pyramid/cockscomb

These cover a wide range in date and fabric. They are made by putting a long strip of clay along the ridge and then cutting it into triangular segments.

There are two types:

IV A. Equilateral triangle

Early A-six examples, Middle E-one, Late D-one, Late E-two

Early A example (Fig 16.6)-Size: 72mm long, 30mm high, 23mm wide with peaks 70mm apart

Late D example (Fig 16.7)-Size: 55mm long, 10mm high, 17mm wide, peaks over 70mm apart

This squat form occurs in an early 16th century context at Nuneaton.

IV B. Right-angle triangle

Early A-three examples (Fig 16.8)

Evidence suggests that these formed terminal crests-they did not extend all the way along the ridge, and they may have been associated with Type IV A.

These may originate from the South Midlands dating from the late 13th century and going through to the 15th century (Jope 1951, 86; Steane 1967, 29; Dunning 1975, 86 103). The friary examples in Early A imply a late 13th/early 14th century origin in Leicestershire, continuing through to the early 16th century (late A, D, and E) in a shape, but not a fabric, similar to the Nuneaton products.

Type V Looped

They appear in a great variety of fabrics (see Table 3). Thirty-five, possibly thirty-nine, examples

Shape: central clay mound with a pair of curved loops resembling swans' necks springing from it onto the tile roof.

These originate from Nuneaton where a looped crest typology has been devised (Mayes forthcoming). The loops are close and tight *c* 1300 and then by *c* 1340 they start to open out so that by the latter part of the 14th century they are flat and elongated. During the 14th century these crests seem to be a standard Midland form being found elsewhere in Leicester and Leicestershire. This typology has enabled this group to be further subdivided.

Early B-five examples (Fig 16.9)

Shape: high and tightly closed loop, presumably placed centrally on the tile. Has a sharply dipped central mound with fingersmears on either side
Size: approximately 65mm long, 25mm high

A Nuneaton product dated to *c* 1300

Early B-one example (Fig 16.10)
Shape: open loop
Size: approximately 100mm long, 30mm high

A Nuneaton product

Early B-five examples
Shape: the crests have characteristic deep forefinger and thumbsmears

These are similar to the *c* 1340 Nuneaton crests, Three of them, including a side vented ridge tile (Fig 17.19), are from the top fill of a ditch (phase 3F).

There are no good examples of the late 14th century Nuneaton type, although there are two possible examples (phase 9A).

Tables 2 and 3 show how these crests relate to both Early B and Middle A, B, and C groups and to the ditch and drain fills (phases 2D, 3F, 7A). They seem to be characteristic of the late 14th century building activity.

There is one unusual crest-Middle B (Fig 16.11).
Shape: has a broad circular smear on both sides of the central mound and an angular open loop. Not a recognizable Nuneaton characteristic
Size: 120mm long, 25mm high, 60mm wide

Type VI Pinnacle

These appear in a variety of shapes and fabric. They are very similar to Type VII but have fingersmears resembling petals around their bases. A typology appears when they are linked with their fabric groups.

Early A-one example
Shape: pinnacle with at least four fingersmears
Size: 37mm long, 32mm high

Early B-one possible example

Middle E-thirteen, possibly sixteen, examples
Shape: distinctly pointed with at least three or four fingersmears
Size: 30mm average height, at least two, possibly four, crests per tile

Middle F-three examples
Shape: pinnacle with four fingersmears
Size: 25mm high

Middle G-three examples
Shape: pinnacle with four fingersmears
Size: 25mm high

Table 3 Ridge crests related to fabric groups

CRESTS		I	II	III	IV A	IV B	V	VI	VII	VIII	IX	Total
Totals		5 + ?1	7 + ?2	1	9 + ?6	3	35 + ?4	35 + ?6	12 + ?3	3 + ?5	1	111
Late c1400–c1525						1						1
	E				2				1			3+ ?1
	D				1			6	1	1		9 +?1
	C						1	1				2
	B						1	4 + ?1	1			6+ ?1
	A				2 see VIII		1	6 + ?1	4 + ?2	1 2 See IV		14 +?3
Middle c1300/25–c1400						1	2					3
	G							3				3
	F							1				1
	E				1			13 + ?3				14+ ?4
	D				3 See VIII				1	3 See IV	1 See M.A.	4+ ?2
	C						5		1			6
	B						8 + ?2					8+ ?2
	A						7 + ?2		2 + ?1		1 See M.D.	9+ ?4
Early c1270–1300/25												=
	C						1					1
	B	5 + ?1					8	?1			1	14+ ?2
	A		7 + ?2	1	5	1	1	1				17 +?2
Crest types		I Ram's horn	II Looped handle	III Double horn	A IV B Pyramid		V Looped	VI Pinnacle	VII Spike knob	VIII Serpentine	IX Domed knob	

? = possible crest type. Not included are crests which could be V/VI and VI/VII

Late A—six, possibly seven, examples (Fig 16.12)
Shape: smaller and squatter pinnacles with four fingersmears
Size: 20-25mm average height, three to a tile
One example has just a single, central pinnacle.

Late B—four, possibly five, examples
Shape: small pointed crests with four to six fingersmears
Size: 20mm average height, three to four crests per tile

Late C—one example. Only a trace of this crest, which could be a Type VI.

Late D—six examples
Shape: small and pointed, four to five fingersmears
Size: 20mm high; one tile has two crests, 120mm apart

Summary

These crests cover a period from *c* 1300 to *c* 1500. They seem to complement looped crests by occurring in different fabric groups and generally in a later period. One example in Early A implies they were produced at Potters Marston and at Nuneaton they have been found in a late 14th century context at Harefield Lane, (Mayes forthcoming). At Griff Manor House, Warwickshire (West 1968, 87, 89) they are found with looped crests and are attributed to Chilvers Coton in the 14th century. They are also found elsewhere in Leicestershire, with a large group, similar to Middle E, from St John's Church, Enderby.

They first appear in a post 1400 context at the friary (phase 7A) but the majority appear in the late destruction levels (phases 9A and 10). It could be argued that these forms replaced the Nuneaton type looped crests during the 15th century and may also reflect a new kiln source.

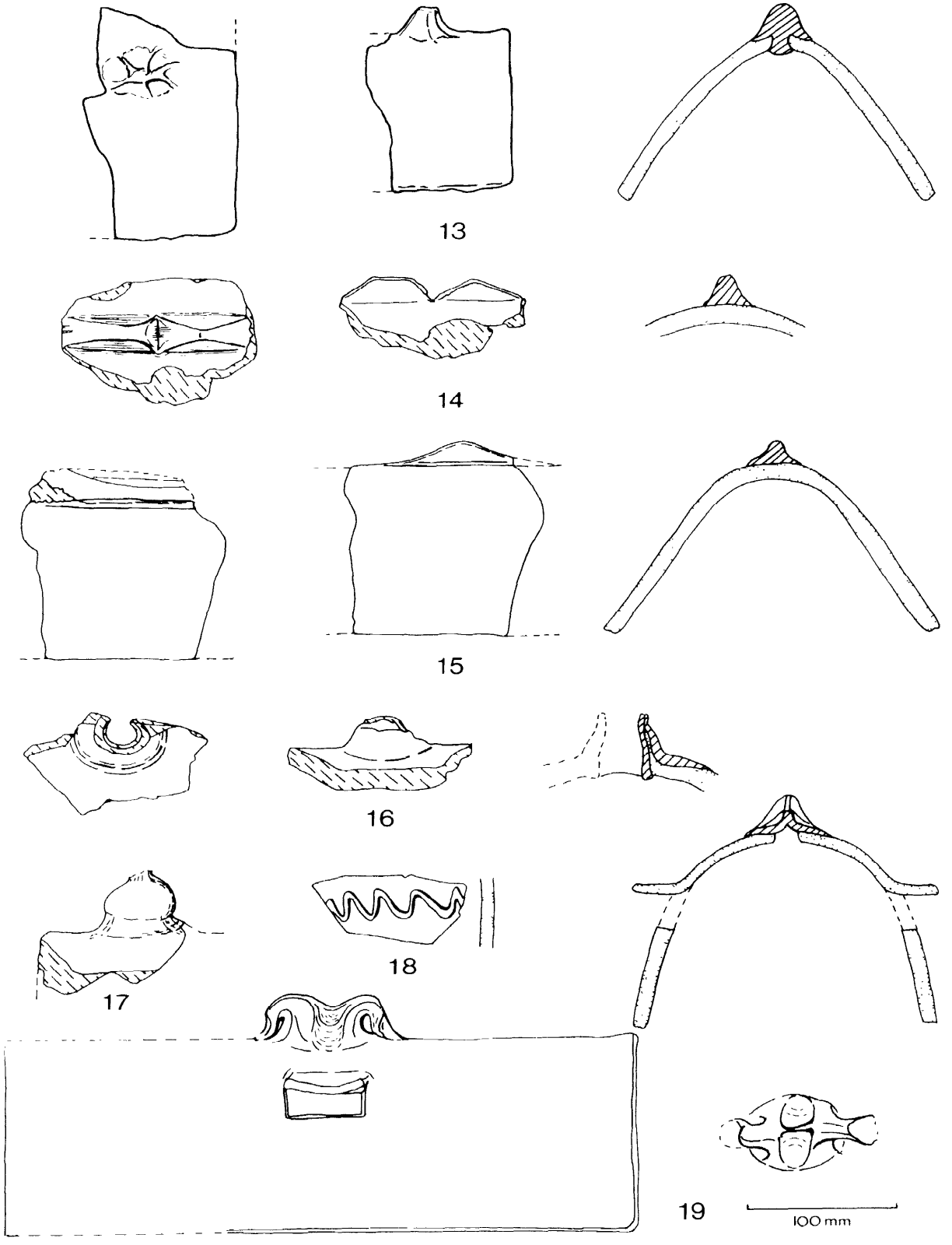

Fig 17 Ridge tile, 13 19, Scale 1:4

Table 4 Louvers and side-vented ridge tiles related to phases and fabric groups

Phases		RB/1	1	2A	2B	2C	2D	3A	3B	3B	3B	3C	3D	3E	3F	4A	4B	4C	5A	5B	5C	6A	6B	7A	7B	7C	7D	8A	8B	9A	9B	10A	10B	10C	10D	10E	10F	10G	10H	10J	US/Mod	Total numbers	
Phase		–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	1	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	Vents
Totals		–	–	–	–	–	–	–	2	–	–	–	1	–	–	1	4	–	3	1	1	–	1	1	–	–	–	–	–	2	–	–	–	–	3	–	1	1	–	2	3	27	Louvers
Middle c1300/25–c1400																																										–	
	G																																									–	
	F																																									–	
	E																		?1		1																1					1 + ?3	
	D												1																													–	
	C																1			1	or																	1	1		4 + ?2	
	B						VENT								VENT	1	VENT		1		1			VENT										1							2 + ?3	4 vents
	A																																									–	
Early c1270–c1300/25																																											
	C																																									–	
	B								2								3						1							1											3	10	
	A																		1					1						?1					?1					1		3 + ?2	
Phases		RB/1	1	2A	2B	2C	2D	3A	3B	3B	3B	3C	3D	3E	3F	4A	4B	4C	5A	5B	5C	6A	6B	7A	7B	7C	7D	8A	8B	9A	9B	10A	10B	10C	10D	10E	10F	10G	10H	10J	US/Mod	27	4
																																										Louvers	Vents

? means possible fabric group

Type VII Spiked knob

Various fabrics (see Table 3)—twelve, possibly fifteen, examples (Fig 17.13)

Shape: a rounded knob (the spike refers to the dowel peg)

Size: varies from 40mm (Middle A) to 25mm (Late A and D). Three to four crests per tile

These have been described as a characteristic late medieval Midland Purple form (Moorhouse 1971–2, 34–5), but here they occur in earlier fabrics and contexts which predate the late 15th century, and thus show a wide date range from *c* 1300 to *c* 1500.

Type VIII Serpentine

Made in the same way as Type IV crests, and some of these, which survive only as long unglazed strips (25mm wide), could be Type IV. These are from the north range.

Various fabrics—three, possibly eight, examples (Fig 17.14)

Shape: curved segments (as opposed to the serrated Type IV) with three faces

Size: 60mm long, 20mm high, 25mm wide, 60mm apart

Late D—one example (Fig 17.15) of the late form of this crest

Shape: has a flowing sinuous profile

Size: 120mm long, 15mm high, 8mm wide at top, 25mm at bottom. Crests further apart

These crests from the later destruction layers appear to be a form characteristic of the latter half of the 14th century onwards.

Type IX Domed knob

Middle A/D—one, possibly two, examples (Fig 17.16)

Shape: domed knob

Size: 28mm high

There is a parallel (Fig 17.17) from the same place as the Type III parallel (Abbey Meadow—Leicestershire Museum Acc No 1333B. 1887) and also in the same fabric and glaze.

Shape: globular knob, with a possibly pointed or rounded projection, which has fallen off

Size: 48mm high, 45mm diameter.

Knob finials are found in the East Midlands and East Anglia. This type is one of the two forms used as finials on the Great Easton Louver (Dunning 1966, 80).

Side-vented ridge tile (see Table 4)

There is already one example of side-vented ridge tile in Leicestershire, from Donington-le-Heath dated to *c* 1280 and identified as a Potters Marston product, although this is questionable. Others have been found at Lincoln, King's Lynn, and Warmington (Warwickshire). It has been suggested that they were derived from the canopied apertures of the louvers found in the Midlands and southern and eastern England and were dated from *c* 1280 to the late 14th/early 15th centuries (Dunning 1971–2, 37–41). The purpose of these tiles was presumably to increase air ventilation and the hoods helped to deflect the rain away from the apertures.

There are four examples, all Middle B, of which one is virtually complete (Fig 17.19). This tile consists of a central looped crest (Type V) above a pair of knife-cut side vents. The hooded vents were made by cutting out three sides of a rectangle and turning the flap upwards. The hood is 55mm wide and projects 30mm. The tile was from phase 4B (the cloister midden) deposited either during construction or destruction between walls W24 (phase 4A) and W25 (phase 8A).

The date range is within the 14th century and the kiln source could be Nuneaton. One tile was broken along its side prior to firing, but the break was patched with clay. Obviously these tiles were considered worth repairing, and it is the only example of a repaired tile on the site.

Louvers/ventilators (see Table 4)

A maximum of 27 roof structures were found, which are perhaps best interpreted as pottery louvers or ventilators dating from the late 13th into the 14th centuries. The majority survive as small fragments from which it is virtually impossible to reconstruct the originals, although where enough evidence has survived this has been attempted.

The archaeological evidence for earthenware louvers throughout the country indicates a date range of *c* 1250- *c* 1425 (Dunning 1971 2, 34). References in 13th century royal accounts to 'fumerium', 'fumerellum', 'fumatorium', and 'louvaria' begin just before 1250 so taken together the archaeological and historical evidence implies a mid 13th century origin. Louvers could be made of wood, as in the kitchen at Leicester Castle (Fox 1944, 19). There is also a reference to a louver cord costing 3d in the building accounts of 1377- 8 *(ibid).* The surviving friary examples, though, are all earthenware and seem to have been used purely for air ventilation as opposed to being used over a central hearth to allow smoke to escape. Only one example (Fig 18.22) has evidence of possible smoke fumes although the others may never have been used as they could have broken before being put in position. However, as there may have been only one specific warming-room this lack of smoke staining is perhaps to be expected.

These fragments from the friary may represent only small parts of much larger structures such as the Great Easton louver. They may have resembled the four earthenware pots ('ollis luteis') intended for the smoke-vent/louver ('fumerell') of the barn at Hadleigh in Essex in 1363 (Salzman 1952, 220; Dunning 1966, 80). These, however, could be interpreted as chimney pots. On the friary evidence it seems that the louvers were connected purely with air ventilation rather than specifically as smoke-vents from a fire.

The louvers can be subdivided into two types (Dunning 1971 2, 346):

1. A separate structure firted into a circular hole in a platform on the roof: Type specimen-Great Easton, Essex
2. A louver attached to the top and sides of a ridge tile. Type specimen-Goosegte, Nottingham

Both types 1 and 2 have variously shaped apertures arranged in zones and usually with canopies across the tops and even down the sides. The Midlands has produced the majority of known louvers mainly from cities, towns, ports, manor houses, and monastic sites. Type 1 is more frequent and the friary louvers would appear to tall into this category.

Although some of the louvers are too fragmentary to illustrate, they have been accounted for in the following discussion. It must also be emphasized that the illustrated louvers are reconstructed in the light of other excavated material but arc obviously open to other reinterpretation.

Group 1

Early B (cream fabric, pale yellow-green glaze). Ten examples; none smoke stained.

These are Nuncaton products dated to the late 13th/early 14th centuries. The largest surviving example (Fig 18.20) was dated to *c* 1250/l300, and reconstructed using the Nottingham example (Rackham 1972, pl 14). It is made up of two separate parts, the cylindrical wheelthrown neck with everted rim and basal flanges (to attach the body) with, just below the rim, an upward pointing 'perch' (smeared onto the neck) with five deep knife-cut slashes, similar to those found on the Nuneaton jug handles. The 'perch' Dossibly facilitates the lifting of the louver, but it could also be a useful perch for the local bird population. There are two other examples of a 'perch', one with four slashes also from the same tile group (phase 3B) and one in Early A (phase 7A).

Size: neck 127mm high, elliptical mouth 117 by 123mm narrowing to 110 by 115mm across the base. 'Perch' 50mm long.

The louver body was joined to the neck by rough smearing. It was presumably globular shaped, slab built, and decorated. on the shoulders at least. with thumb-impressed applied clay strips which accentuated the knife-cut pair of triangular apertures, which were evident on one side only.

Size: diameter 300mm, aperture 75 by 45mm.

Presumably, at the base, the body joined a neck similar to that at the top, by which it was inserted through a hole in a platform on the roof. However this may only be part of a much larger structure such as the Great Easton louver (Dunning 1966, pl II) and it may have revolved.

They are mainly from phases 3B, 4B, 6B and could be associated with some of the early 14th century buildings on the west side of the site.

Group 2

Middle B and C. Eight, possibly nine, examples

Middle B
Include the remains of a canopy or hood, and leg of a zoomorphic finial to a louver or ridge tile

Middle C
Have distinctive splashed bottle green and yellow-orange glaze

The best surviving example (Fig 18.21-conjectural drawing) is from Middle B/C (phase 4A). Unique to this group are the cut-outs on the neck, one 90º to the rim, the other 90º the base. This suggests either a long straight vent in the neck, or small cut-outs which may have channelled the air so as to cause the louver to spin. or created a suitable updraught (Dunning 1961, 82, fig 5.4). These are paralleled in London chimney pots, where small cut-outs promote updraught (ibid, 85). On the surviving fragment of shoulder is evidence of a thumb-impressed strip around the aperture, with a straight knife-cut edge indicating another aperture.

Size: mouth diameter 220mm (larger than group 1)

Thus the louvers from Groups 1 and 2 have many similarities: the wheelthrown neck with basal flanges, the two separate components, the applied thumb-impressed strips, the knife-cut apertures, and a similar dare range.

Group 3

Possibly Early A-two examples (late 13th/early 14th centuries)

One example (Fig 18.22) from the north range is the only louver blackened by smoke and thus associated with a fire or hearth. only a fragment has survived of what must have been a structure resembling a gabled house. There is a close parallel to this, with the same glaze and fabric, from an excavation in the heart of medieval Leicester (Leicestershire Museum Act No 302 1971, forthcoming). It consists of a house made from sanded clay slabs with a pitched roof' and a cow's- or bull's-head finial at each of the gable ends and supported on legs which would have stood astride the roof ridge. Circular apertures in the roof and walls allowed the smoke to escape.

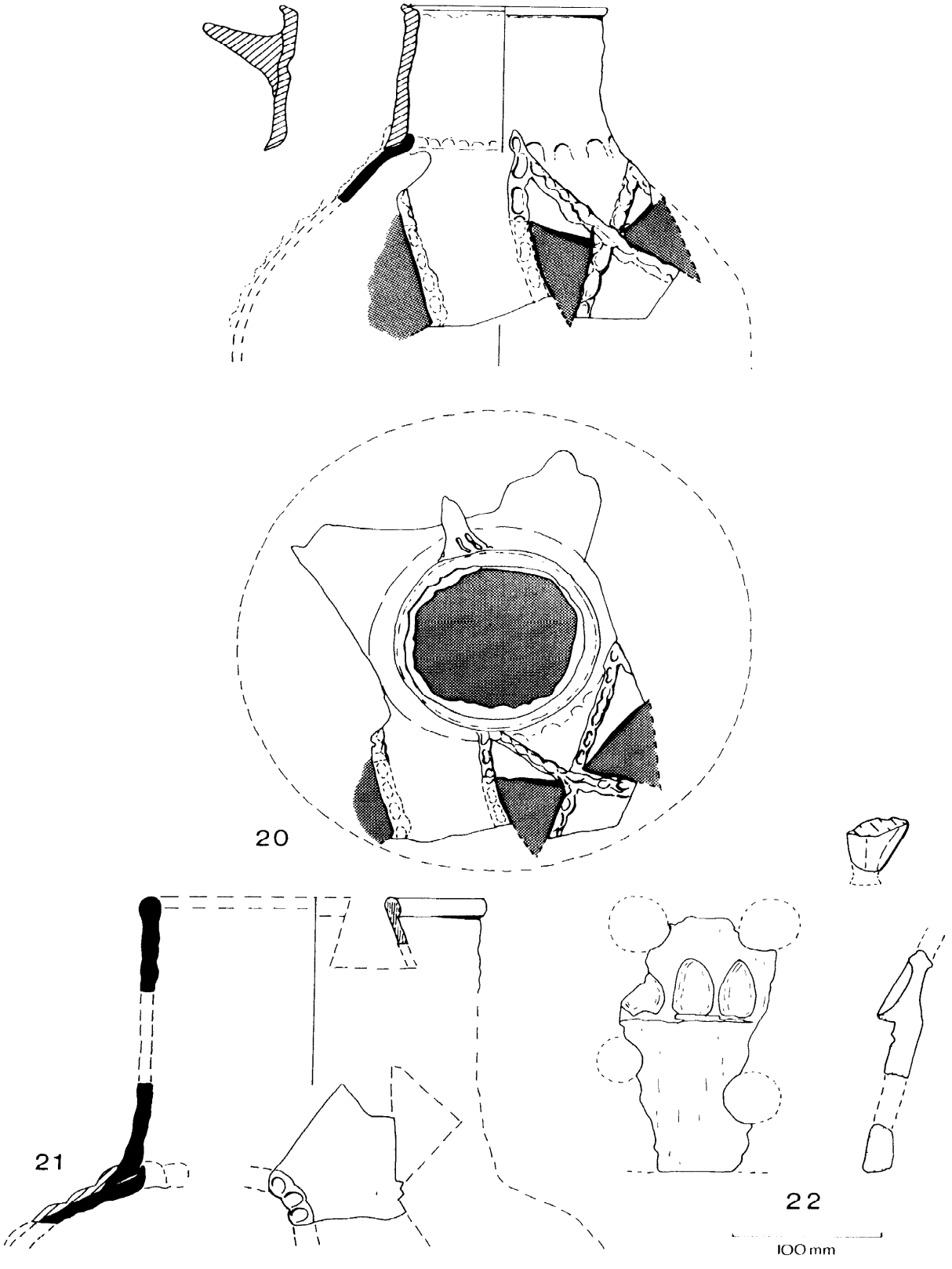

Fig 18 Louvers, 20-22. Scale 1:4

Group 4
Early A (Potters Marston-late 13th/early 14th centuries). Three examples.

These are only very fragmentary survivals. There is a perch 60mm long (phase 7A) and a fragment that resembles a curved horn (phase 5A) which is associated with other fragments that have evidence of an aperture. The third example (phase 10J) is possibly a zoomorphic roof structure or a structure resembling a house.

Group 5
Miscellaneous. Middle D and E. These are too fragmentary to identify properly.

These then were some of the structure and ridge tiles which surmounted the friary roofs over a period of 250 years. They reflect part of the site's architectural history and show the regional changes and developments taking place in the manufacture of roof furniture.

Roofing tiles and slates

Nibbed clay roofing tiles and pierced Swithland slates are the two materials which survive to indicate how the friary was roofed in conjunction with the glazed ridge tiles. Wooden shingles could also have been used and although these have not survived, all three roofing materials are mentioned in 14th century building accounts relating to important buildings in Leicester such as the Castle, Guildhall, and the Town gates.

Roofing slate was found all over the site at all stages of its history but there is a marked concentration of roofing tile from the Area VI destruction levels (10J and 10H) which contrasts with the rest of the site which produced fragments of 14 tiles as opposed to 246 from Area VI (see Table 5).

Roof tile

Figure 19.23 25

Roof tiles are first mentioned in London Building Regulations of 1212 when along with shingles, boards, lead, or plastered straw they are advocated for roofing in place of thatch or straw which was a fire risk (Salzman 1952, 223). They are often referred to as 'thaktyle' or 'plane' (ie flat) tile and are mentioned in 13th century contexts. There is a reference in 1247 to 'Roberti le Teler' in the Leicester Borough Records *(RBL* 1, 63).

Tiles themselves, though, first appear in the Castle building accounts of 1313- 14 for the repairing and covering of the long chamber and kitchen which included '600 laths, 900 laths made from the lord's timber, with 1700 tiles, 20 nails, and 20 qrs of lime bought for the same . . .' (Fox 1944, 13). In 1377-8 the old tiles were holed and repaired by contract by John of London for 1s 5½d. The same man holed and repaired slates for 1s 9d (ibid, 19). It is not until the later 14th century that tiles first appear in the Borough Records when in 1357-8 1s 6d was given to William Slater for tiling ('tegulant') the same hall (ie the Guildhall) *(RBL* 2, 109). This, along with the earlier reference to John of London, may imply that tiling and slating were interchangeable crafts. In 1365-6 when the West Bridge was repaired the expenses included '7s 3d both in 60 laths bought, 160 nails for the same, pins bought for tiles, and also for carrying tiles from the hall of the community together with wages for divers tilers roofing (co-operient) the chamber on the said bridge' *(RBL* 2, 140). From the documentary evidence, then, it would seem that tiles were only being used on some of the more important buildings in Leicester from the 14th century onwards.

Archaeological evidence from tile-kilns at Meaux in Yorkshire (Eames 196l), Danbury in Essex (Drury & Pratt 1975), and Boston in Lincolnshire (Mayes 1965) shows that roof tiles were being produced from the late 13th century, during the 14th century, and certainly into the early 15th century at Meaux. Excavations at Bordesley Abbey have also produced roof tiles in a late 12th and early 13th century context (Rahtz & Hirst 1976). Apparently some of the tiles are similar in fabric to the Nottingham floor tiles and therefore could be Nottingham products.

The majority of the tiles from the site are fragmentary but it has been possible to reconstruct two complete tiles from the east range of the main cloister (see Fig 19.23). The two tiles measure 290mm long by 180mm wide and 305mm long by 170mm wide. An average thickness for the tiles is 12- 15mm although 17mm also occurs, and the width is always within 170-80mm. Probably the tiles were manufactured to a fairly standard size. An Act of 1477 regulating manufacturing processes and sizes for tiles states that roof tiles should be 10½" by 6¼" (266 by 158mm) with at least ⅝"(16mm) thickness (Salzman 1952, 230), which is shorter and narrower than the friary tiles which are earlier in date. However, the friary examples compare favourably in size with the tiles from Boston (300mm by 203mm by 12mm), from Danbury (*c* 270mm by 150-75mm by 12- 15mm), and some of the tiles from Bordesley Abbey.

The nibs, where they survive, lie at the top centre of the tile, their centre lying 85mm from the right tile edge. They measure on average 25-30mm wide (maximum 40mm) and project from the back of the tile for 25-30mm (maximum 33mm). There are no pegholes on any of the tiles and in this they are similar to Bordesley Abbey Type 3A (Rahtz & Hirst 1976, fig 34) and to the Meaux tiles (Eames 1961, pl XXVB).

The tiles would be made in a sanded rectangular wooden mould-hence the one sanded surface and edges-and smoothed lengthways with a wooden tool to remove any excess clay. The grooves left by this paring process are shown on the illustration. The nibs are an integral part of the tile and were not applied. This seems true of all roof tile and the Boston report suggests that there must have been a small projection in the top side of the mould to allow for extra clay which would, in the case of the friary tiles, be pushed down with the thumb, pulled up and out, and smeared down onto the tile on either side of the projecting nib. This nib would then be the sole means by which the overlapping tiles were hung from the laths and this would also mean that the sanded surface was outside exposed to the elements. There are several reasons why the tiles had to be hung in this way.

One is connected with the actual process of manufacture. There was perhaps no alternative more efficient method of moulding tiles than in an open sanded box which meant that the nib could only be pulled out on the smooth side. When the tiles were laid out to dry-and this must have been on the ground as one tile bears the paw marks of a cat and another of a pig or goat (Fig 19.24,25)-the flat sanded surface would naturally be laid flat on the ground as opposed to the nibbed side. Other tiles with animal footprints are known from Bordesley Abbey (Rahtz & Hirst 1976, fig 33.2) and Danbury (Drury & Pratt 1975, 138). However, if the tiles had been holed for pegging the smooth side would have been on the outside. Perhaps the sanded surface was thought to be more weatherproof although a smooth surface would presumably be preferable to allow water to run off the roof.

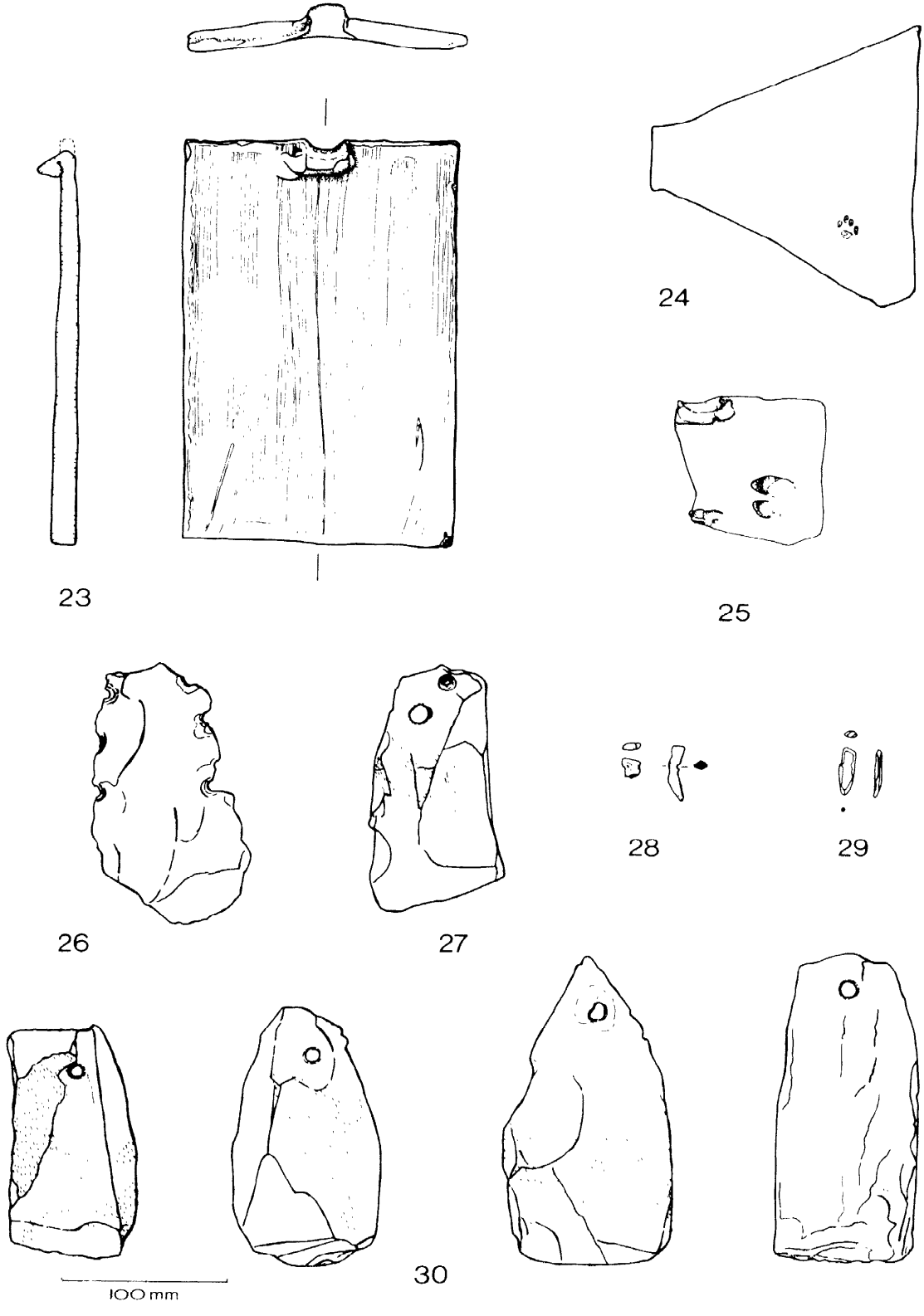

Fig 19 Roofing tile slate, 23 30. Scale 1:4

Several of the tiles had the remains of lime plaster on the lower 30mm of their smooth surface, which must mean that certain of the tiles were rendered more weatherproof and secure where they overlapped by filling the gap with plaster. This is true for the slates and is known as 'torching' (see below). Sometimes tiles and slates were bedded on moss and sometimes all pointed or rendered with mortar (Salzman 1952, 233).

The tiles vary in colour from a pale orange to a brick orange. The fabric also varies from a fairly fine clay fabric to a coarser fabric because of the large inclusions. These inclusions have been identified as apparently coming from the same source and are *c* 95% quartz (sub-rounded and sub-angular grains), haematite, rare feldspar fragments, charcoal dust, and two or three fragments of possibly Danehills sandstone which is interesting as this is local, lying on the western edge of Leicester. None of the tile is glazed apart from one example from Area Iv which has a trickle of browny-green on both sides at if if has run off a glazed floor or ridge tile. This was the same for tile at Boston but at Danbury the tiles may have been deliberately glazed.

Table 5 Roofing tiles related to phases and areas

Phases (where tile found)	*Areas*						*Tiles per phase*	*Phases*
	I	*II*	*III*	*IV*	*V*	*VI*		
3C						1	1	3 C
4B	1						1	4 B
7D						1	1	7 D
8B				1			1	8B
9 A		1					1	9A
10C		7					7	10C
10D		1					1	10D
10E				1			1	10E
10H						139	139	10H
10J						76	76	10J
Unstratified		2				29	31	Unstratified
Tiles per area	1	11		2		246	260	*Total no of tiles*

Roofing slate

Figure 19.26-30, Figure 20.30

Local Swithland slate seems to have been the main roofing material used at the friary surviving in fairly large quantities (714 slates) from all over the site throughout its history (see Table 6). Not only was it a natural resource locally but it was also probably cheaper than roof-tile comparing prices per thousand. The Romans certainly quarried Swithland slate to roof buildings over a wide area of the Midlands, but Roman roof-slates are characteristically diamond-shaped as opposed to the graded slates of medieval and later Georgian Swithland slate roofs.

The natural origin of Swithland slate lies six miles north-east of Leicester in the Charnwood area where slate was last quarried at the end of the 19th century. Building accounts in the Borough Records and for Leicester Castle show that slate was certainly being used to roof major buildings in Leicester in the 1300s. Two slaters are mentioned in a dispute of 1260 *(RBL* 1, 121) and there are various references to slaters ('le sclater') from the 13th century onwards. It is not until 1301, in the Mayor's Account concerning the Keeper of the Guildhall, that slates are specifically referred to. 'He counts in slates, laths, nails, iron, and wood, and sand 6s 8¾d . . . In the bargain of-the slater, by contract 5s 11d, and of two boys helping him 4s 1 ½d' *(ibid,* **1,** 248). Swithland slate is first mentioned by name in 1377-8 when work on the 'Countasse chambre' at Leicester Castle included '2,000 slates bought from John Bareman, with cartage from Swithland, at 3s Id a thousand 6s 2d; wages of John of London holing and repairing slates by contract: Is 9d; . . . 400 laths 3s 4d; 6,000 slate pins: 1 s 6d;' (Fox 1944, 19). The same John of I.ondon was also responsible for repairing the old tiles (see p65). Certainly, the price of slates had risen since the beginning of the 14th century when they cost 2s per thousand in 1317-18 and 1320-1 *(RBL* 1, 316, 326).

Further documentary references give some idea of the processes involved in making roofing slate. The graded nature of the slates has already been mentioned and this is because the slates increased in size from the roof ridge to the eaves. Similar graded slates came from the excavations of the Augustinian Priory at Hastings (Martin 1973, 39, fig 16). Medieval slates were presumably hewn out and shaped by hand at the quarry itself. Thus the friary slates are noticeably thicker (up to 14mm) and more uneven than the later Georgian slates. A 1377-8 building account refers to two different processes: 'Paid for battering the said slates 3s. Paid for piercing the said slates Is 8d' *(RBL* 2, 166). Certainly the slates are battered at their top nail end and the edges are bevelled ('spelched'). The underside is a lot flatter to lie flat on the laths.

Piercing ('perforatore', as it is referred to) was obviously a separate process and could have been done on site. Most of the slates have a single peghole lying *c* 20mm below the top edge but it is not necessarily central, sometimes lying nearer one side than the other. Sometimes there are two holes which could indicate a repair and there is one piece of slate with several holes along its edge which could be a trial piece (Fig 19.26). The holes are roughly circular ranging from 5-15mm in width with an average of 8-10mm. They seem to have been made by two different methods thus reflecting two different tools. Pecking seems to have been the method used on thinner slates whereas drilling or boring from one side or sometimes both is perhaps more typical of the thicker slates. It certainly produces a cleaner finish. A punch/drill is referred to when Simon de Norton, tiler, paid 1d in 1313 'for a hide bought whereof to make a spyndelthoung for boring slates' (Salzman 1952, 234).

The pegs, or 'pins', were usually made of oak although iron nails could also be used. The waterlogged conditions of the north ditch, Area IV, helped to preserve certain of these wooden pegs still *in situ* but there is also a hardened or baked clay pin and a worked jurassic limestone pin with mortar adhering to it from Area VI (Fig 19.28, 29). The slates would be hung from wooden laths, in the same fashion as nailed roof tiles. Examples of-these laths were preserved at the friary in the south ditch (see p13).

The slates would also have overlapped each other and most of them bear traces of lime mortar on one if not two surfaces. This must be the 'torching' or 'daubing' referred to in the expenses for the North Gate which were 'for two labourers there for three days for the daubing (circa: torching). And for 2s for carrying of lime and sand f-or the same.' (Torching = 'in plastering to point with lime and hair; said of the inside joints of slating laid on lathing') *(RBL* 2, 168). This not only helped to secure the slates but also rendered them more weatherproof.

The sizes and shapes of the slates vary considerably, as can be seen, but it is possible to draw some conclusions and there may have been some set standard sizes to which slates were cut. Complete slates numbered 241 and these were systematically measured and placed on a graph taking as the length the measurement between the tail (end) and the nail (hole) and as the width the maximum width. This meant that the slates ranged between the smallest at 95mm

Table 6 **Roofing slates (complete and fragmentary) related to phases and areas**

Phases (where slate found)	*Areas* I	II	III	IV	V	VI	*Total per phase*	*Phases*
RB/I		1		1			2	RB/1
I	1	8		1		2	12	I
2 B						1 1	11	2B
2 D		30					30	2D
3A	9						9	3 A
3 B	40						40	3B
3 B		7					7	3 B
3Bl1		2					2	3Bl1
3C						131	131	3 C
3		1					1	3
3E						25	25	3E
3 F		6					6	3F
4A	25						25	4A
4 B	41		6				47	4B
4C				2			2	4C
5A				5			5	5A
5 B				2			2	5B
5C						11	1 1	5C
6A	13						13	6A
6B	8						8	6B
7A		9					9	7A
7 C						1 9	19	7C
7D						5 1	51	7D
9A		13		57			70	9A
10A		3					3	10A
10B		3					3	10B
10C		9					9	10C
10D		7					7	10D
10E				16			16	10E
10F				1 2			12	10F
10G	6						6	10G
10H						100	100	10H
10J						21	21	10 J
Total no of slates per area	143	99	6	95		371	714	*Total no of* slates

Table 7 **Complete slates related to lengths and widths**

Length (mm) nail-tail	*No of slates (specifc measurement in brackets)*	*Width (mm) Maximum*	*No of slates (specific measurement in brackets)*
9 0 9 9	2 (95)	6 0 6 9	1 (65)
100 109	1 (100)	70 79	6
110-119	5	80 8 9	17 (7 80, 7 85)
120-129	1 (125)	9 0 9 9	25 (12 90, 9 95)
130-139	9 (4 135)	100 109	31 (14 100, 6 105)
140-149	24 (11 140, 7 145)	110 119	30 (15 110, 11 115)0
150-159	25 (9-150, 12-155)	120 129	31 (15 20, 8 125)
160-169	30 (16-160, 6-165)	130 139	15 (10 130)0
170-179	20(7-770, 10-175)	140 149	20 (11 140, 5 145)
180-189	9	150 159	10 (5 150)
190 199	12(8-190)	160- 169	9 (4 160, 4 165)
200-209	13 (10 200)	170 179	4
218-219	6 (5-210)	180 189	3
220-229	7 (5-220)	190 199	4 (3 190)
230-239	7 (4-230)	200 209	1
240-249	9 (3-240, 5-245)	210 219	
250-259	2	2 2 229	1
260-269	3	230 239	1
270-279	8 (6-270)	240 249	1
280-289	2	250 259	
290-299	2	260 269	
300-309	1	270 379	1
310 319			
320-329	1		
330339			
340-349	1 (345)		
350-359			
360-369			
370-379	1 (370)		
380 389			
390-399			
400 409	2 (400,405)		

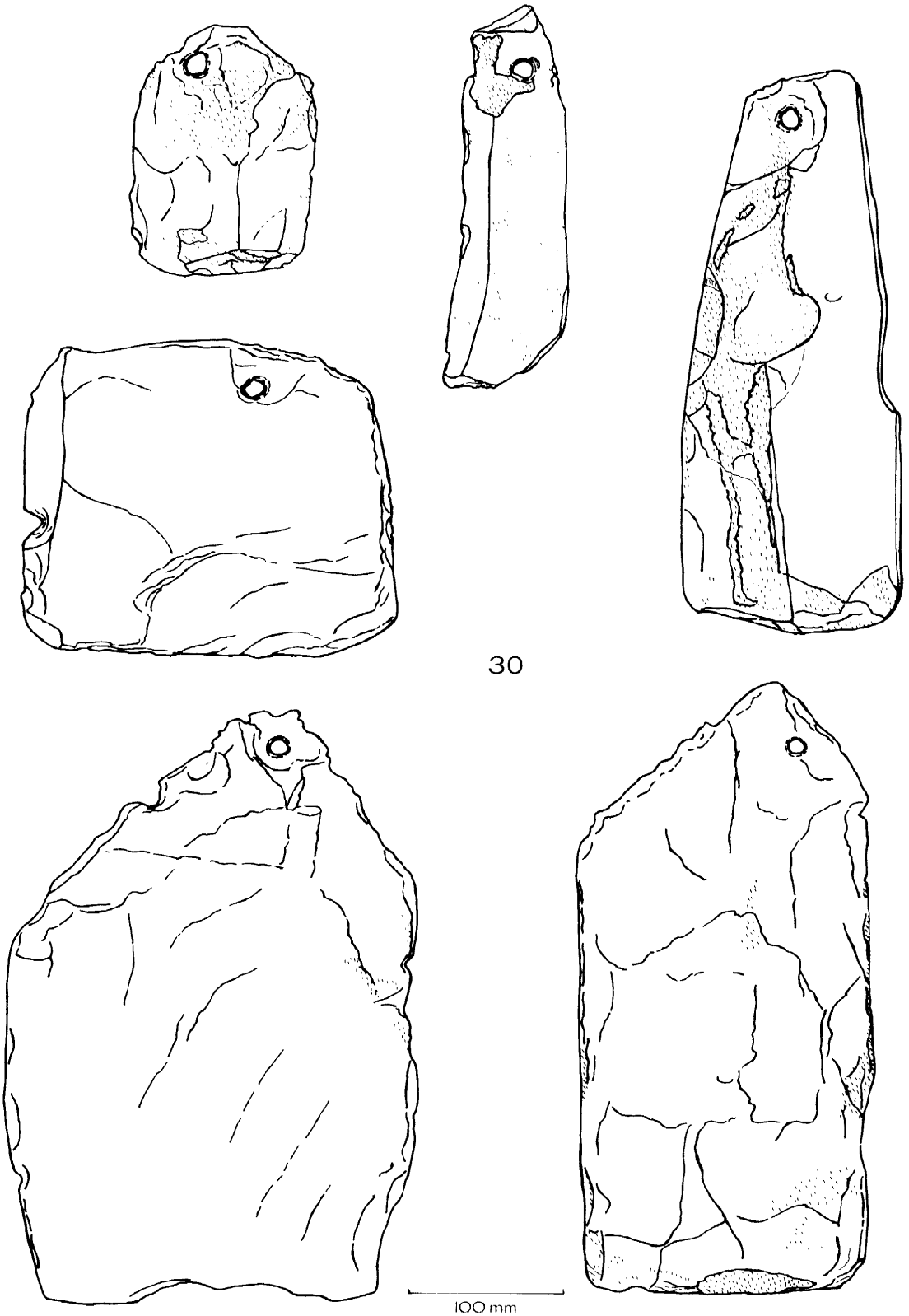

Fig 20 Roofing slate, 30. Scale 1:4

long by 65mm wide and the two largest, 405mm long by 160mm wide and 400mm long by 275mm wide. Some slates did have the same measurements; for instance, five slates were 170mm long by 140mm wide. But on the whole they were all different although some did share either the same length or width but differed in the other measurement The graph showed that the majority fell between 80mm and 160mm wide, the largest concentration being 90-130mm wide by 140-75mm long with ten slates at 200mm length (Table 7).

Basically the slates are rectangular in shape but there are also long, noticeably narrow, slates and a fish-scale shaped slate which is typical of small medieval slates (Salzman 1952, 234). The largest slates were small by later Swithland slate standards but this may mean that the larger slates were robbed from the site. The slates illustrated (Fig 19.27, 30 and Fig 20.30) are intended to give an idea of the shapes and sizes encountered at the friary.

It would appear, then, on the surviving evidence that Swithland slates were the main means of roofing although some use was made of nibbed clay roof tile.

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The floor tiles

John Lucas

The tiled pavements

The existence of-tiled pavements in the south cloister alleys was principally indicated by the survival of the mortar bedding for the tiles. Just fifteen tiles survived *in situ;* the rest appear to have been systematically removed, possibly for reuse elsewhere, leaving a debris that consisted almost entirely of-broken tile. This debris represents approximately 668 square and 174 triangular floor tiles.

The impressions left by the tiles in the mortar and the few tiles remaining *in situ* clearly showed that the pavement on the east side of the cloister was laid with square floor tiles in a diaper pattern made up of irregular groupings of the decorated inlaid tiles and plain, mainly purple-black glazed tiles. One of these squares was formed by two triangular tiles, a slight improvisation in the use of this type, whose main purpose was the completion of the straight edge of the pavement.

The pavement running along the north side of the cloister was completely stripped of its tiles. Very little broken tile was found on this pavement, but as there were large quantities in the drain ten metres to the north, it is possible that the debris from the pavement was used to backfill the drain. The impressions indicated that the square tiles were again laid in a diaper pattern, except that there was a single line of tiles set square, running parallel to, and half-a metre from, the northernmost cloister wall.

Inlaid floor tiles

A total of 581 fragments of patterned floor tiles was found, representing approximately 255 separate tiles. Additionally, two fragments, representing two separate tiles, were found within the precinct of the friary, prior to the excavation. Apart from a single relief tile, these tiles were exclusively of the inlaid type, manufactured in the East Midlands between approximately 1320 and 1380. They represent just one part of a varied medieval tradition of patterned pavements which consisted of three main elements, the mosaic tile introduced in the 12th century, the inlald tile, and the printed tile, which was produced until the beginning of the 16th century. The remains of these pavements have been found mainly in monastic buildings, churches, and royal palaces, with only a few in lay households.

An inlaid floor tile was made by cutting clay into a roughly square block, and whilst it was still pliable stamping it to leave an impressed pattern cut into its top surface. No stamps have survived, but wood grain impressions left on tiles indicate that a wooden stamp was used, with a pattern carved into it in relief. The impression was filled with white pipe clay and once the residue was scraped away, a clear white pattern was produced. A powdered lead ore glaze was then applied and finally it was fired to produce a glossily glazed tile with a yellow pattern on a brown background. The tiles from the Austin Friars were generally around 130mm square and 20mm thick with a slightly bevelled edge, and although it was quite common for floor tiles to be keyed, none of these were.

The quality of these tiles is quite good. The patterns are very clear. One tile fragment (46a) has a flaw which must have been the result of the chipping of the stamp late in its lifetime as it is the only example out of several tiles impressed with the same stamp. Generally, the quality of the glazing is quite good and although discolouration of the

long by 65mm wide and the two largest, 405mm long by 160mm wide and 400mm long by 275mm wide. Some slates did have the same measurements; for instance, five slates were 170mm long by 140mm wide. But on the whole they were all different although some did share either the same length or width but differed in the other measurement The graph showed that the majority fell between 80mm and 160mm wide, the largest concentration being 90-130mm wide by 140-75mm long with ten slates at 200mm length (Table 7).

Basically the slates are rectangular in shape but there are also long, noticeably narrow, slates and a fish-scale shaped slate which is typical of small medieval slates (Salzman 1952, 234). The largest slates were small by later Swithland slate standards but this may mean that the larger slates were robbed from the site. The slates illustrated (Fig 19.27, 30 and Fig 20.30) are intended to give an idea of the shapes and sizes encountered at the friary.

It would appear, then, on the surviving evidence that Swithland slates were the main means of roofing although some use was made of nibbed clay roof tile.

Acknowledgements

I would like to thank Mr K Scott for his identification of the Nuneaton Chilvers Coton kiln products and access to unpublished material. I would also like to thank the staff of Leicestershire Museums, particularly Mr T Pearce, Assistant Field Archaeologist, for his help and advice on the ridge tile, Mrs M E Ball, Assistant Keeper (Education), for her advice on Swithland slate, and Mr J Martin, Keeper, Earth Sciences, for identifying the nature of-the roof pegs and the fabric inclusions.

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The floor tiles

John Lucas

The tiled pavements

The existence of-tiled pavements in the south cloister alleys was principally indicated by the survival of the mortar bedding for the tiles. Just fifteen tiles survived *in situ;* the rest appear to have been systematically removed, possibly for reuse elsewhere, leaving a debris that consisted almost entirely of-broken tile. This debris represents approximately 668 square and 174 triangular floor tiles.

The impressions left by the tiles in the mortar and the few tiles remaining *in situ* clearly showed that the pavement on the east side of the cloister was laid with square floor tiles in a diaper pattern made up of irregular groupings of the decorated inlaid tiles and plain, mainly purple-black glazed tiles. One of these squares was formed by two triangular tiles, a slight improvisation in the use of this type, whose main purpose was the completion of the straight edge of the pavement.

The pavement running along the north side of the cloister was completely stripped of its tiles. Very little broken tile was found on this pavement, but as there were large quantities in the drain ten metres to the north, it is possible that the debris from the pavement was used to backfill the drain. The impressions indicated that the square tiles were again laid in a diaper pattern, except that there was a single line of tiles set square, running parallel to, and half-a metre from, the northernmost cloister wall.

Inlaid floor tiles

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An inlaid floor tile was made by cutting clay into a roughly square block, and whilst it was still pliable stamping it to leave an impressed pattern cut into its top surface. No stamps have survived, but wood grain impressions left on tiles indicate that a wooden stamp was used, with a pattern carved into it in relief. The impression was filled with white pipe clay and once the residue was scraped away, a clear white pattern was produced. A powdered lead ore glaze was then applied and finally it was fired to produce a glossily glazed tile with a yellow pattern on a brown background. The tiles from the Austin Friars were generally around 130mm square and 20mm thick with a slightly bevelled edge, and although it was quite common for floor tiles to be keyed, none of these were.

The quality of these tiles is quite good. The patterns are very clear. One tile fragment (46a) has a flaw which must have been the result of the chipping of the stamp late in its lifetime as it is the only example out of several tiles impressed with the same stamp. Generally, the quality of the glazing is quite good and although discolouration of the

yellow glaze with brown stains and spots is common, it is only slight. There is also a very occasional green tingeing of the glaze. Warping of the tiles is both slight and very rare, and there are just two tiles with a narrow strip of clay fused to them where they had been in contact with another tile in the kiln, To avoid such contact during firing the tiles were stacked on edge in several tiers. Clear evidence of this has been left on the edges of several tiles where fluxing of the glaze has stuck them together. When these were broken apart, the impression of the edge of the tile was left behind. These marks show that the tiles were stacked in groups of three, possibly in triangular fashion. This is clearly shown on one edge, where there is an impression of two tiles meeting at the corner of one triangle. Moreover, the majority of the tiles have diagonal impressions that could have only been made by triangular stacking.

There were at least 43 different designs on these tiles, possibly as many as 45. Table 8 indicates the relative importance of each type of design.

Table 8

Category of design	*% of total number of* designs
Heraldic	65
Decorative pattern	23
Animal figures	6
Lettering	6

It is difficult to evaluate the significance of the dominance of heraldic designs. As it is probable that the designs were not being specifically made for the Austin Friars but were being chosen from the selection available from the tile makers, the friars may have chosen these particular designs simply because they liked them. The heraldic design could have been merely the most popular style, but it is possible that there was a specific reason for the choice. They could have been acknowledging the important financial support of the aristocracy. Thus the patronage of the House of Lancaster is possibly acknowledged by at least nine tiles bearing their arms. Alternatively, the coats of arms could have been used merely to recognize the status of the various important aristocratic families and to associate them with the church.

There is a noticeable lack of religious designs. The only recognizable ones are the spiked wheel, symbol of St Catherine, and the maltese cross. This dearth of religious symbolism is common throughout the religious houses using these pavements. Perhaps the floor was not regarded as the right place for such material.

Kiln sources

It is thought that in the 14th century Leicester was within the trading area of two major commercial producers of inlaid floor tiles, one in north-east Warwickshire with centres at Coventry and Nuneaton and one at Nottingham (Eames 1968, 14- 16). To discover if the floor tiles from the Austin Friars came from any of these centres, or from any other production centre, two methods have been used. Firstly, the distribution of tiles with identical patterns has been plotted to show the market area for each pattern and to suggest possible production centres. Secondly, some of the tiles were analysed to give a comparative analysis of the type of clay used, to enable them to be grouped according to clay type and each clay type to be associated with a particular production centre.

We pattern distribution

Table 9 shows the general areas in which each tile pattern type has been found. All the medieval floor tiles found in Leicestershire before 1956 have been comprehensively catalogued (Whitcomb 1956). To maintain continuity the tile patterns have been numbered according to that catalogue, and where the pattern has not been found in Leicestershire before, the tile has been numbered with the prefix 'L'.

Table 9

1. South Derbyshire, Nottinghamshire, and central to north Leicestershire	24. 29. 34. 35. 37. 40. 41. 44. 46. 47. 40. 49. 54. 57. 80. 100. 128. L2. L4. L11. L12
2. North-east Warwickshire, and central to north Leicestershire	58. 126
3. North-east Warwickshire, south Derbyshire, Notinghamshire, and central to north Leicestershire.	83. 89. 111. 113. 130. 131
4. North-east Warwickshire and Northamptonshire	L6
5. Northamptonshire	L7

Clay analysis

E J Miller

Method

The elemental composition of the floor tiles was determined by X-ray fluorescence (XRF). This entailed taking two grams of the clay core of the tile, taking care there was no contamination from the glaze or the surface mortar. The clay was then ground to a fine powder and pressed into a disc 30mm in diameter.

The sample was then placed in a Philips X-ray spectrometer type PW 1530 fitted with a tungsten (W) X-ray tube and a penta-erthratol secondary crystal. The tungsten X-rays cause the sample to emit secondary X-rays whose energy is characteristic of the elements in the sample. Therefore, by scanning through the energy spectrum the presence of certain X-ray energies indicates the presence of certain elements, the number of X-rays indicating the amount of the element present in the sample.

The elements recorded were iron (Fe), manganese (Mn), titanium (Ti), calcium (Ca), and potassium (K). All samples investigated had these elements present; only the amounts varied from tile to tile. Results giving identical amounts for each element indicate the same clay source.

Results

Twenty-three samples were analysed, together with thirteen samples from Garendon Abbey, six samples from other sources in Leicestershire, and one sample from Nottingham Castle Museum. The tiles were chosen so that all the distinct tile pattern distribution groups and tile patterns that had no known parallels were represented.

The analysis indicated the following groupings of identical clays (see Fig 21). The provenance of each sample is the Austin Friars except where indicated in brackets.

Table 10

Group A:	24. 29 (two samples). 40. 46. 49. 57. 80. L2. L4. L9. L10. 86 (Nottingham) and 30. 76. 81 (three samples). 82 (two samples). 89. 90 (two samples). 91. 108. 134 (all Garendon Abbey)
A(i)	(very slightly different from group A): 29. 57
Group B:	.58:83. 126. 58 (Houghton Church). 83 (Leicester Abbey). 83 (Ulverscroft Priory). 83 (Thurnby Church)
Group C:	L1. L3. L5. L6. L7
C(i)	(slightly different from group C): L8
Group D:	46 (Leicester Abbey). 80 (Ulverscroft Priory)

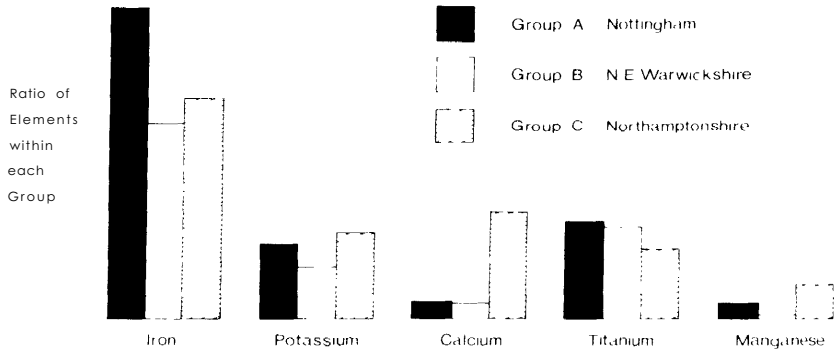

Fig 21 Inlaid floor tiles, clay analysis: the three major clay sources determined by X-ray fluorescence

These results indicate that the tiles were made from four different clays. As no analvsis of material from known kiln sites has been made, none of these clays can be assigned to a particular kiln. An idea of the source of the kiln can be obtained by looking at the tile pattern distribution. The results are significantly uniform, with nearly all the tiles from within each clay source group having identical distribution patterns. The only exception is the tile type 83 which has a clay type associated with north-east Warwickshire, although its distribution includes not only that area but also south Derbyshire and Nottinghamshire. This suggests that some of the tiles from the north-east Warwickshire kilns were more widely distributed than others.

The results give the following identical distribution patterns for each clay source group.

Table 11

Groups A & D: south Derbyshire, Nottinghamshire, and central to northern Leicestershire

Group B: north-east Warwickshire and central Leicestershire

Group C: Northamptonshire with just a few from Warwickshire and Leicestershire

This strong correlation between the clay groups and the pattern distributions clearly supports the idea that there were major commercial producers of floor tiles in Nottingham and north-east Warwickshire, and additionally suggests the existence of a production centre in Northamptonshire. The existence of itinerant travelling tilers can be discounted, for, if they had set up a kiln locally to produce tiles for the Austin Friars, they would have left a pattern of just one clay source.

Group A would seem to be associated with the tile centre at Nottingham, showing a clay common to tiles from the Austin Friars, Garendon Abbey, and one from Nottingham itself. The Group D tiles have identical patterns to Group A but a different clay. This could have been the result of the multiplicity of kilns leading to the exploitation of another clay source and indeed-there is evidence of several tile kilns at Nottingham (Godfrey 1884, 226). Alternatively, Group D could be associated with the other kilns found in this area. Kilns have been found at Repton Priory and Dale Abbey (Ward 1892, 130). Both these kilns have a very strong connection with the Nottingham production centre, for the tile stamps used at Repton and Dale were also used at Nottingham. It is possible that before setting up the production centre at Nottingham, the tilers undertook smaller scale production at a variety of monastic sites in Derbyshire (Eames 1968. 16). It has also been suggested (Whitcomb 1956, 10) that these kilns were set up when the tile industry was in decline, with insufficient demand to keep the Nottingham centre in production. This view interprets the poor quality of the Dale Abbey tiles as being indicative of the work of a second generation of the makers who inherited the stamps but not all the skills of their masters.

Group B is clearly associated with the north-east Warwickshire tile kilns, although it is not known from precisely which kiln these tiles came.

The evidence for the tiles in group C is not plentiful but they do show a bias towards Northamptonshire provenances. It is possible that there was some small scale manufacture in this area the site of which has yet to be identified. One tile design, however, is also found in north-east Warwickshire and this suggests that the tiles may have been produced in one of the several kilns in that area.

The evidence of the clay and tile pattern analysis, though not conclusive, does suggest that the floor tile industry in the East Midlands was comprised of two large scale manufacturers with the possibility of a small scale producer in Northamptonshire. Fourteenth century tiling activity outside of this would seem to be associated with the introduction or the decline of-the industry. For the Austin Friars the most important manufacturing centre was Nottingham where 86% of the floor tiles came from, with 9% from Northamptonshire and only 5% from Warwickshire. The importance of the Nottingham kiln is reflected in Table 12 which illustrates the relative importance of the various centres.

Table 12

Site	*Percentages of tiles from:* (a) Notting-ham	(b) North east Warwick shire	(c) North-amplo shire	*Total no of tiles*
Leicester:				
Austin Friars	86	5	9	257
Leicester Abbey	90	10		78
Trinity Hospital	96	4		20
Leicestershire:				
Ulverscroft Priory	61	37	2	120
Belvoir Priory	78	22		50
Croxton Abbey	71	29		157
All tiles found in Leicesterhsire	74	23	3	878

The north-east Warwickshire kilns, though large scale producers of floor tiles, did not have such a large share in the market in Leicestershire as they had elsewhere. Also the very small scale of the Northamptonshire kiln is reflected everywhere, except the Austin Friars.

The tentative division of the tiles into three groups and their assignment to various areas is reinforced by the examination of the physical characteristics of the tiles, which show a great deal of uniformity within these hypothetical groups.

Nottingham tiles

Their fabrics are quite similar, with the shades of orange and red becoming increasingly redder with a higher firing temperature. The inclusions are normally sand and grit. The glaze is usually a golden yellow, often with slight staining and spotting with brown, on a golden or occasionally honey brown, background. There are a few aberrations, notably the occasional tinge of green in the glaze and a few examples of the glaze being very pale coloured on a much darker brown background.

The vast majority of the tiles are roughly square, with sides of between 130mm and 135mm in length and 20 and 23mm thick (see Fig 22A). A few tiles are slightly bigger, around 140mm in length (Type 40 one example, Type 57 four examples, and Type 80 two examples), and just one tile is unusually small being 116mm in length (Type 57). The bevel is usually between 8º and 12º, though there are a few examples both larger and smaller.

North-east Warwickshire tiles

In several important aspects the Warwickshire types have distinct characteristics. Their fabrics are pale orange and pale pink with sand and grit inclusions. Their glazes are yellow on a honey or pale brown background, with just a few darker brown. Also their bevels are slight, around 5º or 6º. Only three fragments of tile are large enough to give an indication of the size of this type of tile, but they would seem to be smaller than the Nottingham tiles, being around 116mm square and between 20 and 23mm thick (see Fig 22B).

Northamptonshire tiles

The glazes and fabrics of these tiles are very similar to the Nottingham type, though there is a slightly greater tendency for some greying in the colouration of the fabric. Their overall dimensions differ, though, being approximately 116mm by 112mm, and 21 and 24mm thick, with a bevel of between 5º and 9º thick (see Fig 22C).

Dating evidence

The vast majority of these tiles are from the destruction deposits with 93% of the material from phases 9A and 10. This material can be clearly associated with the dismantling of the building. Tile from phases 8B, 7A, 7C, 5C, and 3F which make up 60% of the stratified material can be seen as material disturbed during alteration and rebuilding after the original pavements were put down. Tiles from phases 5A, 4A/3B, 3E, and 3B make up just 1% of the stratified material, but it is vital evidence as it comes from activity in the 14th century.

One very small fragment from 3B is associated with the construction of the Prior's Lodgings during the first quarter of the 14th century. It is unworn and is probably a chip broken off a tile before it was laid in a pavement. There is also an almost complete tile from the packing of a post-hole in phase 4A/3B. This is associated with the period between the building of the Prior's Lodgings and the building of the north cloister walls in the middle of the 14th century. As this tile is very worn, this is further evidence for an early laying of at least some of the pavements or decorative borders. More worn tile from the building of wall W18 in the middle of the 14th century and from the first deposits in the north ditch after that construction work (phase 5A) also supports this early dating. There is also a piece of worn tile from one of the graves sealed by the laying of the pavement in the south cloister alley (phase 3E). The few tiles left in situ include one bearing the arms of England after 1340, so this pavement must be after this date; however, as there is worn tile sealed in a grave beneath, it seems that inlaid tiles were being used before the laying of this pavement. This would fit with the other evidence, but it is difficult to judge whether these were earlier pavements or just a few tiles used as decorative borders to the existing flooring. The latter may be the case as the amount of tile from the earlier levels is quite small.

There are two other main sources of dating evidence, the evidence of the tile design and the dating of pavements from other places where identical tile patterns are found.

As many of the tiles bear heraldic designs, identification of them can give an indication of the date of the tile. Unfortunately two factors make this task difficult. Firstly, some coats of arms are common to several families and only the tinctures distinguish the individual family. As the inlaid tiles do not use these tinctures the individual family cannot be identified. Secondly, a branch of a large family often made its own coat of arms by slightly altering or by putting a distinguishing mark on the main family arms. Sometimes these subtle changes have not been recorded adequately, making them very difficult or impossible to trace.

Therefore it has been impossible to identify several of the coats of arms. Where an identification has been made, the dating has fitted with the known date range of the tiles, but often the family line has been so long that this evidence has been useless for more precise dating. The following arms did give some useful dating evidence:

1. England, after 1340
2. Lancaster, 1276 to 1360
3. Warren, 1240 to 1347
4. Grey, Cantilupe, Plessetis, and Ferrers, all after 1299

Also it has been suggested (Swann 1952, 130) that tile Type L6 is the arms of Sir John Lyons who was sheriff of Northampton in 1381, and tile Type L7 is the arms of Fitzwalters of Daventry, possibly Sir Thomas who was MP for Northamnton in 1377 and died in 1383. but neither of these identifications is definite.

Terminal dates must be used with some care, for it is possible that tiles were produced with arms that were no longer in use. This would happen where the coats of arms were regarded as pleasant designs, but not where they were used to display a relationship between the institution and the family concerned.

The dating evidence for pavements containing tile patterns identical to those found at the Austin Friars is sparse. Most of the buildings containing such pavements were constructed prior to the introduction of this type of paving, and there is little evidence to suggest when they were laid. At Garendon Abbey a coin dated to 1350 was found in the mortar beneath a pavement containing tiles identical in pattern and clay to some of the tiles from the Austin Friars (Williams 1969, 20) (see Table 10). Some identically patterned tiles were found at the following institutions which were founded during the period of tile manufacture:

1. Beauvale Priory: 1343
2. Trinity Hospital, Leicester: 1331
3. Maxstoke Priory: 1336-7
4. St Mary's Hall, Coventry: 1340-2

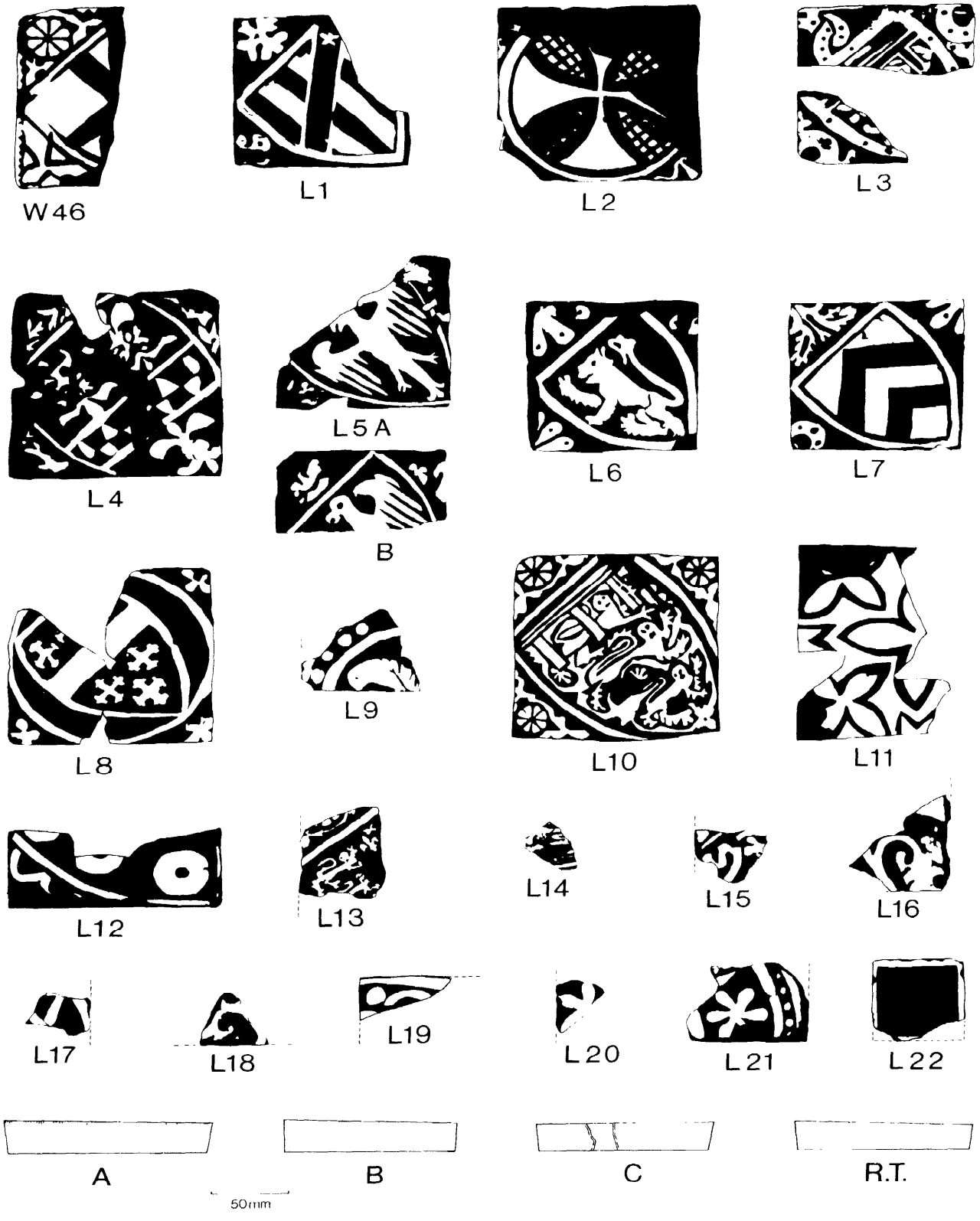

Fig 22 Inlaid floor tiles W46, L1-L22, and sample elevations of groups A, B, C, and relief tile. Scale 1:4

Only at Reauvale is it known that the tiles were laid in the original pavements (Hill 1908, 69-70) and so use of the other foundation dates is made on the assumption that the tiles were used in the original pavements.

Beauvale Priory was founded by Nicholas Cantilupe whose family coat of arms was found on identical tiles at both Beauvale and the Austin Friars. These Arms can be dated 1299 to 1376 but if the arms on the tile relate solely to Nicholas then the date range can be narrowed to between 1321 and 1355.

From this evidence it can be stated that tiles identical to those found at the Austin Friars were being laid at Beauvale around 1343 and at Garendon after 1350, though it must be assumed with the latter that they were not being reused. It seems probable that the date range can be extended back at least to the middle of the 1330s, assuming the tiles laid at Trinity Hospial and Maxstoke Priory were laid in the original floors.

Using the evidence from the Austin Friars itself, the pavement in the south cloister alleys can be dated after 1340, but there is also inlaid tile from early phases that must be dated to around 1320 to 1325.

The date range for these tiles would seem to be from 1320 to 1360, with the main pavement being dated after 1340. The very minimum range would be 1325 to 1350; additionally the Northamptonshire tilers might have been active in the 1380s.

Catalogue (see Tables 13 and 14)

The patterns already published in Whitcomb's catalogue have not been illustrated, except for a single example of Whitcomb Type 46 which has a flaw in the pattern. 'Types Ll-22 are illustrated (see Fig 22).

Unpatterned glazed floor tile

The total of 2,127 fragments of plain glazed tile found represents approximately 259 square and 174 triangular tiles. Additionally, there are 154 square tiles that are so worn that they could be either Type 1 glazed floor tile or Nottingham inlaid tile, These two types are very similar in both size and fabric, and could possibly be from the same kiln. As they make up 83% of the total number of tiles it is probable that they represent the great mass of tile brought in for the laying of the original pavement, and the small piece of pavement that has survived in situ consists entirely of these two types.

Physical examination of the plain tile has revealed eighteen types, each type possibly representing a separate kiln. Some of these may have been laid in the original pavement, but a few at least must have been used for later repairs, or possibly small additions to the pavements. The dating on the only known kiln source fits in with this possibility. Group seven consists of just three tiles from the mid 15th century Burton Lazars (near Melton Mowbray) kiln. There is also evidence that some of the tile may predate the main

Table 13 Tile patterns previously found in Leicestershire

Pattern number	Pattern description	Probable no of tiles	Probable kiln source	Phases
INLAID TILES				
	Coats of Arms			
W24	England after 1340	7	A	5A 7A 10C/D/H/J
W29	Lancaster 1276 1360	9	A	3F 9A 10C/D/D/J
W34	Cantilupe 1299 1376	3	A	9A 10J
W35	Mauley? (Ward 1892,137)	6	A	9A 10C/E/H/J
W37	Beauchamp 1268 1401	11	A	10C/D/H U/S
W40	Ferrers 1299 1415	14	A	3B/4A 3E 10C/D/H/J U/S
W41	Ferrers 1299 1415	1	A	10E
W 4	Ferrers 1299 1415	11	A	10C/D/H/J U/S
W16	A cross	24	A	5A 9A 10B/C/F/H/J U/S
W47	A fesse	11	A	5C 9A 10C/H/J
W48	Warren 1240 1347	2	A	7C 10H
W49	Grey 1299 1496	14	A	5C 9A 10D/E/H/J U/S Modern
W54	Deincourt 1422	1	A	10H
W57	Despenser(at least) 1265 1400	11	A	5A 9A 10B/C/D/H/J U/S
W58	Warren 1240 1347	1	B	9A
	Decorative patterns			
W80	Quatrefol band with birds	45	A	3C4B9A 10C/D/H/J U/S
W83	Two birds	1	B	10D
W89	Fleur-de-lys	1	B	10H
W96	Quatretoil,rosettes,and a spiked wheel	1	A	10C
W100	Rosettes, circles, and lozenges	7	A	9A 10C/D/H U/S
W111	Grotesque hooded figure	4	B	10C/HModern
W113	Four small figures	1	B	U/S
W126	Rosette	1	B	9A
	inscriptions			
W128	'Glauduille'	9	A	4B 5C 10C/H/J
W130	'A' and 'Gerard'	2	B	10H
W131	'E' and 'Emma'	1	B	5A
RELIEF TILE				
W242	Quartered arms	1	Burton Lazars	U/S

Key:
A-Nottingham B-North Warwickshire C-Northamptonshire

Table 14 Tile patterns not previously found in Leicestershire

Pattern number	*Probable no of tiles*	*Probable kiln source*	Phases
L1	8	C	9A 10C/H/J Unphased
L2	3	A	7A 8B U/S
L3	3	C	9A
L4	3	A	lOD/H
L5	2	C	5A 9A 10C
L6	2	C	5A 7A
L7	5	C	10 C/E
L8	1	C	9A 1OC
L9	1	A	10D
L10	6	A	9A 10C/D/H U/S
L11	6	A	lOH/J
L12	2	A	10H
L13	1	—	9A
L14	1	—	10C
L15	1	—	10D
L16	1	—	U/S
L17	1	—	10H
L18	1	—	10C
L19	1	—	U/S
L20	1	—	10C
L21	1	—	10C

Identification of tile patterns L1 to L99

L1 Arms unidentified. A paly of six, dark and light, bend sinister charged in the right hand corner with a light mullet

L2 A cross pattée within a circle with groups of small square segments between the arms. These segments form a pattern very similar to the chequered pattern of the arms of Warren, and the design has been interpreted as four shields of the arms of Warren disposed encroix to produce a cross pattée (Parker 1932, 93)

L3 Arms of Lancaster, another version of tile type W29, but from a different kiln

L4 Arms of Cantilupe. A slightly simpler version of type W34

L5 Arms unidentified. An eagle displayed facing left

L6 Arms unidentified. A lion rampant facing left. It has been suggested (Swann 1952, 130) that this is the arms of Sir John Lyons, who was sheriff of Northamptonshire in 1381.

L7 Arms unidentified. Two chevrons. It could be the arms of Chaworth, and coincidentally Sir Thomas de Chaworth, Lord Alfreton of Derbyshire, left money to the Austin Friars in his will.

L8 Arms of Beauchamp. A version of tile type W37 with the shield placed within a circle

L 9 A decorative pattern very similar to tile type W80

L10 Arms of Lancaster. Another version of tile type W29, but unlike L3 it is from the same kiln.

L11 A pointed quatrefoil

L12 Arms of Plessitis, Earl of Warwick: dated to after 1299

L13 to L21 A variety of designs, without exact parallel, but too fragmentary to show their complete characteristics.

L22 A small plain tile, with an inlaid border around the edge. Kiln source unknown. Phase 10C. Size: 62 x 62 x 19.5mm.

L23 to L99 Tile with undiscernible patterns. Four complete tiles and 76 fragments. Phases: 3B/C 4B 5C 6A 7A 9A lOC/D/E/F/H/J U/S Unphased Modern

Table 15 Unpatterned, glazed, square floor tiles

Type	*Number* of tiles	*Approximate size (mm)*	*Glaze colour*	*Fabric colour*	*Phases*
1(a)	98	132 x 132 x 22	Purple-black	Brick-red	3E/F 5A/B/C 7A 9A 10C/D/E/F/H/J
1(b)	44	as 1(a)	as 1(a)	Orange-red	12D 5A/C 7D 9A 10C/D/H/J
44	34	as 1(a)	Dark green	as 1(b)	5A 7C 8B 9A 10C/D/F/H/J U/S
1(d)	4	as 1(a)	Brown	as 1(b)	12D 7A 9A 10C
2	25	110 x 110 x 23	Dark green	Orange-red	5A 7A 9A 10C/D/E/H/J U/S
3	1	22 thick	Dark green	Maroon to grey	10G
4(a)	11	119 x 119 x 27	Dark green	Pale pink	1 3F 4B 7A 8B 9A 10C/D/G/J
4(b)	1	114 x 114 x 32	Very dark green	Orange-pink	7D
5	2	24 thick	Streaky dark green	Orange	10J
6	1	—	Streaky green	White	10H
7	2	125 x 125 x 20	Blotchy dark green	Orange-red	8B 9A 10C/D/E/F/H/J
8	1	22 thick	Patchy green	Orange-red	10C
9	1	23 thick	Dark green	Pale orange -	10C
10	14	113 x 113 x 23	Creamy yellow	Orange-red	9A 10C/D/E/H/J U/S
11	4	24 thick	Streaky yellow	Orange-red	10D/H/J
12	1	120 x 119 x 29	Pale creamy yellow	Very pale pink	10C
13	1	121 x 121 x 25	Yellow	Pale pink	10C
14	3	19 thick	Chocolate brown	Orange	10C/D
15	1	23 thick	Metallic black	Orange-red	9 A
16	9	120 x 120 x 29	Brownish orange	Very pale orange	9A 10C/E/H/J U/S
17	1	35 thick	Worn off	Pale pink	10C
Total	259				

Type 17 is the only tile with any keying on it

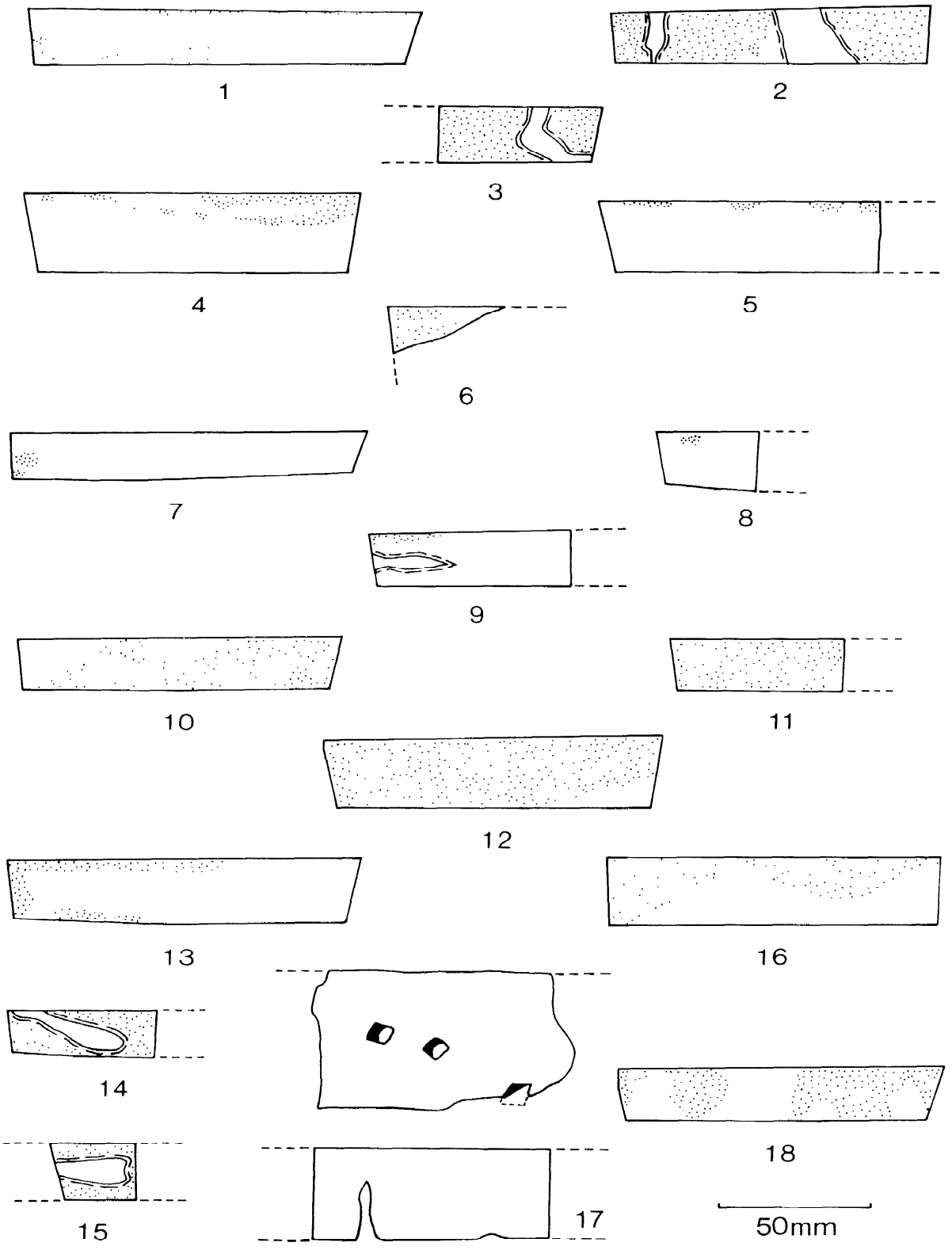

Fig 23 Unpatterned glazed floor tile, 1 18. Scale 1:2

Table 16 Approximate number of triangular tiles

Type	½ *size*	*Phase*	¼ *size*	*Phase*	1/8 *size*	*Phase*
1(a)	65	10C/D/H/J	6	10C/H/J	5	3E 10C/H/J
1(b)	52	3C 5C 9A 7A 10C/D/H/J	5	10C 9A	1	U/S
1(c)	18	10C/D/H/J 9A 7A	2	U/S	2	10J
2	1	10C				
4(a)	6	10C/J 9A 7C				
4(b)	1	10J				
7	1	5A				
10	4	9A 10B/H/J U/S				
11	1	4B 10G				
13	1	10C				
16	2	10H U/S				
18	1	9A				
Total	153		13		8	

pavements, as three fragments of Type 4(a) were found in phase 1.

The general quality of these tiles is much lower than that of the inlaid tile. Warping is more common, caused by more pebbles in the clay, by less careful stacking, and by overfiring. Bad stacking is in evidence on the top surface of these tiles where linear indentations are not uncommon, This would seem to have been caused by the tiles leaning against each other in the kiln, where, as with the inlaid tiles, they were probably stacked in triangular fashion. One tile has not only a linear indentation but is also strongly warped along the same line, probably caused by another tile falling against it in the kiln.

Catalogue

These tiles can be divided into the following categories (see Table 15). A cross section of each type is illustrated (see Fig 23).

Triangular floor tiles

These tiles were made by cutting the square tile into segments. Before firing the tile was cut to a depth of between a quarter and a half through its thickness and all the way through right on the edge. It was then fired before being broken into triangular segments so avoiding the difficult job of stacking a kiln with unmanageable segments There are a few examples where the breaks are not clean, but this kind of wastage must have been preferable to the mammoth stacking problem.

The half-size triangular tile was made by a single diagonal cut across a square tile, the quarter size was made by two diagonal cuts, and the eighth size by two additional cuts.

As products of square tiles, they accordingly have identical characteristics, and can be catalogued in identical fashion (see Table 16).

Only Type 18 has no parallel amongst the square tiles. Its characteristics are:-

Phase: 9A
Size: 98 x 114 x 149mm, 21mm thick
Fabric: red-orange
Glaze: dark green

Oblong floor tile

There is just one fragment of oblong tile.

Phase: 10C
Size: 58mm wide, 30mm thick
Fabric: orange
Glaze: dark green

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The mortar analyses

Jean E Mellor

Mortar samples were taken from all the surviving walls and were analysed by Graham Morgan, Department of Archaeology, Leicester University. The results were plotted as graphs showing, for each sample, the decreasing grain size from left to right (horizontal axis) against the weight of the grade expressed as the percentage weight of the total insoluble material (vertical axis). The resulting curves have then been grouped by phase to produce the graphs, on Figs 24 and 25. The curves produced by the poorer samples show a sharp rise at the right-hand side of the graph indicating a high percentage of mud or silt. In some cases, notably the walls of the 3A building and wall W2, phase 6B, the samples were so poor that the results have been omitted.

The graphs should be used with caution and only in conjunction with other evidence. Different curves can be produced by samples from the same wall, eg Wall W18, phase 5A (Fig 25) which may be explained by the builders' use of different sand sources. However the analyses can provide useful confirmation of the archaeological evidence as the accompanying graphs show.

In most cases the analysis of the samples from walls within each phase produced broadly similar curves which were at the same time relatively distinct from those of other buildings or phases. The most interesting example of this was produced by the analysis of samples from the walls of 3B(i) and 3B(ii) (Fig 24). Here the difference in construction recorded during the excavation (see above, p 20) was reflected by the differing curves from the walls of the two structures.

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1(c)	18	10C/D/H/J 9A 7A	2	U/S	2	10J
2	1	10C				
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4(b)	1	10J				
7	1	5A				
10	4	9A 10B/H/J U/S				
11	1	4B 10G				
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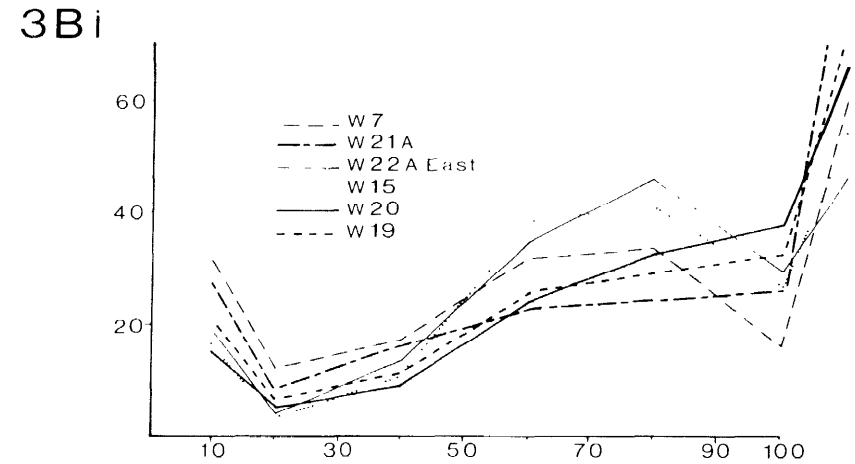

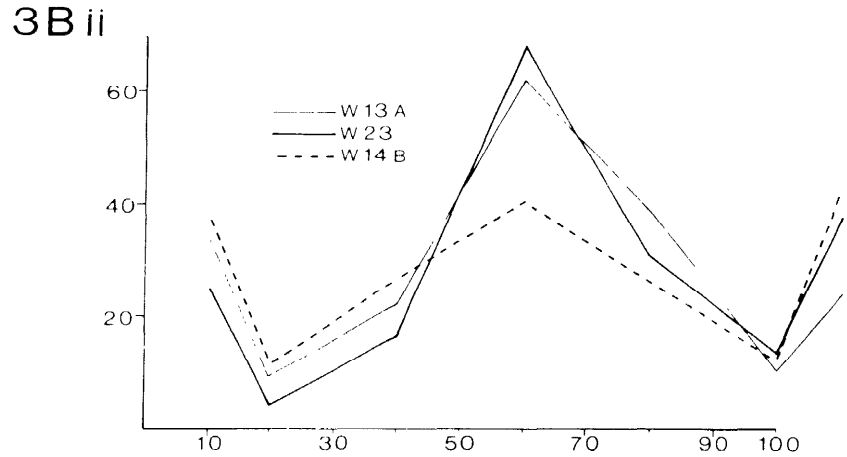

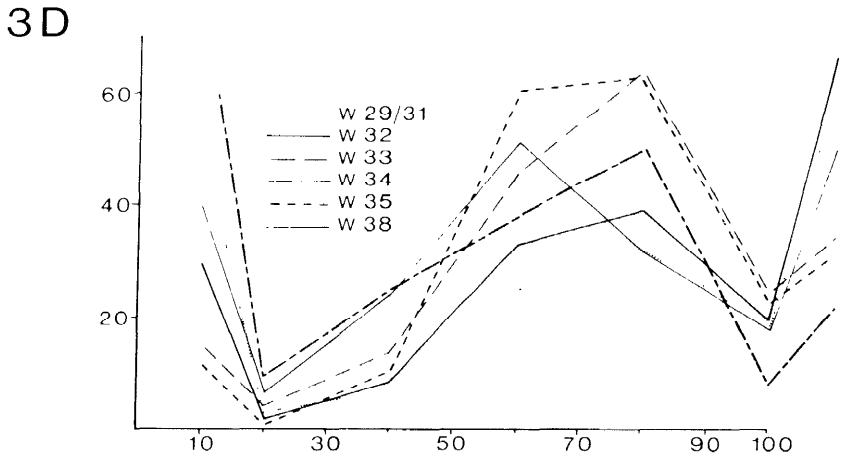

Fig 24 Mortar analysis, phases 3B(i), 3B(ii), 3D

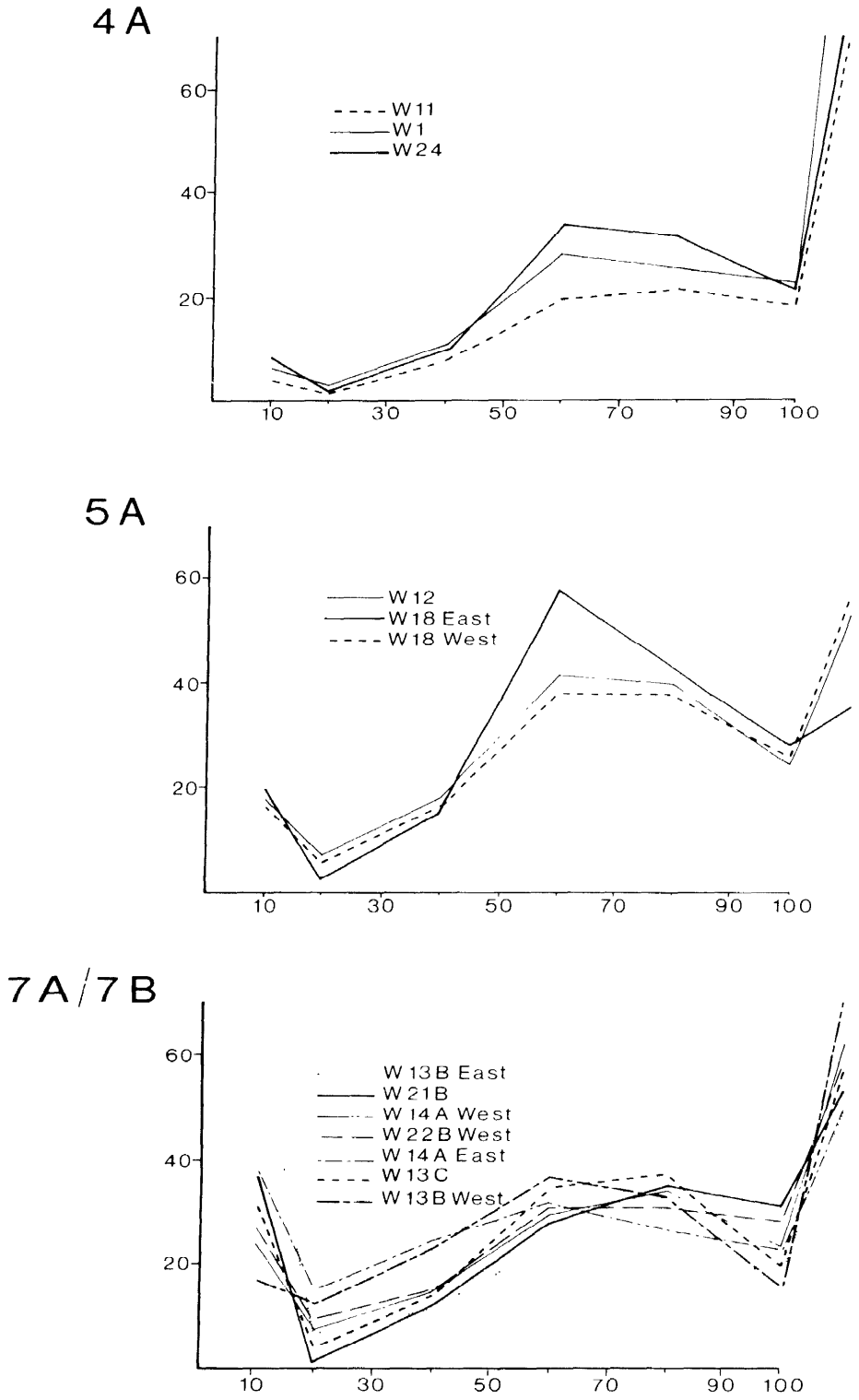

Fig 25 Mortar analysis, phases 4A, 5A, 7A/B

The pottery

Rosemary R Woodland

The fabrics

The pottery from the Augustinian Friary excavations is of great importance to the study of medieval and post-medieval ceramics in Leicester, since it forms the first well stratified group of pottery of this period from the city. Previously, the close dating of pottery from context and stratification has been impossible, since most pottery groups have occurred in pits of uncertain stratification. The fabric type series that has been drawn up during the study oft he friary material will prove invaluable in further work on pottery groups from other areas of the city. It must be stated, however, that this type series is by no means definitive, and may need to be revised in the light of future research.

Every sherd was examined by eye, using a binocular microscope at x 35 magnification, and the pottery was divided into fabric groups according to the inclusions in the clay. Each fabric contains the same basic inclusions, quartz, iron-stained quartz, haematite, and magnetite, all of which occur naturally in the boulder clays of the Leicester region. Since the inclusions do not vary in type, classification of fabrics was carried out using the size of' inclusions as a guide, allowing for the fact that in some cases particle size can vary within individual vessels. A total of 41 fabric groups was identified; a number of these are: now thought to derive from the same clay and/or kiln source Few kiln sites are known in Leicestershire; the products of some have been recognized from the friary, but many of the fabric groups come from as vet unlocated kiln sources.

Each fabric group has been given a letter or letter and number code. This code is used for case of reference only: it must not be assumed that the fabrics are described in strict chronological order, not that fabrics from the same kiln source are grouped together. The fabrics are described in detail below. In each case the degree of firing, surface texture, and fabric colour are followed by the range of inclusions present, method of manufacture (whether hand-made or wheel-thrown), and colour of glaze where present. Possible kiln sources, or similar type wares, have been inserted in brackets beside some of the fabric codes.

Fabric A

Fairly soft-fired fabric; smooth surface texture. Colour ranges from pink-buff to grey-black. Inclusions moderately frequency quartz particles between 0.3 mm to 0.5mm across; also mica plates. All vessels hand-made; unglazed.

Fabric B

Hard-fired; smooth surface texture. Interior and exterior surfaces dark brown, core grey, producing 'sandwich' effect. Infrequent inclusions; quartz particles approximately 0.2 mm across, occasionally up to 0.5mm; also mica plates. Some vessels wheel-thrown, others hand-made? Unglazed.

Fabric C (Torksey/Thetford type)

Hard- fired; fairly fine sandy surface texture. Dark brown throughout. Abundant inclusions, including quartz, mica, and haematite, approximately 0.3mm across. Some vessels wheel-thrown, others hand-made? Unglazed.

Fabric D (Torksey/Thetford type)

Hard-fired; smooth, sandy surface texture. Red-brown surfaces, dark grey-black core producing a 'sandwich' effect. Moderate inclusions; quartz particles on average 0.5mm across, some up to 1.0mm. Small mica flecks present. All vessels hand-made; unglazed.

Fabric E (Stamford ware)

Soft-fired; very smooth surface texture; usually white fabric. Few inclusions visible under x 35 magnification. All vessels wheel-thrown; thin yellow-light green glaze usual on exterior. Some sherds have a slightly thicker mottled-green glaze.

Fabric F(Stamford-type ware)

Similar to E above but with mica inclusions. All vessels wheel-thrown; distinctive lime-green glaze on exterior of some sherds.

Fabric G

Hard-fired; smooth sandy surface texture; white-cream colour. Moderate to frequent inclusions; quartz particles 0.3 to 0.4mm across. Some magnetite particles. Vessel hand-made, possibly finished on a turntable; unglazed.

Fabric H

Low-fired, friable fabric; rough, sandy surface texture, Cream-buff-red interior and exterior surfaces and red core. Abundant quartz inclusions approximately 0.1 mm to 1.0mm across. Also haematite particles 0.2mm to 2.0mm across. Occasional limestone particles. All vessels wheel-thrown; unglazed.

Fabric J

Friable, brittle fabric. Very sandy texture; buff-brown interior and exterior surf-aces, grey core, producing 'sandwich' effect. Limestone particles approximately 1.0 to 2.0mm across, also quartz particles approximately 1.0mm to 3.0mm across. Haematite particles approximately 1.0mm across. Occasional flint particles approximately 2.0mm long, and mica plates. Vessel wheel-thrown; unglazed.

Fabric K

Soft fabric; rough, sandy surface texture. Orange-cream fabric. Quartz particles approximately 0.5mm to 1 mm across. Large number of mica flakes. All vessels wheel-thrown; unglazed.

Fabric L (Splashed ware)

Soft-fired fabric; fairly smooth surface texture. Red-buff interior and exterior surfaces, grey core. Quartz particles of between 0.25mm to 0.75rnm across. Haematite particles of between 0.1 and 0.5mm across. Occasional mica plates show on the surfaces. All vessels wheel-thrown: glaze occurs on most vessels, usually dark green, with brown pits under the glaze patches.

Fabric M

Soft-fired fabric; fairly sandy surface texture. Buff-brown exterior, black interior surface and core. Quartz particles of between 0.25mm and 0.5mm across. Occasional magnetite

particles of less than 0.05mm across. Fairly frequent inclusions. Abundant mica plates. All vessels wheel-thrown; unglazed.

Fabric N (Potters Marston-type ware)

Fairly soft fabric; sandy surface texture. Buff-orange exterior and interior surfaces, grey core. Quartz particles of between 0.25mm and 1.0mm across; haematite particles occurring infrequently, but of a similar size range to quartz particles. Limestone particles are the main inclusions, ranging from 0.25mm to 1.5mm across. Vessels are slab- or coil-built, some finished on turntable with rims shaped with a template. One vessel only is wheel-thrown (see below, Illustration 49 and p124). Glaze on some vessels; patchy cover, with colour ranging from orange to dark green.

Fabric O

Very soft-fired; smooth surface texture. Buff exterior and interior surface, light grey core. Limestone particles are the main inclusions, measuring between 0.1 mm and 2.0mm across. Occasional magnetite and haematite particles of between 0.1 mm and 0.5mm across. Very infrequent quartz particles approximately 0.5mm across. All vessels wheel-thrown; bright green glaze on the exterior of one vessel only.

Fabric P(i) (Nottingham/'Loughborough' ware)

Hard fabric; sandy surface texture. Colour ranges from buff throughout, to grey-black interior and core, and white band between core and glaze (see note re 'Loughborough Ware' on p125). Quartz is main inclusion, with particles measuring approximately 0.25mm to 0.5mm across; magnetite particles also present approximately 0.1 to 0.25mm across. Inclusions are moderately frequent. All vessels wheel-thrown; glazed on exterior; glaze colour green, with some handles orange-glazed.

Fabric P(ii)

Coarse, hard fabric; very rough surface texture; colour ranges from buff to red on exterior, and buff to black on interior. Angular quartz grains of 0.5mm to 1.5mm across. Haematite and magnetite also present, with particle size approximately the same as quartz. All vessels wheel-thrown; glaze on exterior usually light-dark green.

Fabric P(iii)

Soft fabric; smooth surface texture. Colour pink throughout; thicker sherds have pink interior and exterior surfaces, and buff-cream core. Fairly frequent inclusions; quartz grains of 0.25mm to 1.0mm in diameter; red ironstone particles approximately 1.5mm in diameter; occasional limestone particles of 0.05mm to 1.00mm across. Minute particles of both quartz and haematite less than 0.05mm across. All vessels wheel-thrown; most vessels glazed on interior and/or exterior; glaze usually light green in colour.

Fabric P(iv)

Softer fabric than P(iii) above; smooth surface texture. Pink throughout. Inclusions are sparse; quartz particles approximately 0.5mm across, and haematite particles less than 0.05mm across. Occasional limestone fragments of between 1.5mm and 3.0mm across. All vessels wheel-thrown; most vessels glazed on interior and/or exterior; glaze varies from yellow to dark green in colour.

Fabric P(v)

Hard fabric; rough sandy surface texture. Pink or buff exterior surface colour, white or blue interior surface. Quartz particles measure 0.5mm across; also magnetite and haematite particles of similar size. Occasional larger particles of ironstone occur. All vessels wheel-thrown; glaze on exterior, colour ranges from yellow to dark green.

Fabric P(vi) (Nuneaton-type ware)

Hard-fired; fairly smooth surface texture. Colour ranges from pink to buff both on interior and exterior surfaces and in core. Quartz inclusions approximately 0.5mm across, with less frequent larger quartz particles of up to 1.0mm across. Haematite particles range between 0.2mm and 1.0mm across, with occasional larger particles. Very occasional limestone fragments occur. All vessels wheel-thrown; most vessels glazed, usually on exterior; glaze ranges from yellow to light-dark green to blue-black in colour.

Fabric P(vii)

Both soft and hard-fired examples; fairly smooth surface texture. Colour usually pink throughout. Quartz particles of less than 0.1mm up to 0.5mm across. Haematite particles also present of similar dimensions to quartz particles. All vessels wheel-thrown; some vessels glazed; glaze colour ranges from orange to light-dark green.

Fabric P(viii)

Hard-fired; rough surface texture. Fabric colour ranges from pink to buff. Quartz inclusions from 0.25mm to 1.0mm across; magnetite and haematite are sparse, and are smaller than .05mm across. All vessels wheel-thrown. Most glazed on exterior, occasionally on interior (eg urinals); glaze colour ranges from yellow to green, with some blue-purple patches.

Fabric P(ix)

Fairly hard-fired; very smooth surface texture. Usually reddish-pink in colour, but occasionally red exterior and interior surfaces and buff core. Quartz and haematite occasionally reach 0.5mm across, but more usually *c* 0.15mm across. Even smaller haematite particles spread throughout clay matrix. All vessels wheel-thrown; glaze colour ranges from orange to green, becoming dark brown-purple when overfired.

Fabric P(x)

Hard-fired; very rough surface texture. Buff exterior surface, grey interior surface. Quartz particles between 0.3mm and 0.5mm across. Magnetite and haematite particles are also present measuring less than 0.1mm across. Occasionally larger haematite particles occur up to 4mm across. Very frequent to abundant inclusions in this fabric. All vessels wheel-thrown; glaze patchy, usually yellow-green in colour.

Fabric P(xi)

Very friable fabric, surfaces flake off; very rough surface texture. Buff to red exterior, buff interior surface. Quartz particles 0.5mm to 1.0mm across on average with occasional larger fragments. Haematite particles occur in two sizes, those less than 0.lmm across, and those between 1.0mm and 2.0mm across. Quartzite and grog are also present. One vessel only; wheel-thrown. Green glaze on interior of base and part-way up interior of wall.

Fabric P(xii) (Nuneaton-type ware,)

Hard fabric; fairly sandy surface texture. Cream-pink fabric. Quartz and haematite particles approximately 0.5mm across, with occasional larger fragments. Also an abundance of smaller quartz and ironstone particles less than 0.05mm across throughout clay matrix. All vessels wheel-thrown, except for dripping dishes and crucibles which are slab-built. Most vessels glazed on exterior and/or interior; glaze ranges in colour from yellow to dark green with some overfired examples having brown-purple glaze.

Fabric P(xiii)

Hard-fired fabric, smooth surface texture. Cream exterior and core, brown-cream interior surface. Quartz particles of between 0.1 mm and 0.5mm across. Haematite particles less frequent but of similar size to quartz. Very occasional magnetite inclusions, 0.25mm across. Abundant inclusions. One vessel only; wheel-thrown; glaze on interior, light green in colour.

Fabric P(xiv)

Hard-fired; smooth surface texture. Pink-buff fabric colour. Quartz and haematite inclusions less than 0.1 mm across, with some larger particles of up to 0.25mm across. Very occasional large particles of limestone of 2.0mm to 3.0mm across. Very abundant inclusions. All vessels wheel-thrown. Glaze, on exterior jugs, interior bowls, ranges in colour from yellow to green to a dark blue-black.

Fabric P(xv)

Both hard- and soft-fired examples; rough surface texture. Pink-buff colour, with reduced examples grey throughout. Quartz inclusions approximately 0.5mm to 1.0mm across; haematite particles of similar size. All vessels wheel-thrown, with exception of dripping dishes; vessels patchily glazed, usually on exterior but on interior of bowls and dripping dishes. Glaze colour ranges from orange-green to green-purple or green-black on hard-fired examples.

Fabric P(xvi)

Hard-fired fabric; smooth surface texture. Cream-buff colour throughout. Quartz particles 0.25mm to 0.5mm across; also haematite particles of similar dimensions. Very abundant inclusions-similar density to P(xiv), but larger particles throughout. All vessels wheel-thrown; glaze, on exterior and/or interior, ranges in colour from yellow-lime green to dark green, with some glaze overfired to an orange-black colour.

Fabric P(xvii)

Hard-fired; smooth surface texture. Cream-buff fabric throughout. Quartz inclusions of between 0.1mm and 0.25mm across with, very occasionally, larger particles of up to 0.5mm across. Very infrequent haematite particles of 0.5mm to 1.0mm across. Inclusions infrequent in this fabric. All vessels wheel-thrown; glaze, on exterior only, ranges in colour from yellow-green to dark green to almost black on overfired examples.

Fabric P(xvii) (Transitional Midland Purple)

Both soft- and hard-fired examples; rough surface texture. Oxidized fabric is pink-orange, reduced fabric grey-purple in colour. Quartz particles of between 0.75mm and 1.0mm across, with occasional larger particles up to 2.5mm diameter. All vessels wheel-thrown with exception of dripping dishes, which are slab-built; glaze, on interior and/or exterior, ranges in colour from orange-brown to green on soft-fired examples, and orange-brown to dark brown-purple on hard-fired examples.

Fabric P(xix) (Midland Purple)

Hard-fired; very rough surface texture. Red-purple to grey-black throughout. Quartz is main inclusion, with particles of between 0.5mm and 1.5mm across, occasionally up to 2mm to 3mm across. Infrequent haematite particles of 0.1mm to 0.25mm across. Very frequent inclusions. All vessels wheel-thrown; glaze, on exterior and/or interior, ranges in colour from green to purple-black.

Fabric P(xx) (Midland Purple)

Hard-fired; very smooth surface texture. Red-purple to black throughout. Quartz and less frequent haematite particles of 0.1 mm to 0.5mm across; very sparse inclusions. All vessels wheel-thrown; glaze on exterior and/or interior, ranges in colour from orange-purple to black.

Fabric P(xxi) (Midland Purple)

Hard-fired; rough surface texture. Reddish-purple throughout. Quartz inclusions of between 0.5mm and 1.0mm across. Very occasional haematite inclusions of approximately 1.0mm across. Fairly frequent inclusions. All vessels wheel-thrown; glaze, on exterior and/or interior, is usually purple in colour.

Fabric P(xxi) (Midland Purple)

Fairly hard-fired fabric; sandy surface texture. Red-orange throughout. Quartz inclusions of between 0.1 mm and 0.25mm. Ironstone particles of between 0.05mm and 0.25mm. Far fewer inclusions than P(xix). One vessel only, wheel-thrown. Glaze, on exterior only, is brown-purple in colour.

Fabric CW (Cistercian ware)

Very hard fabric; smooth surface texture. Red oxidized fabric, purple-black reduced fabric. Occasional quartz? inclusions of between 0.25mm and 1.0mm across.

Inclusions very sparse. All vessels wheel-thrown; all glazed with almost colourless glaze on interior and exterior; surface colour of fired vessel depends on colour of clay beneath glaze and not on glaze itself (see p 97 for further discussion of this point).

Fabric TG (Tudor Green and Tudor Green-type ware)

Soft-fired fabric; very smooth surface texture. Cream-yellow throughout. Infrequent quartz particles of between 0.05mm and 0.25mm across, although very seldom as large as 0.25mm. Minute haematite particles smaller than 0.05mm across, and very infrequent in clay matrix. All vessels wheel-thrown; glaze on all vessels, exterior and/or interior, ranges from yellow to bright green, with occasional darker green mottling.

Fabric MY (Midland Yellow ware)

Very soft fabric; smooth surface texture. Cream throughout. Very infrequent limestone particles of between 1.0mm and 2.0mm across, Other inclusions unidentifiable because they are smaller than 0.01mm across, although they occur throughout the clay matrix. All vessels wheel-thrown; all vessels glazed with almost colourless glaze; colour of fired vessel derives from colour to which the clay has fired (see p 97 for further discussion of this point).

Fabric S (Stoneware)

Very high-fired, vitrified fabric, very smooth surface texture. Usually grey throughout. Very infrequent inclusions too small to identify. All vessels wheel-thrown; salt-glaze used on interior and/or exterior of most vessels, giving grey-brown appearance to body.

Fabric De (Delft ware)

Soft fabric. Smooth surface texture. Cream colour throughout. Quartz particles approximately 0.1 mm across. Haematite particles of approximately the same size. Very occasional large ironstone particles up to 1.5mm across. Fairly sparse inclusions. All vessels wheel-thrown; painted and then glazed over paint.

Dutch Import (included under fabric De in Tables and illustration list)

Fairly hard-fired. Smooth surface texture. Red core and surfaces. Quartz particles less than 0.05mm across. Occasional magnetite particles of similar size to quartz. Some minute mica particles. One vessel only present. Wheel-thrown. Clear glaze over exterior gives orange-brown appearance to surface.

The tables

The information concerning the distribution of the fabrics and vessel forms within the phases of the site and the decorative and manufacturing techniques used has been presented in tabulated form below. Each table is self-explanatory, but certain points must be borne in mind. For example, the numbers shown on all tables are representative of numbers of vessels, not numbers of sherds. Although a record has been kept of the number of sherds per vessel, tables based on the number of sherds from the site would give a less accurate picture ofpottery use, since it proved impossible to calculate the average number of sherds into which vessels in any fabric might break. In addition, the total number of vessels examined from the site and shown in Tables 17, 18, and 19 is not the maximum number of vessels used on the site during its life, since the excavation was not a total-area one. Consequently the figures shown in the tables give an indication only of the popularity of the various fabrics on the site, and their periods of use. Where the numbers are separated by a diagonal line, the smaller of the two figures denotes the minimum number of vessels present, while the larger figure represents the maximum number of vessels present. Tables 17, 18, and 19 show the total number of vessels from the site, including those vessels that occur in modern, unphased, and unstratified contexts. Table 17 gives an indication of the period of use of the fabrics on the site, whilst Table 18 does the same for the vessel forms. Table 19 combines the fabrics and vessel forms, and shows which vessel forms occur within each fabric group. Tables 20a-h deal only with those phases that appear to be rubbish deposits in use during the occupation of the friary and whose contents are more likely to reflect an accurate picture of pottery use on the site than the pottery from building deposits and foundations, which is more likely to be redeposited material. Each phase is dealt with in more detail than in Tables 17-19, with some vessel forms sub-divided into smaller groups; for example, under the general type heading 'jugs', sub-headings refer to baluster, ovoid, squat, and lighthouse jugs. It was hoped that some development in vessel form might be indicated in this way; unfortunately, only 6% of the total number of jugs from the site could be assigned to one of these four sub-groups; all others are shown under the heading 'jug— type unknown'. A similar problem occurred when dealing with bowls and cisterns although the sub-group headings have still been included in Tables 20a-h.

Tables 21, 22, and 23 have been compiled to show the manufacturing and decorative techniques used on vessels from the site; Cistercian and subsequent fine wares are not included. Much unnecessary description could thus be omitted from the discussion, and comparison of the various techniques used was made easier. It must be noted here that some fabrics have been grouped together in the discussion as the products of the same kiln source (see below, p 125-6); this is not indicated in the tables.

Tables 24 and 25 deal exclusively with Cistercian ware from the site. Table 24 shows all the vessel forms present in this fabric on the site; over half of the vessels in this group are of unidentifiable form, as they are represented by only a few fragments. Familiar Cistercian ware forms such as posset pots do occur, but the majority of forms cannot be exactly paralleled from any other site. No attempt has been made, when sub-dividing cups or jugs, to devise a type series for Cistercian ware in Leicester. The sub-divisions have been made in order to simplify the study of forms used within this fabric group on the vessels occurring on one specific site, and should not be seen as a definitive statement on types. The decoration used on Cistercian ware vessels is complex; Table 25 was devised to show the range of motifs used, and the vessel forms in which each motif occurs.

The tables are referred to in the discussion below, but can be used on their own to give a general, factual picture of the range of pottery from the site. The use of tables has made it possible to avoid repetitious descriptions within the discussion, and at the same time presents the information in a detailed, but easily understood, form.

Table 17 To show total number of vessels from the site, within fabric and phase groups

Phase	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(ix)	P(x)	P(xi)	P(xii)	P(xiii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)	CW	TG	MY	S	De	Total
1	2	1	1	4	19	6	1			3	10	1	249/290		2	5	1	7/13		6	1	2				32/41		7/12	3	8	3										374/441
2A											1		4		1													1													7
2B													21					4								5				1											31
2C																																									
2D								1					13		2	4	1			13	1	2/3				15/17		2	1	2		2										59/62
3A	1				1	1		3	1				35		4		5	4	1	3	1	3			1	23/29		2		3	1										93/99
3B		1	1	1	5	1					1		74		11		10/11	8/14	2	11	4	5		2		49/74	1	7/10	2/3	10	1										207/243
3C					5	1							29		4					1						8		2		3											53
3D					4	1					2		51		2	1		3/4		2	1	2				5/6		2	1												77/79
3E	1							1					18					3		1						2				2											28
3F					1								5		1	7	1			5		3/4	1			15		2	8/9	1		1	1								52/54
4A													43		4		7/8	4/5	3	3	3/5	1	1			27/32		3/5	4												103/114
4B					4	6							91	1	7	1	13/19	6/7	2	22	12/17	1/2	3			49/70		7/11	4	1		6	3		2						241/279
4C													2				1			1						1		1													6
5A											1		7	2			3	2		9	1	4/5	1			22/28		3/4	5		1	5	2		1		1			1	71/79
5B						1							2					1			1/2					6				1											12/13
5C											1		3													1															5
6A													4		1		1			1		1	1			8/10		2		1					1							21/23
6B													5		2					3	1		1			10/11			1/2	1	2			1							27/29
7A					3	1					1		21		2	8		1	1	7	2	5/6				15/17		2	6			13	7	1	2	1	19	1				119/122
7B													2													1											1					4
7C													3													2				1												6
7D	1				1	2							46							1						2		2														55
8A																																									
8B													7								2		2			6						1										18
9AII													10			2		1		8		23	1			9/13		3	44			71/75	14	2	6		149	6	2	5	1	357/365
9AIV			1										9	1			3	1		4/6	2	9				5/6		4	12/17			28/30	4		4		20	2				108/118
9B																		1																1								2
10A					1								2																								2					5
10B																													1	1		2	1		2		7		1			15
10C													4				1	1		1		3/5				5		1	11		1	42	9	8	8		143	2	10	1	1	252/254
10D											2		3		1					1	2	2/4				6		3	3			27	2	5	3		50	3	9	5	2	129/131
10E																						1				1		1	3		1	6			1		10	1				25
10F																				1						1						1			1		3					7
10G						1					1		9		2			2		3	2					7/8		3	2		1											33/34
10H													2					1								2						6					6					17
10J					1								5							2									1	2		2		1			3					17
Total	5	2	2	5	45	21	1	5	1	3	20	1	779/826	4	46	28	47/55	50/65	9	109/111	36/44	67/76	11	2	1	340/426	1	60/75	112/120	38	11	213/219	43	19	31	1	414	15	22	12	4	2636/2840
Modern				1	1								2		1		1	2								0/1						1					6					15/16
Unphased						1					1		14					1		1		1										4										23
Unstratified					2	1					1		68	2	2		3	8/11		9/11	2/4	5/6		1		26/40		3/6	7/8	7		17	9	3	4		20	1	10	3	1	215/241
Total	5	2	2	6	48	23	1	5	1	3	22	1	863/910	6	49	28	51/59	61/79	9	119/123	38/48	73/83	11	3	1	366/467	1	63/81	119/128	45	11	235/241	52	22	35	1	440	16	32	15	5	2889/3120

Table 18 To show range of vessel types present and the numbers of each vessel type within each phase

Vessel types	1	2A	2B	2C	2D	3A	3B	3C	3D	3E	3F	4A	4B	4C	5A	5B	5C	6A	6B	7A	7B	7C	7D	8A	8B	II 9A	IV 9A	9B	10A	10B	10C	10D	10E	10F	10G	10H	10J	Unstratified	Modern	Un-phased	Total
	Phases →																																								
Cooking pots	9				1	1	2			2													1																		16
Cooking pots/ storage vessels	55		2		2	14	22/23	3	7	1	2	13/14	31/37	1	3	2		1	4	6		1	3		2	2	3				2	2			2	1		20/21		3	210/219
Tripod pitchers																																							1		1
Spouted pitchers													1																									1			2
Jugs	78/95	2	9		35/37	36/37	82/103	14	23/25	5	27	39/43	78/88	2	29/33	3	1	10	14/15	42/43	1	1	6		6	77/80	21/25	1		3	28	17	6	4	13/14	4	4	57/71	2/3	4	784/870
Bowls	6		2		3	9	27/31		7		3	5	32/34	1	5			3	1	3			1		1	16	17			1	11	6	1		5		1	12			179/185
Urinals							1				7		1		6					9					1	28	8			1	5	2			1		1	4			75
Pipkins																										2									1			1			4
Dripping dishes							1					1	3		1											4	1				1		1					1			14
Distilling apparatus															1																				1						2
Crucibles															2																										2
Flasks											1															4															5
Cisterns and lids													4		1				1	15					1	33	6	1			24	16	2			3	3	7	1	1	119
Mortar																										1															1
Posset pots and lids																				2						12					6	4									24
Cups																				7	1					38	3		2	2	9	1				2	1	5			71
Candlesticks																										2															2
Chafing dishes																										2	1				2							2			7
Incense burner																															1										1
Lamp																											1														1
Lobed cups																				1						1						1									3
Type 4 cups																										1															1
Ink pots																										1							1								2
Pedestal bowl																																1									1
Straight-sided lobed cup																															1										1
Jars																															2							2			4
Dish																															1										1
Vessel type unknown – lid																										1															1
Jug/Mugs															1											5					1	5									12
Altar vase																																1									1
Vessel type unknown	226/276	5	18		18/19	33/38	72/82	36	40	20	12/14	45/51	91/111	2	22/26	7/8	4	7/9	7/8	34/36	2	4	44		7	127/132	47/53		3	8	158/160	73/75	14	3	10	7	7	103/114	11	15	1342/1472
Total	374/441	7	31		59/62	93/99	207/243	53	77/79	28	52/54	103/114	241/279	6	71/79	12/13	5	21/23	27/29	119/122	4	6	55		18	357/365	108/118	2	5	15	252/254	129/131	25	7	33/34	17	17	215/241	15/16	23	2889/3120

Table 19 To show the number of each vessel within each fabric group

Vessel types	Fabrics – A	B	C	D	E	F	G	H	J	K	L	M	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(ix)	P(x)	P(xi)	P(xii)	P(xiii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)	CW	TG	MY	S	De	Total
Cooking pots	3	2	2				1	3		3			2																													16
Cooking pots/ storage vessels	2			5				1	1		1	1	146				13/21			8/9	3	4	1	2	1	21															210/219
Tripod pitchers				1																																					1
Spouted pitchers					2																																				2
Jugs						1					18		46	2	49	28	3	41/57	9	84/87	3	16	5			250/304		46/57	38/40	36	10	16	18	4	12		42	6	1			784/870
Bowls								1					32				17	6		8	19	1	3	1		30/36	1	3	2	4	1	39	2	3				6			179/185
Urinals																				9		24	1			1			33				3		4							75
Pipkins																				1									1						2							4
Dripping dishes																				1			1			3			4			5										14
Distilling apparatus																										2																2
Crucibles																										2																2
Flasks																													4				1									5
Cisterns and lids																										1						85	12	3	17	1						119
Mortar																																	1									1
Posset pots and lids																																					24					24
Cups																																					70		1			71
Candlesticks																																					2					2
Chafing dishes																																					7					7
Incense burner																																					1					1
Lamp																																						1				1
Lobed cups																																						3				3
Type 4 cups																																						1				1
Ink pots																																						2				2
Pedestal bowl																																						1				1
Straight-sided lobed cup																																						1				1
Jars																																							4			4
Dish																																							1			1
Lid – vessel type unknown																																							1			1
Jug/Mugs																																								12		12
Altar vase																																									1	1
Vessel type unknown					46	22					3		637/684	4			18	14/16		8	13/23	28/38				56/97		14/21	37/44	5		90/96	15	12			294	1	18	3	4	1342/1472
Total	5	2	2	6	48	23	1	5	1	3	22	1	863/910	6	49	28	51/59	61/79	9	119/123	38/48	73/83	11	3	1	366/467	1	63/81	119/128	45	11	235/241	52	22	35	1	440	16	32	15	5	2889/3120

Table 20a

Vessel types		Vessel types per fabric group present in phase 2D Fabrics H	N	P(i)	P(ii)	P(iii)	P(vi)	P(vii)	P(viii)	P(xii)	P(xiv)	P(xv)	P(xvi)	P(xviii)
Cooking pot		1												
Cooking/storage vessel			2											
Jugs	Ovoid						1							
	Baluster				1		1							
	Squat				1		4							
	Lighthouse													
	Type unknown		1	2	2		6			13/15	1		2	
Bowls	Wide-mouthed		1			1				1				
	Wide-flanged													
Vessel type unknown			9				1	1	2/3	1	1	1		2

Table 20b

Vessel types		Vessel types per fabric group present in phase 3F Fabrics E	N	P(i)	P(ii)	P(iii)	P(vi)	P(viii)	P(ix)	P(xii)	P(xiv)	P(xv)	P(xvi)	P(xviii)	P(xix)
Cooking/storage vessel							1			1					
Jugs	Ovoid														
	Baluster				4										
	Squat				2							1			
	Lighthouse														
	Type unknown			1	1		4		1	10	1	1	1		
Bowls	Wide-mouthed					1				2					
	Wide-flanged														
Urinals								3				4			
Flask															1
Vessel type unknown		1	5					0/1		2	1	2/3		1	

Table 20c

Vessel types		Vessel types per fabric group present in phase 4B Fabrics Er	E	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(ix)	P(xii)	P(xiv)	P(xv)	P(xvi)	P(xviii)	P(xix)	P(xxi)
Spouted pitcher		1																			
Cooking/storage vessel				20				5/11			1	2			3						
Jugs	Ovoid																				
	Baluster					1				1											
	Squat										1										
	Lighthouse																				
	Type unknown		1	2	1	6	1	1	4/5	1	15			1	34/43	5	1	1		1	
Bowls	Wide-mouthed			4				4			3	9			6/8	1					
	Wide-flanged													1	1				3		
Urinal																					1
Dripping dish														1	1		1				
Cistern															1				1	1	1
Vessel type unknown		3	5	65				3	2		2	1/6	1/2		3/13	1/5	2		2	1	

Table 20d

Vessel types		Vessel types per fabric group present in phase 5A																			
		Fabrics																			
		L	N	O	P(iii)	P(iv)	P(vi)	P(vii)	P(viii)	P(ix)	P(xii)	P(xiv)	P(xv)	P(xvii)	P(xviii)	P(xix)	P(xxi)	CW	S		
Cooking/storage vessel			1				1		1												
Jugs	Ovoid																				
	Baluster																				
	Squat																				
	Lighthouse																				
	Type unknown	1			1	1	6			1	12/15	3/4	2	1			1				
Bowls	Wide-mouthed				1						1		1								
	Wide-flanged														2						
Urinal							2		2		1		1								
Dripping dish											1										
Crucibles											2										
Distilling apparatus											1										
Cistern																1					
Jug/Mug																			1		
Vessel type unknown			6	2	1	1		1	1/2		4/7		1		3	1		1			

Table 20e

Vessel types		Vessel types per fabric group present in phase 7A																					
		Fabrics																					
		E	F	L	N	P(i)	P(ii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(xii)	P(xiv)	P(xv)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)	CW	TG	
Cooking/storage vessel					5								1										
Jug	Ovoid																						
	Baluster						5																
	Squat																						
	Lighthouse												1										
	Type unknown			1	1	2	3	1	1	5	1	2	11/12	1	2		2				3		
Bowls	Wide-mouthed				1																		
	Wide-flanged															2							
Urinal										2		2			4		1						
Cisterns	Tall															4			1				
	Short 'dumpy'																			1			
	Type unknown															6	2		1				
Posset pots																					2		
Cups																					7		
Lobed cup type 8																						1	
Vessel type unknown		3	1		14						1	1/2	2/3	1		1	2	1			7		

Table 20f

Vessel types		Vessel types per fabric group present in phase 9A, area II Fabrics N	P(ii)	P(iv)	P(vi)	P(viii)	P(ix)	P(xii)	P(xiv)	P(xv)	P(xviii)	P(xix)	P(xx)	P(xxi)	CW	TG	MY	S	De
Cooking/storage vessel					1	1													
Jugs	Ovoid																		
	Baluster																		
	Squat									1	1	1							
	Lighthouse				1														
	Type unknown	1	2	1	1	6		7/10	2	12	7	7			21	3	1		
Bowls	Wide-mouthed	2			1		1												
	Wide-flanged				1						9	1	1						
Urinals					2	10				15				1					
Flasks										4									
Pipkins										1				1					
Dripping dishes											4								
Cisterns	Tall										2			1					
	Short 'dumpy'										3	1							
	Type unknown										23	2		1					
Mortar												1							
Posset pots															12				
Cups															38				
Candlesticks															2				
Chafing dishes															2				
Lobed cup type 8																1			
Lobed cup type 4																1			
Ink pot																1			
Lid - vessel type unknown																	1		
Jug/Mug																		5	
Vessel type unknown		7			1	6		2/3	1	11	22/26	1	1		74				1

Table 20g

Vessel types		Vessel types per fabric group present in phase 9A, area IV Fabrics N	O	P(iii)	P(iv)	P(vi)	P(vii)	P(viii)	P(xii)	P(xiv)	P(xv)	P(xviii)	P(xix)	P(xxi)	CW	TG
Cooking/storage vessel		2				1										
Jugs	Ovoid															
	Baluster															
	Squat															
	Lighthouse															
	Type unknown	1				2/4		1	2	3	4/6	2		2	3	1
Bowls	Wide-mouthed			2			2		1							
	Wide-flanged											12				
Urinal						1		3			3		1			
Dripping dish												1				
Cisterns	Tall															
	Short 'dumpy'													1		
	Type unknown											3	1	1		
Chafing dishes															1	
Cups															3	
Lamp																1
Vessel type unknown		6	1	1	1			5	2/3	1	5/8	10/12	2		13	

Table 20h

Vessel types		Vessel types per fabric group present in phases 10B and C Fabrics N	P(iii)	P(iv)	P(vi)	P(viii)	P(xii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	CW	TG	MY	S	De
Cooking/storage vessel		1				1														
Jugs	Ovoid																			
	Baluster																			
	Squat														1					
	Lighthouse																			
	Type unknown	2				1	4	1	3	1	1	2	2	1	1	10	1			
Bowls	Wide-mouthed																	1		
	Wide-flanged											5	1	1				1		
Urinal					1				3						2					
Dripping dish									1											
Cisterns Tall																				
	Short 'dumpy'																			
	Type unknown											15	3		6					
Posset pots																6				
Cups																11				
Chafing dishes																2				
Straight-sided lobed cup																	1			
Bowl – inverted rim																		2		
Jar																		2		
Dish																		1		
Jug/Mug																			1	
Vessel type unknown		1	1	1		1/3	1		5			20	3	6		120		3		1

Table 21 Features of manufacture and use on vessels of fabrics up to and including Fabric P(xxii)

Features of manufacture	Illustrated examples*	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(ix)	P(x)	P(xi)	P(xii)	P(xiii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)
Sagging base	109, 149					4											1	3	1	2	21	2	4	4	1	1	19	1	1	17	5		33	4		1	
Concave base	97															1	10		1		5		6				1		3	12	2		17	3	2	6	
Flat base	155, 275																3	11			4	1	2				4		2	3	6	1	6		1	1	1
Exterior of base and wall knife – trimmed	74, 81, 89					4	1					1		5				19	4	3	32	4	9	4	1	1	49	1	6	23	5	2	44	4	1	8	1
Finger-pulling marks on interior	Not illustrated													17																							
Finger-pulling marks on exterior	Not illustrated													12																							
Base stood on sand before firing	Not illustrated													35																							
Folded rim (cooking pot /storage vessels only)	Not illustrated													17																							
Pedestal base	93, 111															1	9				3						4		1	3	1			1			
Splayed base	102																4				7	1	3				5		2	12	7		8				
Glaze on exterior of base, from vessel stacked on base in kiln	88, 197															2	7			1	5						6			1	1	1	25	2		5	
Glaze on rim of vessel broken from stacking in kiln	Not illustrated															2					1						2			3	1		4	4	1	4	
Base cut from wheel with wire	88																3						1														
Two cut-outs in rim – one above each handle	156, 158																																5				
Four cut-outs in rim – none above handles	157,																																2				
Cut-outs in rim: exact number unknown	159																																9	1	1	4	
Bung-hole in base of wall	190,192																										1						7			1	
Base stood on straw before firing	Not illustrated																																1				
Wall of vessel pushed from interior into handle to secure handle	Not illustrated																			2	3		3				7		1	2				1		1	
Handle dowelled into wall of vessel	37																			1	8		3							11			12	2		3	
Features of use																																					
Sooted/burnt on exterior	Not illustrated	1	2	2	2	4	2	1	2		3	1		127	1			4	1		1	2		1	1		5						3			1	
Sooted/burnt on interior	Not illustrated					1			1					11													1		1								
Deposit on interior	Not illustrated													4							6		4				2		1	14			25	1	1	2	

NB This is not a complete list of illustrated vessels possessing the features mentioned above, merely a representative sample.

Table 22 Decorative techniques used on vessels of fabrics up to and including fabric P(xxii)

Decoration	Illustrated examples*	A	B	C	D	E	F	G	H	J	K	L	M	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(vii)	P(viii)	P(ix)	P(x)	P(xi)	P(xii)	P(xiii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)
Rouletting	6, 90			1										23									1														
Thumbed applied clay strip with vertical combing	Not illustrated					1																															
Thumbed applied clay strip	Not illustrated					1						1		1																							
Incised parallel lines around vessel	11, 15, 39, 41, 69					7	2					2		33		2	6	2	2	6	17		13				34		5	9	1	1	2	1	1	2	
Diagonal and horizontal incised lines	Not illustrated						2																														
Groups of wavy and parallel incised lines	Not illustrated						3																														
Incised wavy lines on rim	5, 91								1					7																			3				
Incised horizontal wavy lines on body	24, 33, 75								1					8		2							1				3				3						
Heavy rilling	48									1																											
Cordons	8, 34, 50											1		1		12	6			1	1		3	1			5			6			4	1		1	
Incised vertical parallel lines with square-stabbing between	49													1																							
Incised diagonal line or lines on body	Not illustrated													2																							
Stabbing on body	Not illustrated													1																							
Stabbing on rim	83													3																							
Slashed under rim flange	Not illustrated													6																							
Applied vertical slashed strip	23, 63													2																							
Applied vertical thumb-pressed strip	2, 12, 110, 121													18							1						1										
Applied diagonal thumb-pressed strips	7, 115													1													1										
Thumb-pressed under rim	Not illustrated													1																							
Finger-print decoration on exterior of rim flange	1, 27													4																							
Applied thumb-pressed strip under rim	2, , 62, 63, 78													11				1			1												4				
Thumbed base	11, 16, 42, 57, 64																		2			1					9				10	1		1			
Diagonal applied iron-rich clay strip	Not illustrated																		1								3										
Incised wavy horizontal lines with stabbing beneath	42																										1										
Applied vertical iron-rich clay strip	127																										1										
Applied pellets and strips	59																										1										
Thumb-pressed around bung-hole	131, 158																										1						1			1	
Vertical incised lines with diagonal slashings	Not illustrated																												1								
Applied scales of clay either side of vertical incised lines	46																														1						
Applied diagonal pellets of clay	Not illustrated																															1					

*NB This is not a complete list of illustrated vessels possessing the various decorative techniques mentioned above, merely a representative sample.

Table 23 Decorative techniques used on handles of vessels of fabrics up to and including fabric P(xxii)

Decoration	Illustrated examples*	L	N	O	P(i)	P(ii)	P(iii)	P(iv)	P(v)	P(vi)	P(viii)	P(ix)	P(xii)	P(xiv)	P(xv)	P(xvi)	P(xvii)	P(xviii)	P(xix)	P(xx)	P(xxi)	P(xxii)
Thumb-pressed down each side of central groove	17, 25	2	3													1						
Central groove and side-ridges stabbed with stick	Not illustrated		1																			
Central groove stabbed, side-ridges slashed	291		1																			
Central groove and side ridges stabbed; tool pulled downwards from each stab-hole to form vertical slashing below each hole	80, 116			1						1												
Circular stabbing down central groove only	34, 101, 148, 177					8		1							4							
Square stabbing down central groove only	112								1		1											
Stabbed down central groove; tool pulled outwards and downwards from hole to form "comma"-shaped stabbing	288							1														
Stabbed with right thumb-nail down rod handle	120								1													
Left-handed knife - slashing down central groove; side ridges vertically slashed	108						1															
Slashed across top of handle, and Right-handed knife-slashing down central groove	79								1	2												
Slashed across top of handle, and left-handed knife slashing down central groove	55, 107									2			1	1								
Right-handed knife - slashings down central groove, and slashing on thumbings at base	52, 115										1		1	1								
Left-handed knife – slashings down central groove	85												1									
Right-handed knife - slashings down central groove and side ridges	Not illustrated												1									
Left-handed knife - slashing down central groove, and incised circles at base of handle.	54												1									
Left-handed knife slashing down central groove, with vertical slashes on thumbings at base	Not illustrated												1									
Applied strip down centre of rod handle	Not illustrated												1									
Applied strips down central groove and side ridges, with side ridges thumb-pressed	Not illustrated												1									
Ridged handle: strap	146				2						1		1						1		1	
Undecorated rod handles	9, 38									5	5		5	2	9				1			
Undecorated strap handles	35, 50		5		1	1	1	1	2	11	6	2	7	4	6	4	1	23	10	1	13	1

NB This is not a complete list of illustrated vessels possessing the various decorative techniques mentioned above, merely a representative sample.

Table 24 To show Fabric CW vessel forms and their distribution within the phases of the site

Vessel types	⊕ Illustrated examples	5A	7A	7B	9AII	9AIV	10A	10B	10C	10D	10E	10F	10H	10J	U/S	Mod	Total
Posset pots	204		2		12				6	4							24
Chafing dishes	205, 206				2	1			2						2		7
Cup – short rim *	207, 258		3		8		1		5						3		20
Cup – tall rim *	209, 277		2		7			1	1								11
Cup – cordon below rim *	260								1								1
Cup – flared rim *	215		1		12		1		1								15
Cup – flared rim, no foot ring *	216				1			1									2
Cup – belled rim *	169			1	4	2											7
Cup – wide body *	220				2												2
Cup – short, belled rim *	164		1														1
Miscellaneous cups *	231, 295				2								2	1	1		6
Pedestal cups	218, 219				2	1			1	1							5
Jug – Midland Purple type	221				2												2
Jug – narrow, cylindrical	222, 223				5				3	1							9
Jug – tall, flared rim	226, 227				2				4								6
Jug – cordon on rim/neck	166, 225		1		3				1								5
Jug – corrugated	229				3	1			1	1							6
Jug/drinking mug	165		1		2	1			1								5
Jug – tall, rounded/cylindrical	224, 286		1		2					1	2						6
Jug – bulbous	228				1												1
Jug? – base with splayed foot	249					1											1
Jug/flask/bottle	237				1												1
Candlestick	233, 234				2												2
Incense burner	263								1								1
Miscellaneous bases †	235, 264				1				1								2
Clay disc with central hole †	232				1												1
Vessel type unknown		1	7		72	13		5	114	42	8	3	4	2	14	6	291
Total		1	19	1	149	20	2	7	143	50	10	3	6	3	20	6	440

** Denotes two-handled cups* *† Counted as vessel type unknown in Tables 18 and 19* ⊕ *NB This is not a complete list of illustrated vessel forms, merely a representative sample.*

Table 25: To show the range of decorative techniques used on Fabric CW vessels

Decoration	Illustrated † examples	Vessel types	Posset pots	Chafing dishes	* Cup – short rim	* Cup – tall rim	* Cup – cordon below rim	* Cup – flared rim	* Cup – flared rim, no footring	* Cup – belled rim	* Cup – wide body	* Cup – short, belled rim	* Miscellaneous cups	Pedestal cups	Jug – Midland Purple type	Jug – narrow, cylindrical	Jug – tall, flared rim	Jug – cordon on rim/neck	Jug – corrugated	Jug/drinking mug	Jug – tall rounded/cylindrical	Jug – bulbous	Jug? – base with splayed foot	Jug/flask/bottle	Candlestick	Incense burner	Miscellaneous bases	Clay disc with central hole	Vessel type unknown	Total
Groups of circular applied pads of white clay	164, 216, 277				2	3			1			1																	1	8
Groups of circular applied pads of white clay with conical pellets of red clay in centre of each group	210, 231					1							1																	2
Groups of circular applied pads of white clay with circle stamped into wall of vessel in centre of each group	209				1	1																								2
Groups of circular applied pads of white clay with circle stamped into pads and also onto wall of vessel	295												1																	1
Groups of circular applied pads of white clay with 'wheel' design stamped onto each pad	213 212 + 218 – [same stamp used on both]					2								1															1	4
Groups of circular applied pads of white clay with 'wheel-and-dot' design stamped onto each pad	214, 293					1																							1	2
Applied pad of white clay in the shape of a leaf	211, 224, 237					3				1			1			2					2			1					1	11
Leaf impressions stamped around wall of vessel, with applied white clay pellets between; circle occasionally stamped into wall around pellet	207, 208, 258				5																									5
Trailed slip decoration	233, 280		3										1												2					6
Cordons	166, 225						1											2												3
Decorative slashing round base	264																										1			1

* *denotes two-handled cups*

† *NB This is not a complete list of illustrated vessels possessing the various decorative techniques.*

The illustrations

The vessels described and illustrated below have been chosen to give as complete a picture as possible of-the range of both forms and decoration present. Only the illustrated pottery is listed within its stratigraphical context. Hence some phases or features within a phase are not mentioned in the illustration list, as they either contained only very fragmentary pottery or no pottery at all. Table 17 tabulates the total number of vessels retrieved in each fabric per phase, and thus provides the general pottery associations for the material illustrated here.

The major constructional features of the pottery—whether wheel thrown, slab, or coil built-should be evident from the conventions used in the illustrations. Additional features such as pouring lips, bung-holes, and dowelled handles are only mentioned in the text where their presence or absence on a particular vessel is atypical, or alternatively uncertain because the vessel is incomplete. A description of such characteristics as knife-trimming or stacking evidence under the base of's vessel, slashing above handles, and the number and position of cut-outs on a rim, occurs where this information may not be easily inferred from the illustration. Decorative, or semi-decorative features, cordons, rilling, and applied clay strips for instance, are not normally mentioned in the text, nor arc purely decorative features such as incised lines. However, where a combination of decorative motifs occurs—as with CW, or where unusual motifs are employed, such as stamps, rouletting, stabbing, and notching—these are mentioned.

The illustrations and illustration list should be looked at in conjuction with the tables, which not only set out features of the pottery mentioned above in relation to phase and fabric, but also list the complete range of forms present (Table 19). Tables 21 23 also provide additional information as to specific features of manufacture and use of the pottery for fabrics A P(xx11). which are not illustrated or described here. Table 25 codifies the decorative techniques for CW.

Glaze cover and colour are described for all vessels. except those in fabrics CW and MY. The glaze used on the vessels in these two fabrics is clear, and although it turns slightly yellow when fired, it allows the colour of the fabric to show through. Thus the exterior surface colour of the glazed vessel depends both on the colour of the fired clay as well as the colour of the glaze. All vessels of CW range in surface colour from lighty to dark brown. since the fabric colour is light to dark red under the glaze. Applied white clay decoration appears light yellow when combined with the glaze. The vessels in MY appear yellow when glazed, since the body clay is white. Both CW and MY vessels are almost completely glazed on the interior and exterior surfaces; and in some cases the concentration of glaze to one side at the base suggests that the CW vessels were often fired at an angle in the kiln. The lids in CW and MY are glazed on the top only.

Fig 26-pottery 1-12 scale ¼

PHASE I AREA I
FROM THE EARLIEST LAYERS OF AREA I

Illustration number	*Fabric*	
Figure 26		
I	N	Cooking/storage vessel everted rim. Unglazed.

TIMBER SLOT

Illustration number	*Fabric*	
2	N	Cooking/storage vessel. Unglazed exterior; patchy green glaze on interior of base and part way up interior of wall.

LAYERS ABOVE TIMBER SLOT

3	K	Cooking pot rim similar to illustration 19. Unglazed.
4	N	Cooking/storage vessel bifid rim. Unglazed.
5	N	Cooking/storage vessel rim; for similar decoration on body in this fabric see illustration 24. Unglazed.
6	N	Cooking/storage vessel body sherd showing rouletting, Unglazed,
7	N	Ovoid jug. Base stood on sand. Traces of green-yellow glaze on exterior of body.
8	P(i)	Jug rim. Smooth green glaze covers whole of exterior surface.
9	P(vi)	Very small, squat jug with knife-trimmed base, Patchy orange and green mottled glaze on exterior of body.
10	P(x11)	Small squat jug with two groups of two and one single thumbing a round the base. Patchy orange and green mottled yellow-orange glaze, with green spots, over top half of exterior of body.
11	P(xii)	Baluster jug. Green glaze with occasional brown-black spots/runnels over part of rim and exterior of body Patchy glaze towards bade.
12	P(x11)	Ovoid jug. Dark green-brown glaze over shoulder, with patches of glaze towards base, on exterior.
Figure 27		
1 3	P(x11)	
1 4	P(x11)	Widemouthed bowl rim. Unglazed.
15	P(x1v)	Jug-- squat or baluster. Slightly overfired. Patchy purple-green glaze on exterior shoulder.
16	P(xvi)	Jug base. Runnels of green glaze down to t-me.

PHASE I AREA II
HEARTH FEATURE

1 7	L	Rim of jug with handle spring from rim. Green orange glaze on rim and running down central groove of handle. For similar rim/handle in fabric N see illustration 20.

LAYERS ABOVE HEARTH FEATURE

18	P(11)	Squat jug base. Green-yellow glaze patches on exterior of base only.

LATEST LAYERS IN AREA ii PHASE I

19	K	Similar cooking pot rim to illustration 3. Unglazed.
20	N	Jug rim with handle springing from rim. For similar rim/handle in fabric I, see illustration 17. Unglazed.
21	N	Cooking/storage vessel rim. Unglazed.
22	N	Cooking/storage vessel rim. Unglazed.
2 3	N	Cooking/storage vessel body fragment shoeing applied clay strip with notched impressions. Unglazed.

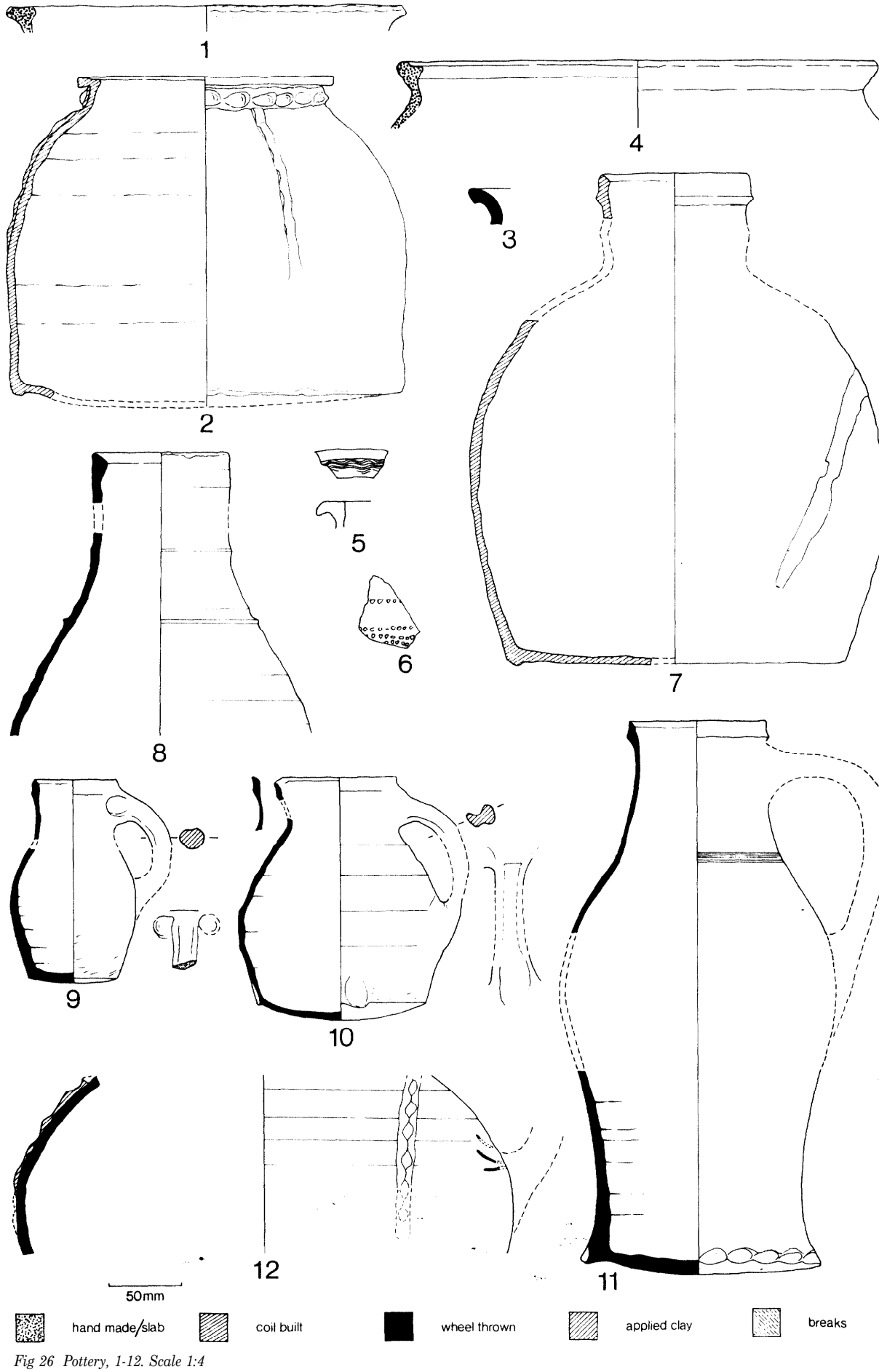

Fig 26 Pottery, 1-12. Scale 1:4

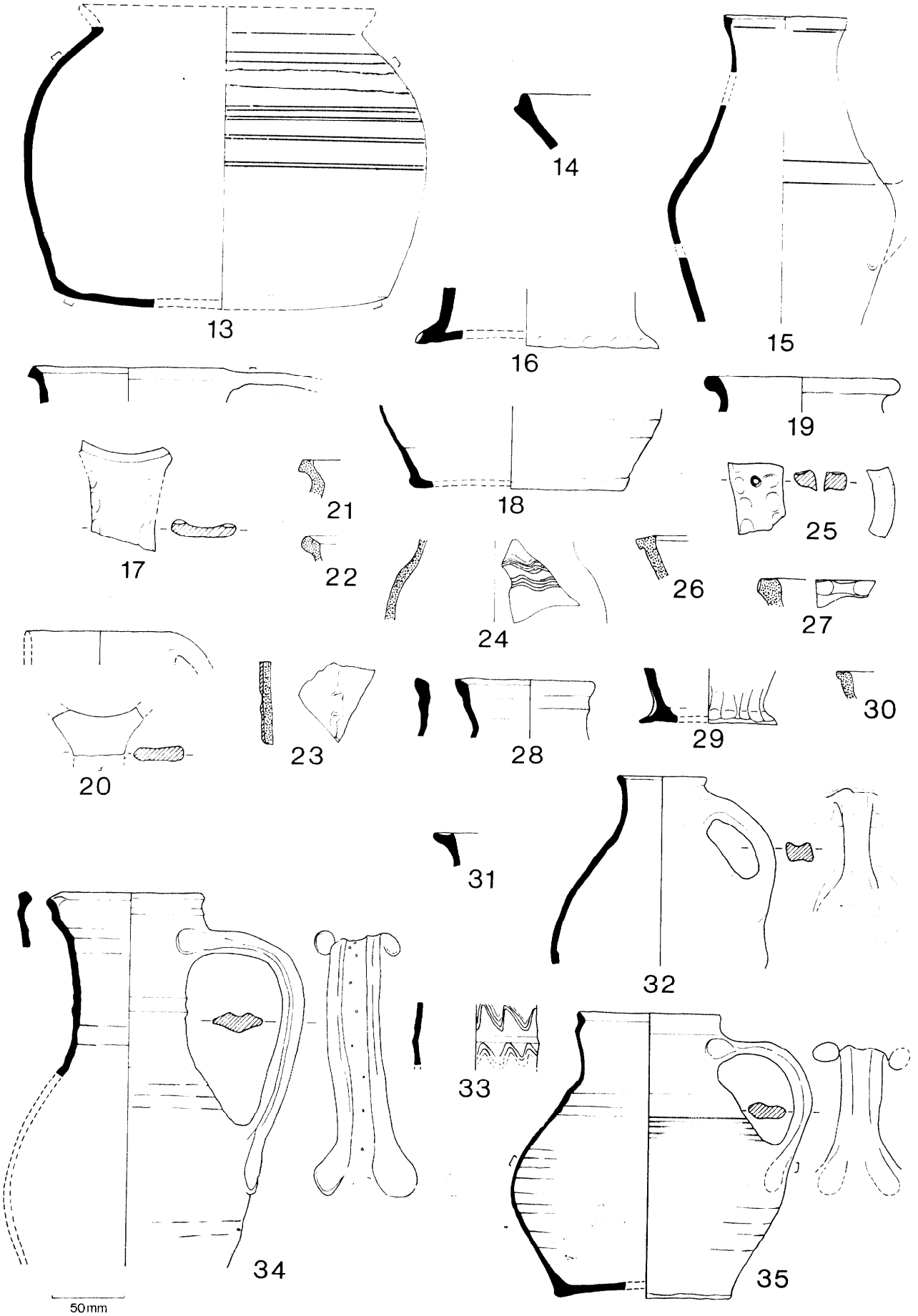

Fig 27 Pottery, 13-35. Scale 1:4

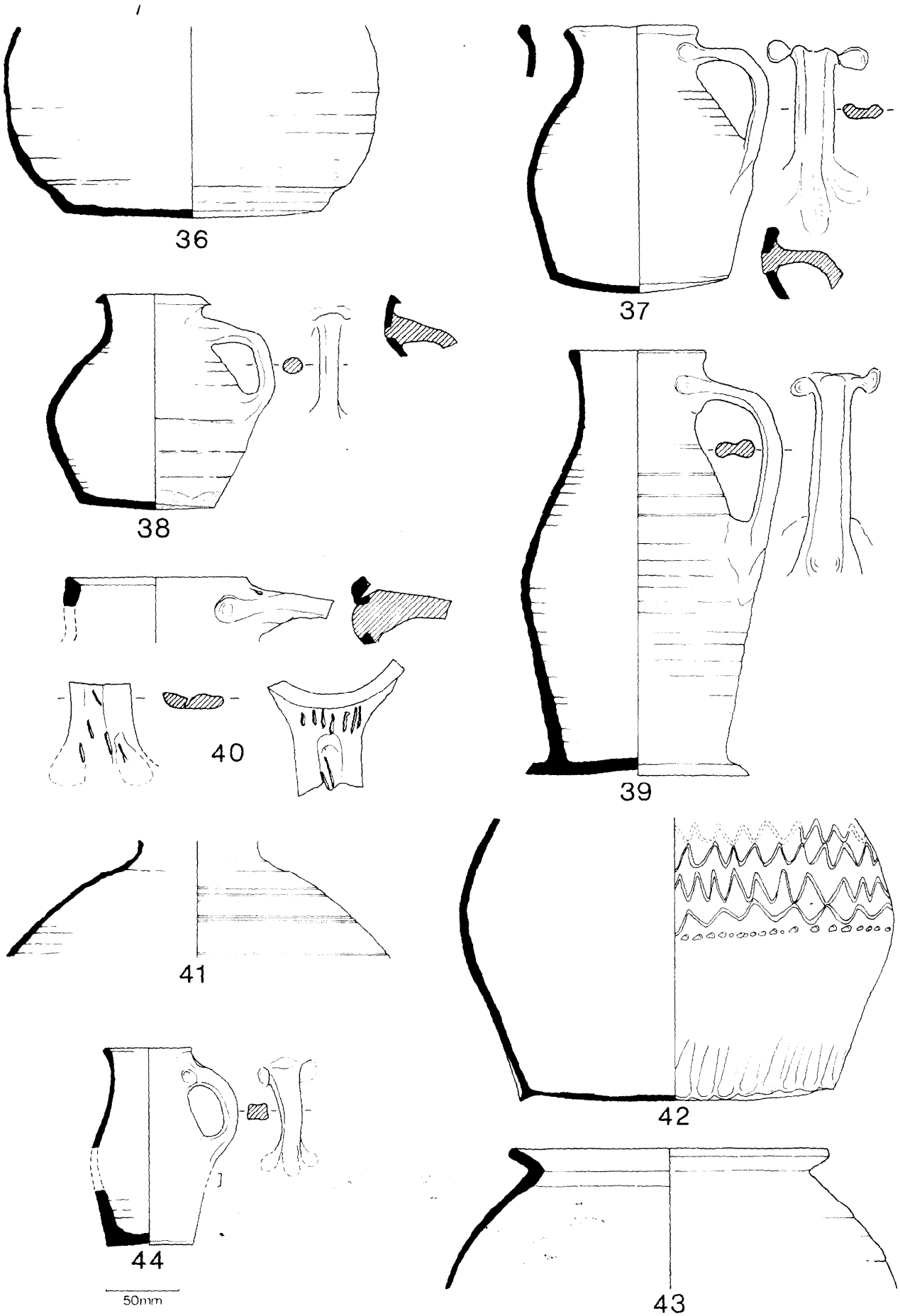

Fig 28 Pottery, 36-44. Scale 1:4

Illustration number	*Fabric*	
24	N	Jug body sherd. For similar decoration on rim in this fabric see illustration 5. Unglazed.
25	N	Handle probably belonging to vessel (illustration 24) above. Unglazed.
26	N	Everted rim of wide-mouthed bowl. Unglazed.
27	N	Rim of wide-mouthed bowl. Unglazed.
28	P(ii)	Jug rim. Spots of green-purple glaze on exterior of neck; purple from slight overfiring.
29	P(xvi)	Base of small, squat jug. Unglazed.

PHASE I AREA VI

30	N	Cooking/storage vessel rim. Unglazed.

PHASE 2B
EARLIEST STONE BUILDING

31	P(xii)	Cooking/storage vessel rim. Spots of yellow-green glaze on top of rim flange.
32	P(xvi)	Jug; see illustration 44 for similar handle. Patchy green glaze on exterior of top half of body.

PHASE 2D
SUBSEQUENT FILLINGS ABOVE FIRST DEPOSIT IN DITCH

33	P(l)	Highly decorated jug neck? with multiple incised wavy lines above and below an incised horizontal groove. Dark green-black glaze over whole of-exterior.
34	P(ii)	Baluster lug,. Stabbed handle. Patchy green-dark blue glaze over body and handle.
35	P(ii)	Squat jug. Cut with wire from wheel. Patchy dark blue-black glaze over shoulder and on handle. See illustration 50 for similar form in fabric P(i).

Figure 28

36	P(vi)	Bowl(?) base. Knife-trimmed. Splashes of orange-dark green glaze on interior.
37	P(vi)	Squat jug, knife-trimmed base. Patches of orange-dark blue glaze around shoulder of vessel.
38	P(vi)	Squat jug, knife-trimmed base. Fairly even cover of orange-black glaze over top half of vessel, patches of glaze only on bottom half.
39	P(vi)	Baluster jug. No evidence for/against pouring lip. Fairly even cover of dark-brown glaze with black runnels on top half of' vessel, patchy towards base.
40	P(vi)	Rim and handle of ovoid jug, with slashing on and at top of-handle below rim. No evidence for/against pouring lip. Yellow-dark blue glaze on rim, neck and handle.
41	P(xii)	Neck and shoulder of jug. Patchy brown-black glaze on exterior. Over-fired.
42	P'(xii)	Jug body with multiple incised wavy line decoration around body, and a line of stabbing below. Orange-green glaze over most of-exterior surface.
43	P(xii)	Cooking/storage vessel rim. Unglazed.
44	P(xvi)	Small squat jug. No evidence for/against pouring lip. See illustration 32 for similar handle. Patchy orange glaze over top half of body and handle.

PHASE 3A
FOUNDATIONS, BUILDING SPREADS, ETC

Illustration number	*Fabnc*	

Figure 29

45	P(xii)	Cooking/storage vessel rim and body. Trace of orange-yellow glaze on exterior of rim flange and shoulder.
46	P(xvi)	Fragment of jug body, with incised line running vertically down the vessel, and applied smeared pellets as 'scale' decoration on either side of this line. Green glaze covers whole of exterior of sherd; thicker glaze on pellets appears almost brown, although pellets are of the same white clay as rest of the body.

LEVELLING SPREADS, DERIVED FROM FOUNDATION TRENCHES

47	H	Wide flanged bowl rim. Unglazed.
48	J	Atypical cooking/storage vessel, with pouring lip, and wide shallow rilling around shoulder. Unglazed.
49	N	Ovoid jug with unusual decoration, consisting of incised parallel lines running vertically down the body, and between these haphazardly spaced square-stabbed holes. This decoration covers the handle also. Orange-green glaze covering the exterior.
50	P(i)	Squat jug. No evidence for/against pouring lip. See illustration 35 for similar form in fabric P(ii). Green glaze over top half of-vessel; runnels of glaze only towards base. Bright orange glaze on handle.
51	P(iii)	Cooking/storage vessel. Knife-trimmed under base and also on base of wall. Patchy orange glaze with blue spots on interior of base only.
52	P(viii)	Jug rim and shoulder: Patchy green-purple glaze on exterior, becoming very patchy towards the base.
53	P(xi)	Cook&storage vessel. Patchy lime-green glaze on interior.
54	P(xii)	Jug handle with two incised 'eves'. Dark green glaze on all surfaces.
55	P(xii)	Ovoid jug with slashing on and at top of handle below rim. Fairly even cover of yellow-green glaze over exterior of body and on handle.

Figure 30

56	P(xiv)	Baluster jug base. Patches/runnels of light green glaze on bottom half of body.
57	P(xvii)	Jug base. Patches of green glaze on exterior surfaces.

PIT CUTTING LEVELLING SPREADS

58	H	Cooking vessel rim. Unglazed.
59	P(xii)	Jug neck, with incised parallel line decoration and applied strips of clay smeared on to the neck. Fairly even cover of-dark green-blue glaze on exterior.

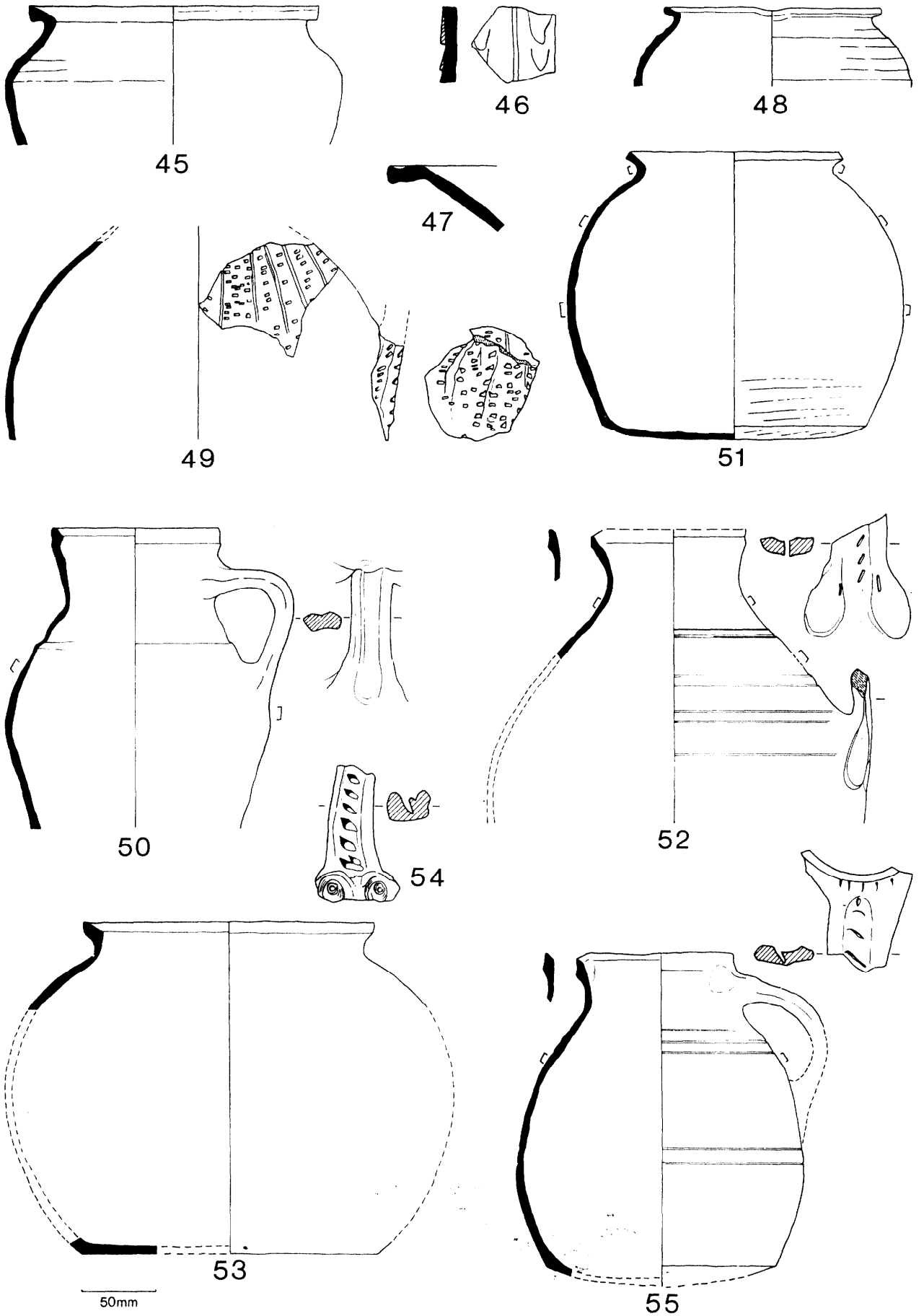

Fig 29 Pottery, 45-55. Scale 1:4 except 46, scale 1:2

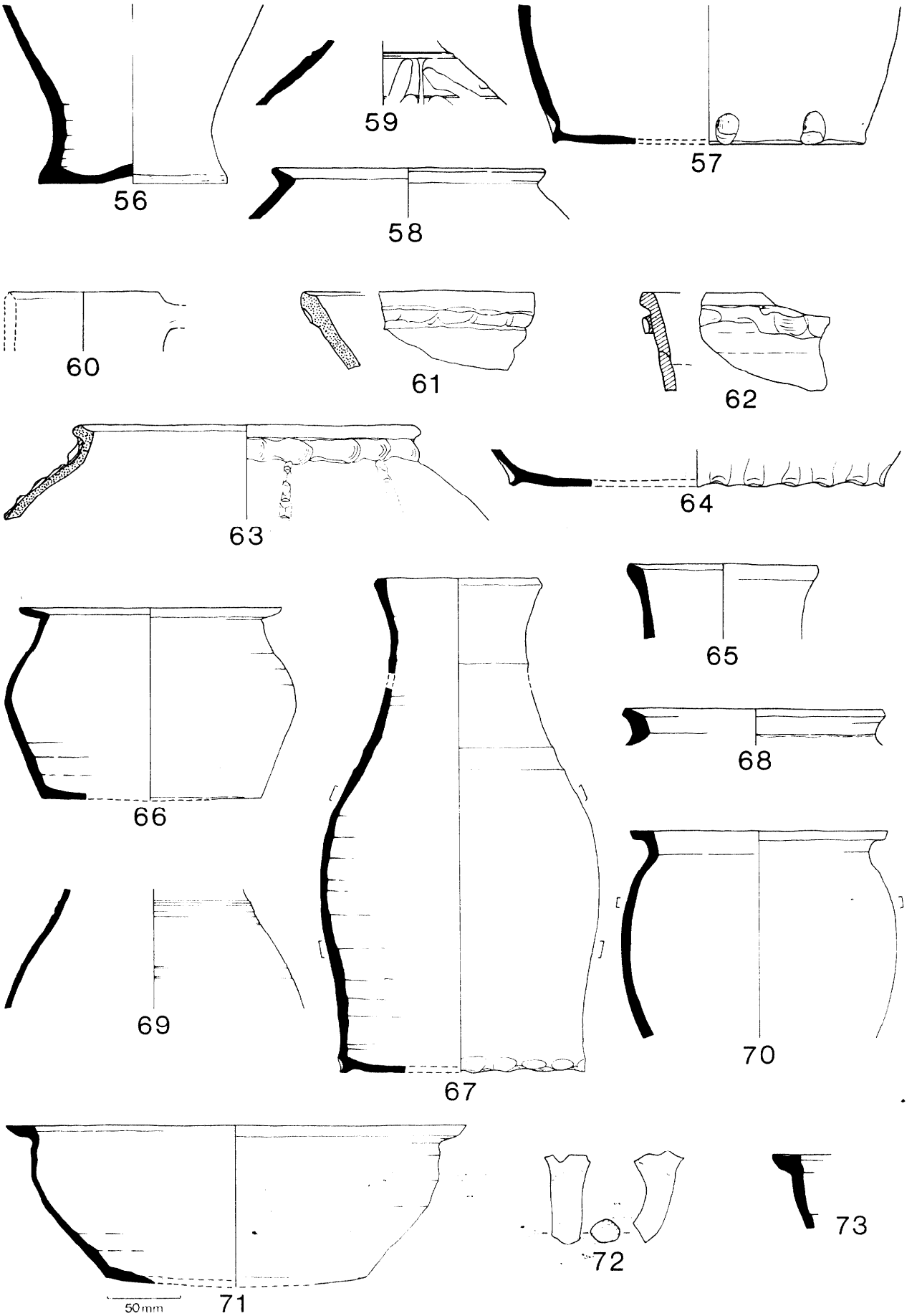

Fig 30 Pottery, 56-73. Scale 1:4

PHASE 3B
CONSTRUCTION DEPOSITS

Illustration number	*Fabric*	
60	N	Jug rim, handle springing from below rim. Unglazed.
61	N	Wide-mouthed bowl rim. Unglazed.
62	N	Wide-mouthed bowl rim. Unglazed.
63	N	Cooking/storage vessel, with applied notched strip runmng vertically down body. Unglazed.
64	P(iv)	Jug base. Green glaze with blue spots on exterior of wall, running over slightly onto exterior of base.
65	P(iv)	Jug rim, no evidence of pouring lip. Patchy white-light green glaze with blue spots on exterior; occasional spots of glaze on interior. Glaze colour affected by soil.
66	P(vi)	Cooking/storage vessel. Dark green-yellow glaze on interior.
67	P(vii)	Jug. no evidence for handle or pouring lip. Patchy green-orange glaze on exterior.
68	P(viii)	Cooking/storage vessel rim. Unglazed.
69	P(viii)	Jug body. Patchy blue-orange glaze on exterior.
70	P(x)	Cooking/storage vessel. Unglazed.
71	P(x)	Wide-mouthed bowl. Green glaze on rim flange and interior.
72	P(xii)	Jug handle-ridged. Patchy green glaze on handle and around junction with wall.
73	P(xii)	Wide-mouthed bowl rim. Patchy dark green glaze on interior and rim.

Figure 31

74	P(xii)	Wide-mouthed bowl. Unglazed.
75	P(xii)	Jug body. Patchy light-dark green glaze on exterior.
76	P(xvi)	Jug base, holes pierced from exterior when vessel leather-hard for use as a colander. Group(s) of thumbings at base. Runnels of green-purple glaze down exterior wall.

TWO PITS CUTTING
3B CONSTRUCTION DEPOSITS

77	N	Wide-mouthed bowl rim. Unglazed.
78	N	Wide-mouthed bowl rim. Unglazed.
79	P(v)	Ovoid jug with slashing on and at top of handle below rim. Base knife-trimmed. No evidence for/against pouring lip. Patches of white-blue-yellow glaze on exterior surfaces. Glaze colour affected by soil.
80	P(vi)	Jug handle. Patchy dark green-blue glaze.
81	P(vi)	Small jug. One spot of orange glaze near base on exterior-accidental?
82	P(xii)	Cooking/storage vessel rim. Clear glaze patches on top of flange

PHASE 3C

83	N	Cooking/storage vessel rim with stabbing on top of flanger. Unglazed.
84	P(i)	Jug rim. Brown-orange patchy glaze on exterior.
85	P(xii)	Jug rim and handle. No evidence for; against pouring lip. Patchy green glaze on handle.
86	P(xvi)	Jug base. Green-brown glaze on exterior surfaces.

PHASE 3D
FOUNDATIONS

Figure 32

87	P(xv)	jug rim, no evidence for/against pouring lip. Green glaze on exterior.

CONSTRUCTION DEBRIS

88	P(ii)	Large ovoid jug base, wire-cut from wheel, with complete impression of rim underneath from stacking in kiln. Patch of green-black glaze on exterior of wall/base.
89	P(xii)	Jug base. Runnels of orange-blue glaze on exterior.

FILLING OF POST BASES

90	P(viii)	Jug body with four lines of vertical roulettin. Light-dark green glaze on exterior.

PHASE 3E

91	H	Cooking/storage vessel rim. Incised wavy-line decoration on body. Spots of yellow-green glaze on flange

PHASE 3F
CULVERT WALLS TAKEN DOWN FOLLOWING CONSTRUCTION OF 3B AND SUBSEQUENT DITCH FILLING

92	P(ii)	Baluster base. Patchy dark blue-black glaze on exterior. Overfired
93	P(ii)	Baluster base and body. Green-blue even glaze on body, with spots under base. and glaze from another vessel stacked on this in kiln
94	P(vi)	Cooking/storage vessel rim. Unglazed.
95	P(vi)	Small squat jug body and base, with stacking evidence of a straight sided vessel, such as a dripping dish under base Very patchy dark green-purple glaze on exterior. Overfired
96	P(viii)	Urinal rim and handle Patchy green blue glaze on exterior.
97	P(viii)	Urinal base, not same vessel as illustration 96 above. but similar form, as is also illustration 102 Spots of yellow glaze on exterior
98	P(xii)	Wide-mouthed bowl with a pouring lip knife-trimmed base Dark brown-black glaze on interior of base and most of wall.
99	P(xiv)	Very narrow-bodied jug Patchy light green-dark blue glaze on exterior.
100	P(xv)	Jug rim, no evidence for/against pouring lip. Patchy purple glaze on exterior.

Figure 33

101	P(xv)	Squat jug body with stabbing down central groove of handle. Patchy green-purple glaze on exterior.
102	P(xv)	Urinal base. See illustration 97 for similar form. Patchy orange-brown glaze on exterior wall and base.
103	P(xv)	Urinal base. Unglazed
104	P(xv)	Urinal base, knife-trimmed. Patchy orange-brown purple glaze on exterior.

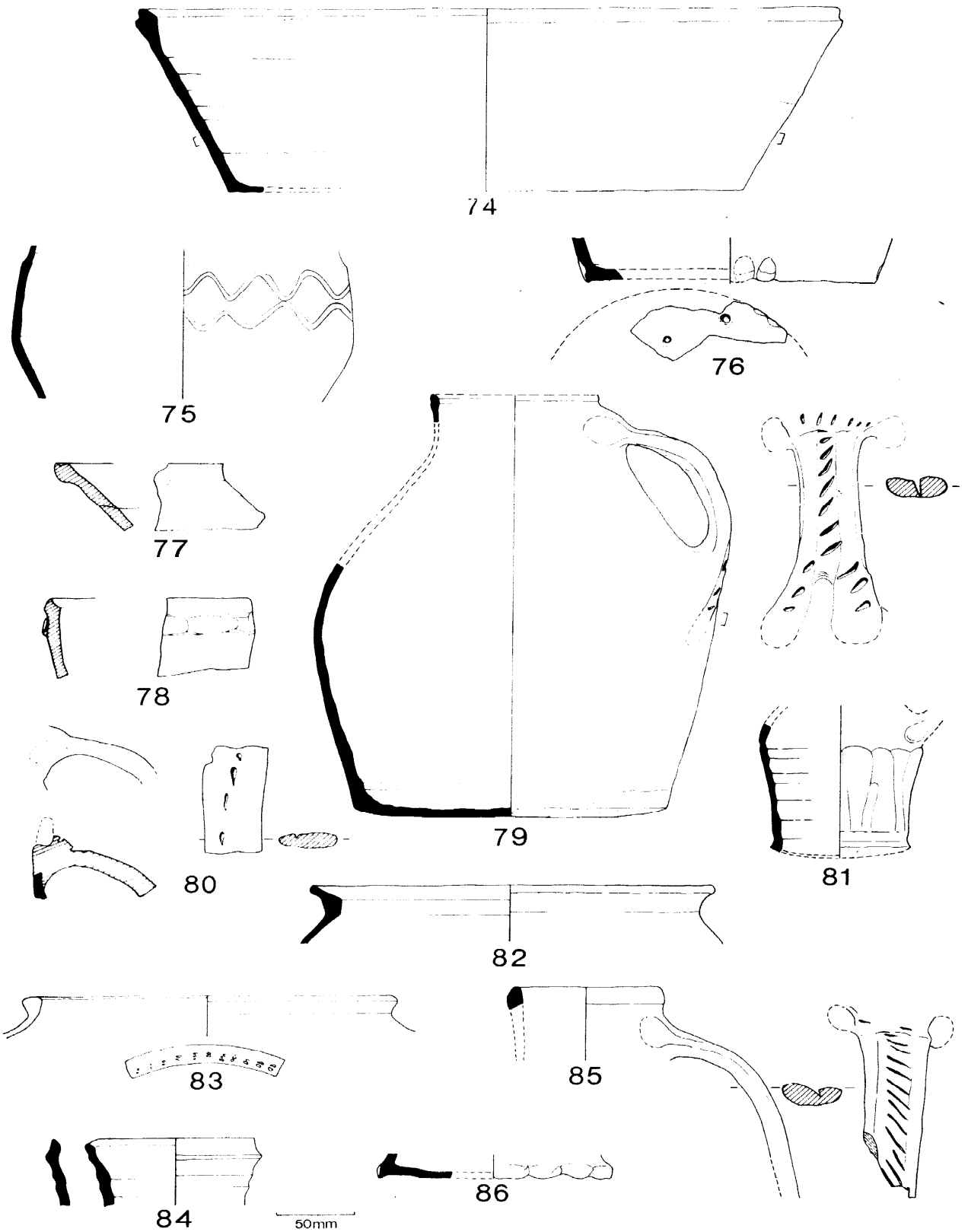

Fig 31 Pottery, 74-86, Scale 1:4

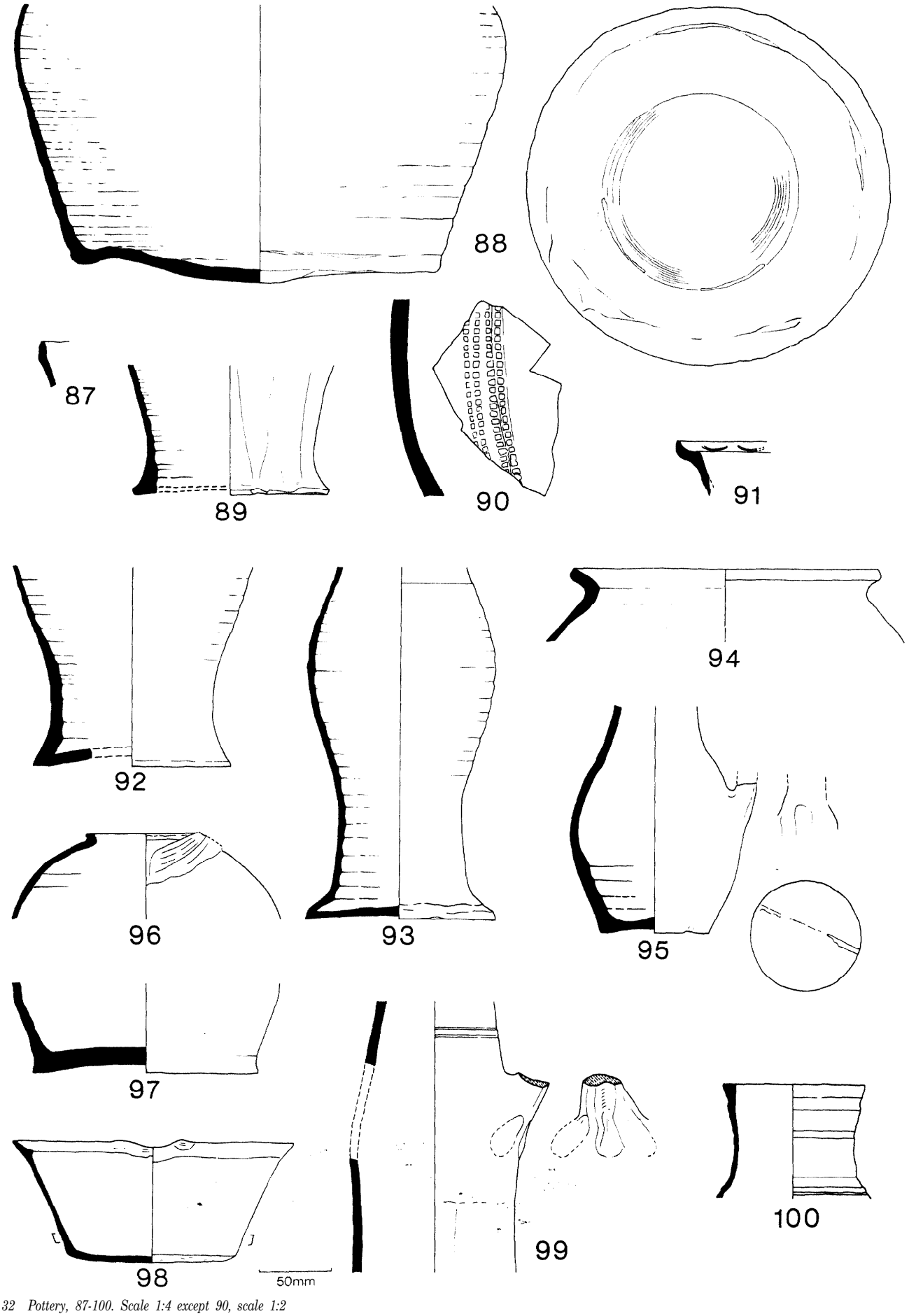

Fig 32 Pottery, 87-100. Scale 1:4 except 90, scale 1:2

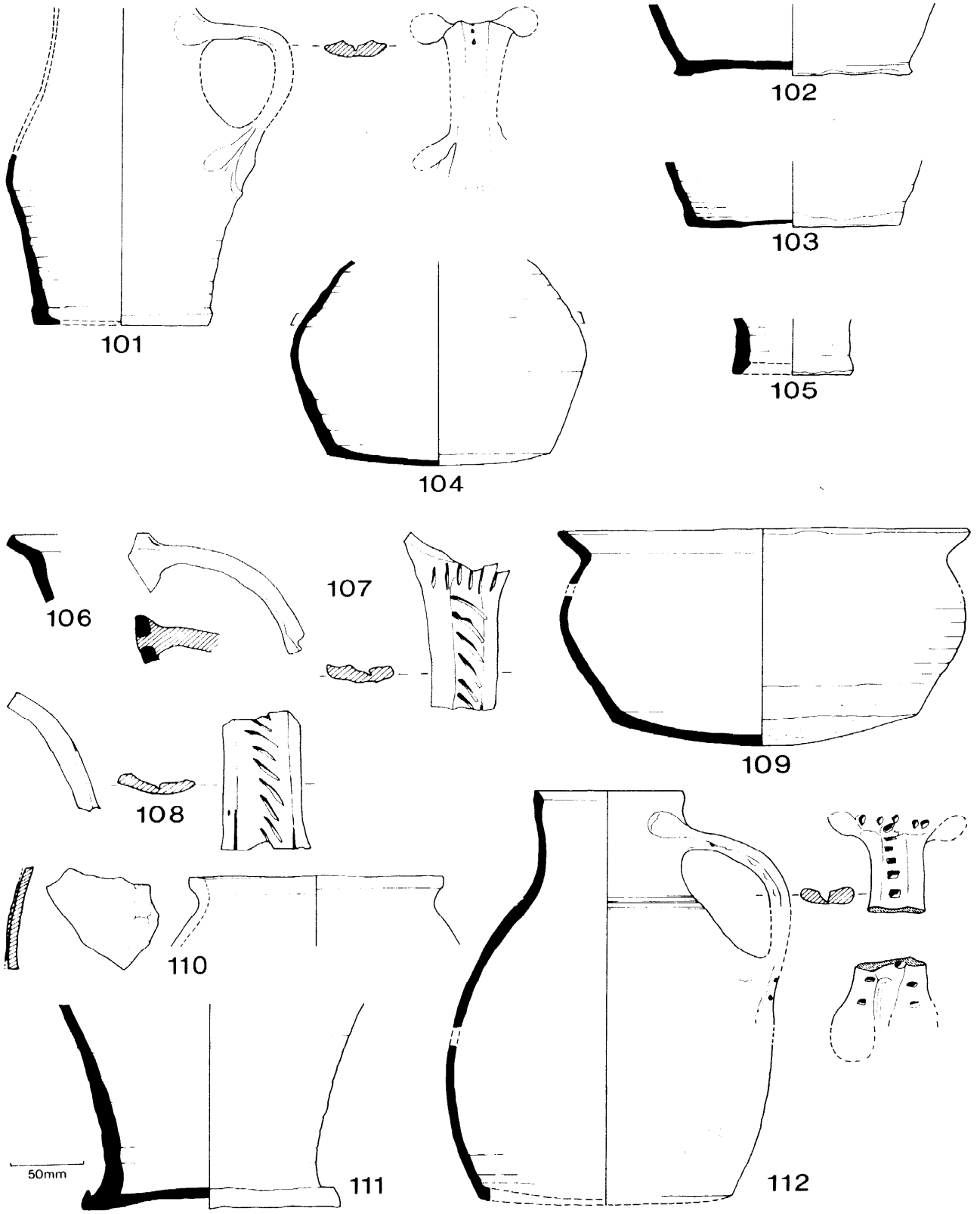

Fig 33 Pottery, 101-112. Scale 1.4

Illustration number	Fabric	
105	P(xix)	Jug/flask base-overfired? Unglazed.

PHASE 4A
COBBLE SURFACE

106	P(vii)	Wide-flanged bowl rim. Unglazed.

LEVELLING BETWEEN W1 AND STONE BUILDING

107	P(xiv)	Rim and handle of ovoid jug with slashing on and at top of handle below rim. Green glaze on most of handle.

UPCAST FROM FOUNDATION TRENCHES

108	P(iii)	Jug handle with patchy green-yellow glaze.
109	P(ix)	Wide-flanged bowl. Patchy orange-green glaze on interior.

PIT CUTTING THROUGH COBBLE SURFACE

110	N	Cooking/storage vessel rim and body. Unglazed.
111	P(i)	Baluster base. Spots of blue-orange glaze on exterior of base.
112	P(v)	Squat jug, no evidence for/against pouring lip. Handle possibly dowelled. Square stabbing on handle. Patchy green glaze with blue spots on exterior surfaces save towards base.

Figure 34

113	P(xii)	Jug base, patchy green-yellow glaze on exterior.
114	P(xii)	Jug base, knife-trimmed. Runnels of blue-yellow glaze on exterior wall.
115	P(xii)	Handle and body of ovoid jug. Patchy green-orange glaze on body; purple-green glaze on handle.

PHASE 4B
CLOISTER MIDDEN

116	O	Jug handle springing directly from rim. Stabbed/slashed. Unglazed.
117	P(iii)	Cooking/storage vessel. Runnel of light blue-white glaze on inner wall. Glaze colour affected by soil.
118	P(iii)	Wide-mouthed bowl rim. For similar form in fabric P(vii) see illustration 123. Unglazed.
119	P(iii)	Wide-mouthed bowl. Knife-trimmed at base. For similar form in fabric P(xii) see illustration 128. Unglazed.
120	P(v)	Baluster jug with rod handle decorated with thumb-nail impressions. Fairly even cover of green glaze on exterior of top half of vessel, patchy towards base.
121	P(vi)	Ovoid jug body. Dark brown-black glaze on exterior.
122	P(vi)	Small squat jug, with misshapen profile. Green-orange-brown patchy glaze on exterior, thinning towards base.
123	P(vii)	Wide-mouthed bowl rim. For similar form in fabric P(iii) see illustration 118. Unglazed.
124	P(vii)	Cooking/storage vessel rim. Unglazed.
125	P(ix)	Wide flanged bowl, knife-trimmed. Patchy yellow-blue glaze on interior at base and part way up wall.
126	P(ix)	Jug body. Orange-dark green glaze below rim on exterior.
127	P(xii)	Jug body, with iron-rich clay strips applied as decoration. Fairly thick green glaze covers the body, and appears brown over the applied strips.
128	P(xii)	Wide-mouthed bowl rim; for similar form in fabric P(iii) see illustration 119. Unglazed.

Figure 35

129	P(xii)	Dripping dish, knife-trimmed. Patchy green-white glaze on interior. Glaze colour affected by soil.
130	P(xii)	Cooking/storage vessel rim and body. Unglazed.
131	P(xii)	Bung-hole from cistern. Unglazed.
132	P(xii)	Wide-flanged bowl rim. Unglazed.
133	P(xv)	Bowl base and body. Occasional spots of orange-brown glaze on exterior.
134	P(xviii)	Wide-flanged bowl. Orange-brown glaze - on interior of base, and patches on inner wall,
135	P(xix)	Jug base. Purple glaze on exterior of base and body.

PHASE 5A
CONSTRUCTION OF W18

136	P(xii)	Dripping dish. Patchy green glaze on interior of base.

FIRST DEPOSITS IN DITCH AFTER CONSTRUCTION OF W18

137	P(viii)	Cooking/storage vessel rim. Unglazed.
138	P(xii)	Urinal rim. Unglazed.
139	P(xii)	Crucible. Knife-trimmed. Green-black glaze on all surfaces.
140	P(xii)	Crucible. Orange-black glaze on all surfaces.
141	P(xii)	Small wide-mouthed bowl. Dark green-black glaze patches on all surfaces save under base.
142	P(xii)	Fragment of distilling apparatus, possibly a cucurbit. Spots and patches of orange-brown, and green-orange glaze on all surfaces.
143	P(xv)	Base-vessel type unknown. Dark blue patchy glaze on inner base and partially up inner wall.
144	P(xviii)	Wide-flanged bowl rim. Unglazed.
145	P(xviii)	Bowl base-type unknown. Spots of green glaze on inner base.
146	P(xxi)	Cistern handle. Patches of purple glaze on surface.
147	S	Siegburg jug/mug. Unglazed.

PHASE 7A
CONSTRUCTION OF SOUTH RANGE OF NORTH CLOISTER

BUILD UP OF SAND DOWN SIDES OF DRAIN

Figure 36

148	P(ii)	Baluster jug. Wire-cut from wheel. Waster. Fairly even cover of green-dark blue glaze on exterior wall-patchy towards base.

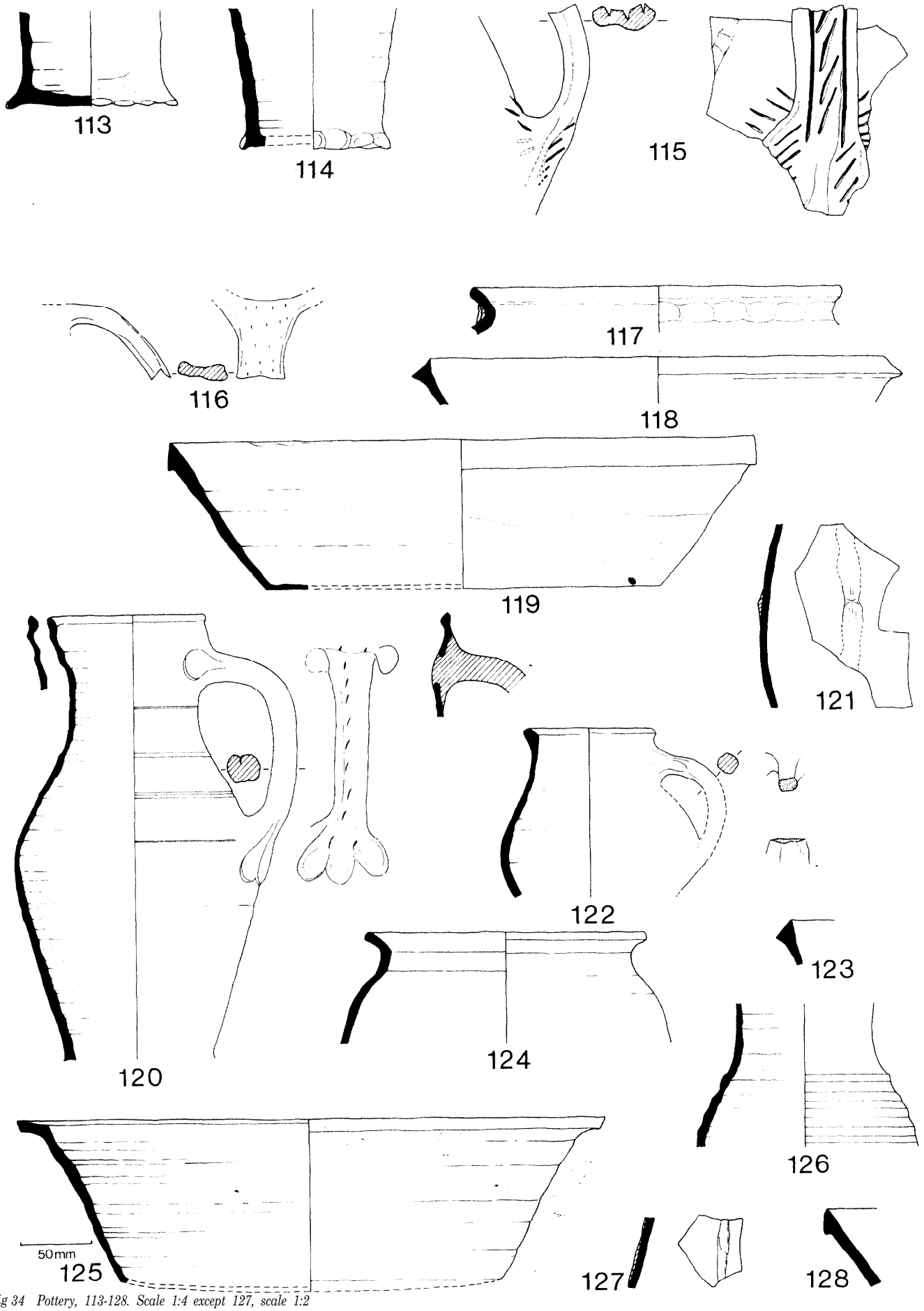

Fig 34 Pottery, 113-128. Scale 1:4 except 127, scale 1:2

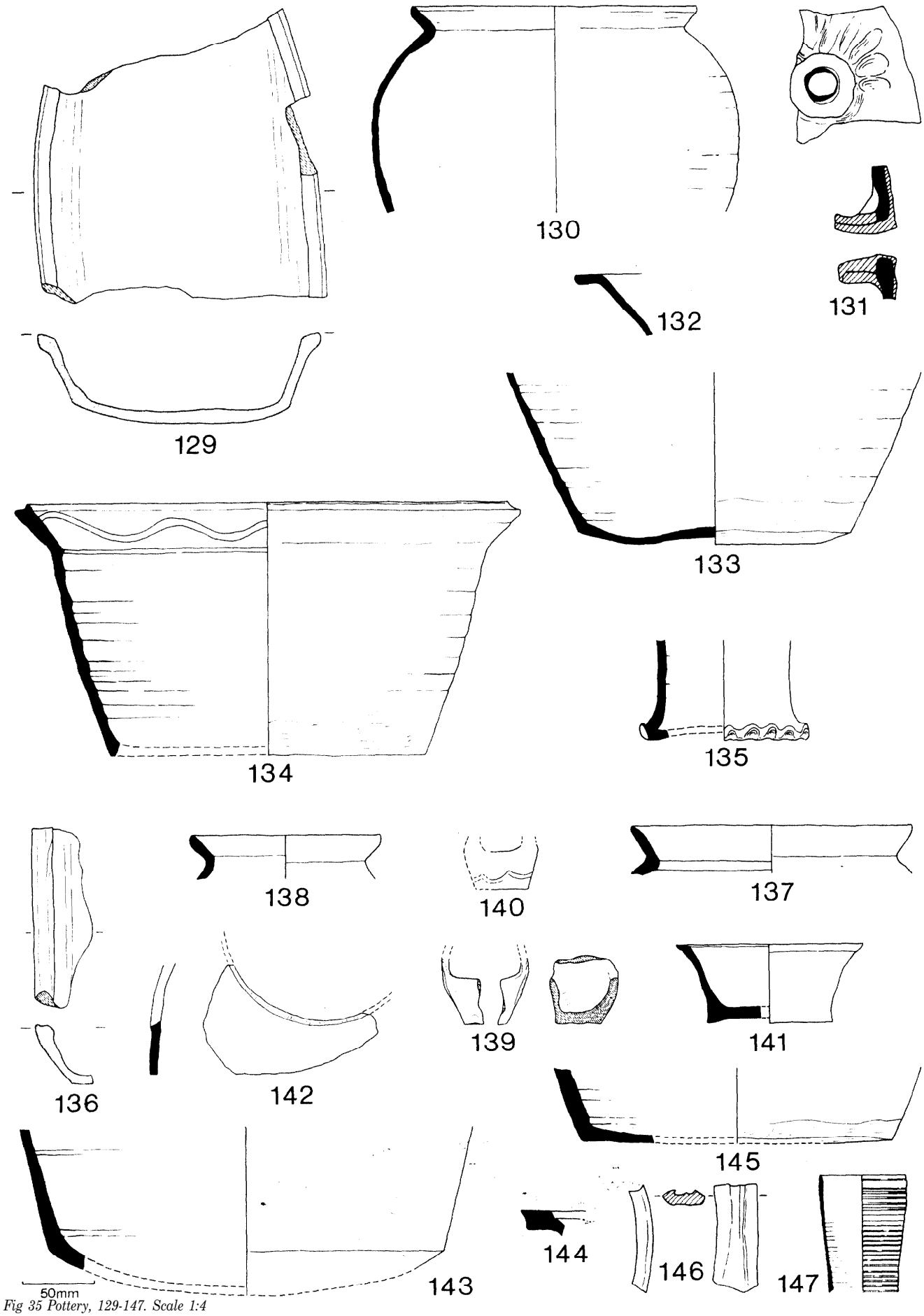

Fig 35 Pottery, 129-147. Scale 1:4

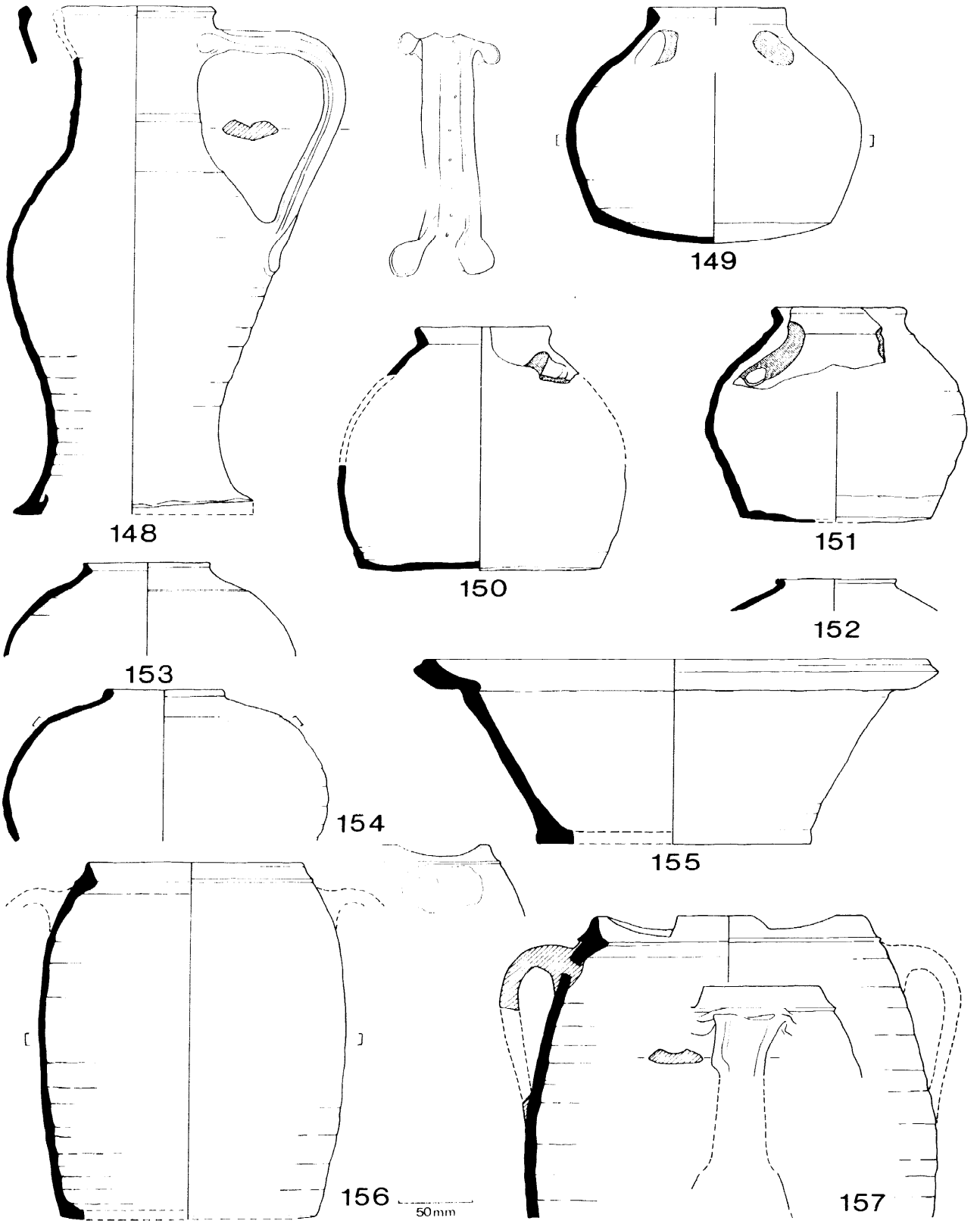

Fig 36 Pottery, 148-157. Scale 1:4

Illustration number	*Fabric*	
149	P(vi)	Urinal. Patchy yellow-orange glaze with dark blue-black blotches on exterior, patchy towards base, spots under base.
150	P(vi)	Urinal. Knife-trimmed under base. Occasional spots and patches of orange-purple glaze on exterior, save on wall near base.
151	P(viii)	Urinal. Patchy green-dark blue glaze-sparse near base on outer wall.
152	P(viii)	Urinal rim. Patchy yellow-green-dark blue glaze on exterior.
153	P(xv)	Urinal rim. Patchy dark green and blue glaze on exterior.
15-I	P(xv)	Urinal. Patchy glaze on exterior-colour varies from orange to green, blue, and purple.
155	P(xviii)	Wide-flanged bowl. Patchy orange-brown glaze over inner base and partially up wall.
156	P(xvlli)	Cistern with cut-out above each handle. No evidence for/against bung-hole. Fairly even cover of green-dark brown glaze on outer wall-no glaze towards base.
157	P(xviii)	Cistern, with four unusually shaped cut-outs which are spaced around rim, but not above the handles. Orange-brown glaze on inner base and partially up wall.

Figure 37

158	P(xviii)	Cistern with cut-our above each handle. Stacking evidence under base of a cistern rim, 150mm in diameter, and the glaze from a CW vessel fired inside the latter. Patchy purple glaze on exterior at top.
159	P(xix)	Cistern rim, total number of-cut-outs and position in relation to handle not known. Unglazed.
160	P(xix)	Jug body. Green-orange to purple patchy glaze on exterior save towards base.
161	P(xix)	Urinal handle. Traces of green-purple glaze near junction of handle with body.
162	P(xxi)	Cistern with cut-out above each handle. Runnel of thick dark brown glaze on exterior below rim.
163	P(xxii)	Cistern rim and body, no cut-outs on rim. Fairly even cover of dark brown-purple glaze on exterior.
164	C W	Two-handled cup with short, belled rim. Applied circular white clay pads below rim.
165	C W	Jug/drinking mug-imitation of Raeren form.
166	C W	Jug with cordon at neck.
167	C W	Body sherd with applied pad of white clay in the shape of a leaf-, from a two-handled cup with tall tim. For form see illustration 209, for other decorative motifs used on this form see illustrations 210-14.
168	T G	Rim and part of body of lobed cup. Light green glaze with blue speckles covering all surfaces.

PHASE 7B
ADDITION TO DRAIN AT WEST END

YELLOW CLAY ABOVE OFFSET

Illustration number	*Fabric*	
169	C W	Two-handled cup with belled rim. For decoration on this form see illustration 217.

PHASE 7D
ALTERATIONS TO EAST RANGE OF SOUTH CLOISTER

170	A	Cooking pot rim. Unglazed.
171	P(vi)	Jug rim. Patchy green glaze on neck.

PHASE 9A
AREA II DRAIN

Figure 38

172	P(v1)	Lighthouse jug base. Spots of orange-dark brown glaze on all surfaces.
173	P(V1)	Small bowl. Patchy green glaze on exterior of body and base.
174	P(viii)	Urinal. Patches of orange-green-purple glaze on exterior body.
175	P(xv)	Urinal with handle possibly dowelled. patchy green-purple glaze on exterior body and handle.
176	P(xv)	Pipkin. Handle possibly dowelled. Splashes of purple glaze on exterior.
177	P(xv)	Urinal. Handle decorated with stab holes, possibly dowelled. Patchy dark green-purple glaze on top half of exterior.
178	P(xv)	Jug. Occasional spots of green-black glaze on exterior.
179	P(xv)	Flask body and base. Spot of black glaze on inrerior, accidental?
180	P(xv)	Flask rim. Green-purple glaze on exterior below rim.
181	P(xviii)	Jug rim and handle. No evidence for/ against pouring lip. Patches of green-purple glaze on exterior.
182	P(xviii)	Jug rim, no evidence for pouring lip or handle. Patch of green-purple glaze on exterior.
183	P(xviii)	Jug body and base. Base knife-trimmed. Fairly even cover dark green-black glaze on exterior, no glaze near base.
184	P(xviii)	Jug, very warped. See illustration 221 for this form in CW. Patchy green-black glaze on exterior, traces of glaze on inner base.

Figure 39

185	P(xviii)	Dripping dish. underneath of base trimmcd flat. Orange glaze on inner base and partially up wall.
186	P(xviii)	Jug/urinal base. Stacking evidence of fine-ware (CW?) vessel under base. Unglazed save for glaze from fine-wart vessel under base.
187	P(xviii)	Dripping dish, knife-trimmed under base. Spots of purple glaze on inner base.
188	P(xviii)	Wide-flanged bowl with sloping rim. Unglazed.
189	P(xviii)	Wide-flanged bowl. Patches of orange-brown glaze on inner base.

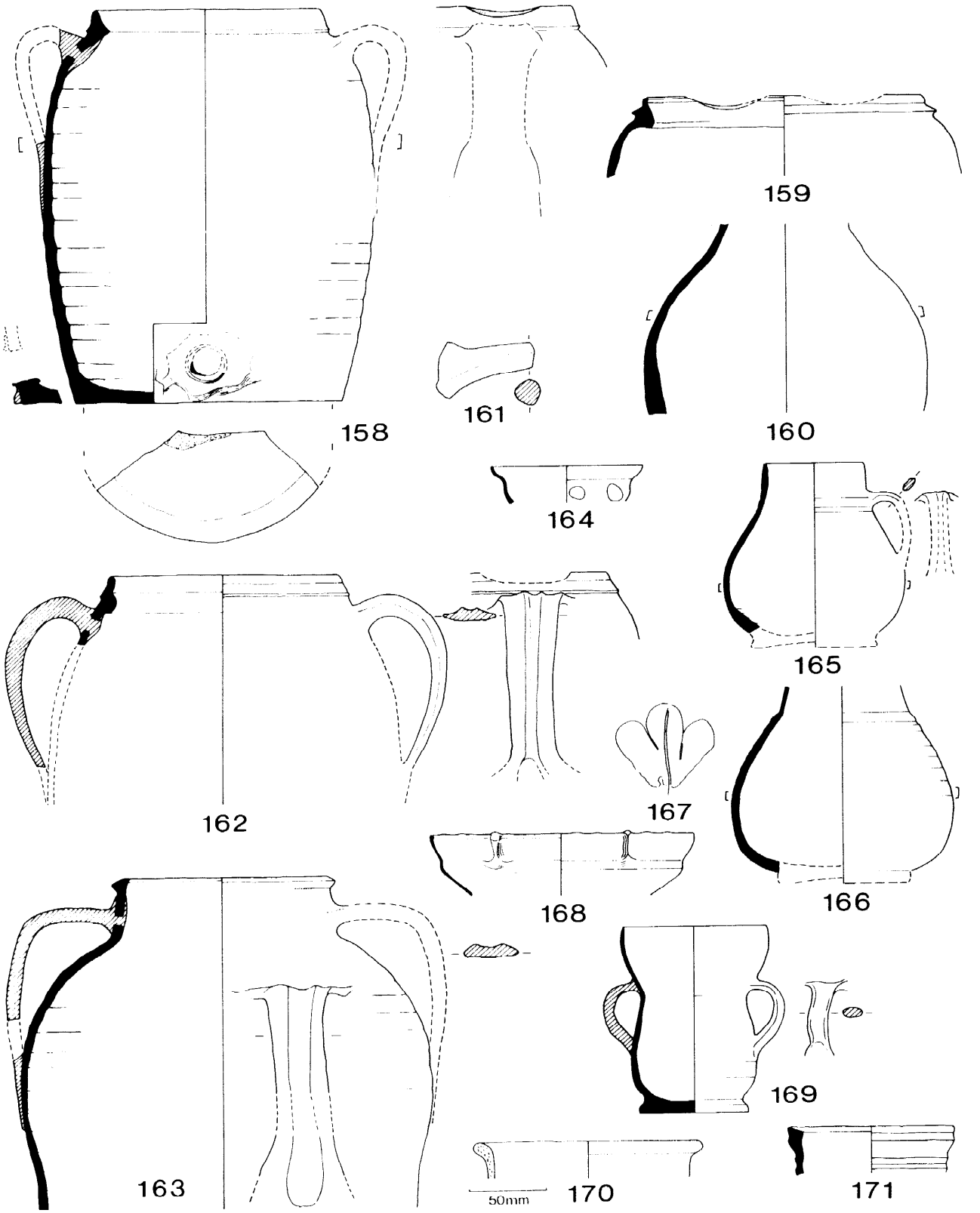

Fig 37 Pottery, 158-171. Scale 1:4

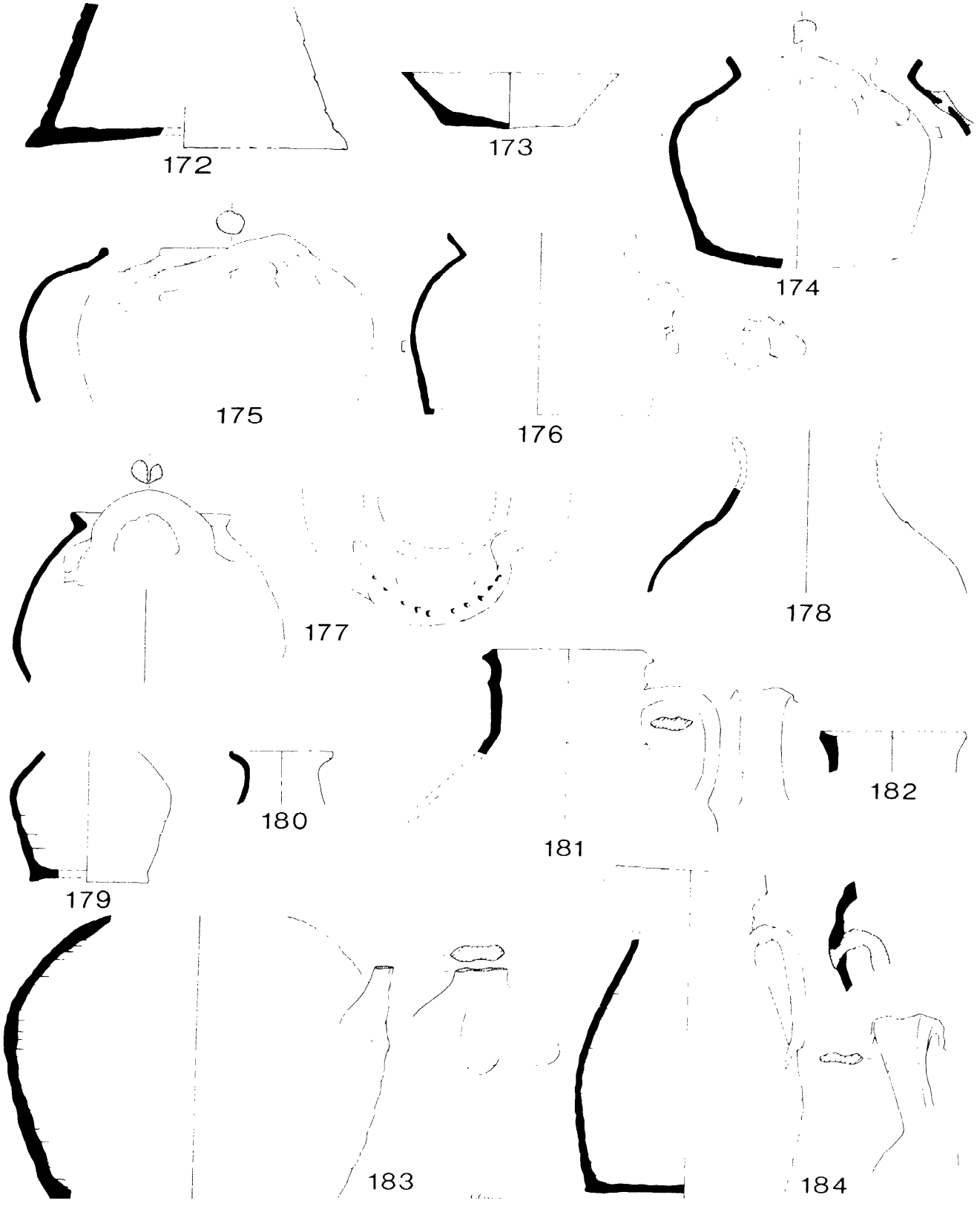

Fig 38 Pottery, 172 184. Scale 1:4

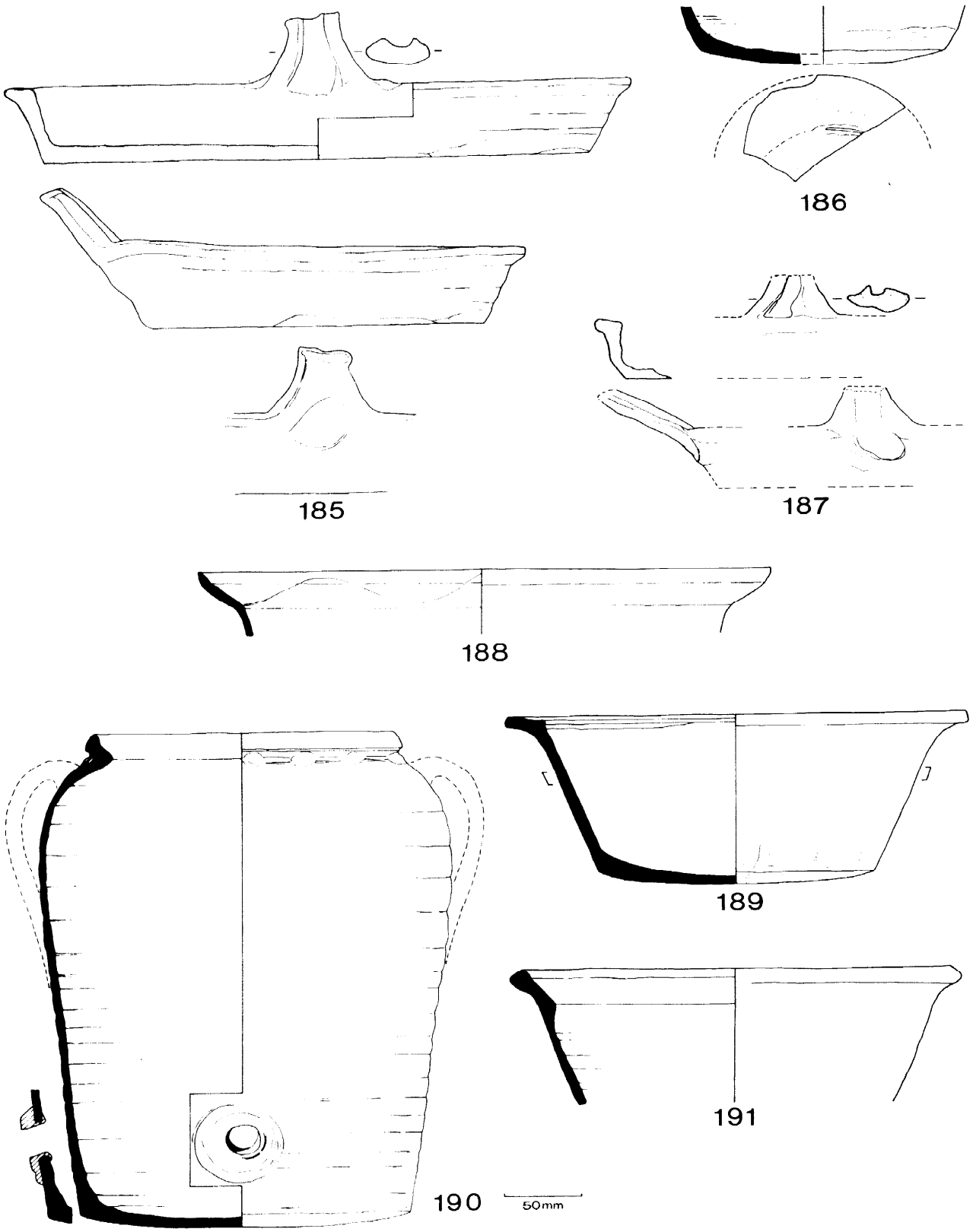

Fig 39 Potty, 185-191. Scale 1:4

Illustration number	Fabric	
190	P(xviii)	Tall cistern with no evidence for/against cut-outs on rim. Orange-brown glaze on top half of exterior, and on inner base.
191	P(xviii)	Wide-flanged bowl with sloping rim Patchy brown-purple glaze on interior.

Figure 40

192	P(xviii)	Cistern, no cut-outs on rim. Evidence of knife-trimming and stacking under base Orange-brown glaze on inner base.
193	P(xviii)	Cistern lid. Spots of purple glaze on the top. See illustration 257 for similar form in P(xxi).
194	P(xviii)	Cistern lid, knife-trimmed on outer edge. Patch ofgreen-purple glaze on upper edge. See illustration 257, as above.
195	P(xviii)	Small cistern lid. Wire-cut from wheel? Unglazed. See illustration 257, as above.
196	P(xviii)	Squat cistern with unusual rim form. No cut-outs on rim. No evidence for/ against bung-hole. Orange-brown glaze on inner base, splashes on rim flange and exterior.
197	P(xviii)	Squat cistern. No cut-outs on rim, no evidence for/against bung-hole. Stacking evidence of two, or possibly three vessels under base, the outermost with a cut-out in the rim. Purple-black glaze on inner base and partially up wall. Glaze on exterior runs down body from base; probably from vessels stood on top of this one whilst upside down in the kiln.
198	P(xv11i)	Cistern rim, no evidence for/against cut-outs. Unusual rim form. Splash of orange glaze on exterior just below rim.
199	P(xix)	Jug or flask rim. No evidence for/against pouring lip. Spot of black glaze on exterior of rim.
200	P(xix)	Jug rim—no evidence for pouring 11p or handle. Unglazed.
201	P(XlX)	Mortar. Green purple glaze on all surfaces, much worn.
202	P(XIX)	Bowl or mortar rim. Patchy green-orange glaze on all surfaces.
203	P(xx)	Wide-flanged bowl. Thick dark brown-black glaze on inner wall and on top of rim where it is broken from stacking.
204	C W	Posset pot and lid.
205	C W	Chafing dish, one handle conjectured. Exact number of 'lugs' on rim not known. Two opposed holes in sides of' pedestal base. Five hole:, in base of dish.
206	C W	Chafing dish with two handles. Exact number of 'lugs' on rim not known. Possibly one hole at side of-pedestal base, and three in base of dish.
207	C W	Two-handled cup with short rim. Applied white clay pads, and leaf stamped directly on to wall. For same form and similar decoration see illustrations 208 and 258.

illustration number	Fabric	
208	CW	Two-handled cup with short rim. Applied white clay pads, and leaf' stamped directly on to wall. For same form and similar decoration see illustrations 207 and 258.
209	CW	Two-handled cup with tall rim. Applied white clay pads, with a circle stamped directly on to wall at the centre of each group of-pads.
210	C W	Two-handled cup with tall rim. Group of' applied white clay pads with a conical pellet of red clay applied at the centre of group. For form see illustrations 209 and 277.
211	C W	Two-handled cup with tall rim. Applied white clay pad in shape of leaf. For form see illustrations 209 and 277.
212	C W	Two-handled cup with tall rim. Applied white clay). pads stamped with a 'wheel' pattern. For form see illustrations 209 and 277. See illustration 218 for same stamp used on a different form.
213	C W	Two-handled cup with tall rim. Applied white clay pads stamped with a 'wheel' pattern. For form see illustrations 209 and 277.
214	C W	Two-handled cup with tall rim. Applied white clay pad stamped with a 'wheel and dot' pattern. For form see illustrations 209 and 277.
215	C W	Two-handled cup with fared rim.
216	C W	Two-handled cup with no foot ring. Applied pads of whithe clay.
217	C W	Two-handled cup with belled rim. Applied white clay leaf, For form see Illustration 169
218	C W	Pedestal cup Applied white pad stamped with a 'wheel' pattern. See illustration 212 for same stamp used or a different from.
219	CW	Pedestal cup-one handle only.
220	C W	Two-handled cup with wide body.

Figure 42

221	C W	Jug profile of MidlandPurple type. For similar form in P(xviii) see 1llustration 184.
222	C W	Narrow cylindrical jug rim and neck. For suggested form of base see illustration 223 and 261
223	C W	Narrow cylindrical jug base with applied white clay leaf. For rim form see Illustration 222.
224	C W	Tall rounded/cylindrical jug body. Applied white clay leaf'. For base form see illustration 286.
225	C W	Jug with cordon half way down neck.
226	C W	Kim of jug-tall, flared.-See Illustration 227 for form of body and base.
227	C W	Body and base of jug. See illustration 226 for rim form.
228	C W	Bulbous jug body with handle base.
229	C W	Corrugated jug.
230	C W	Posset pot lid with trailed slip decoration.

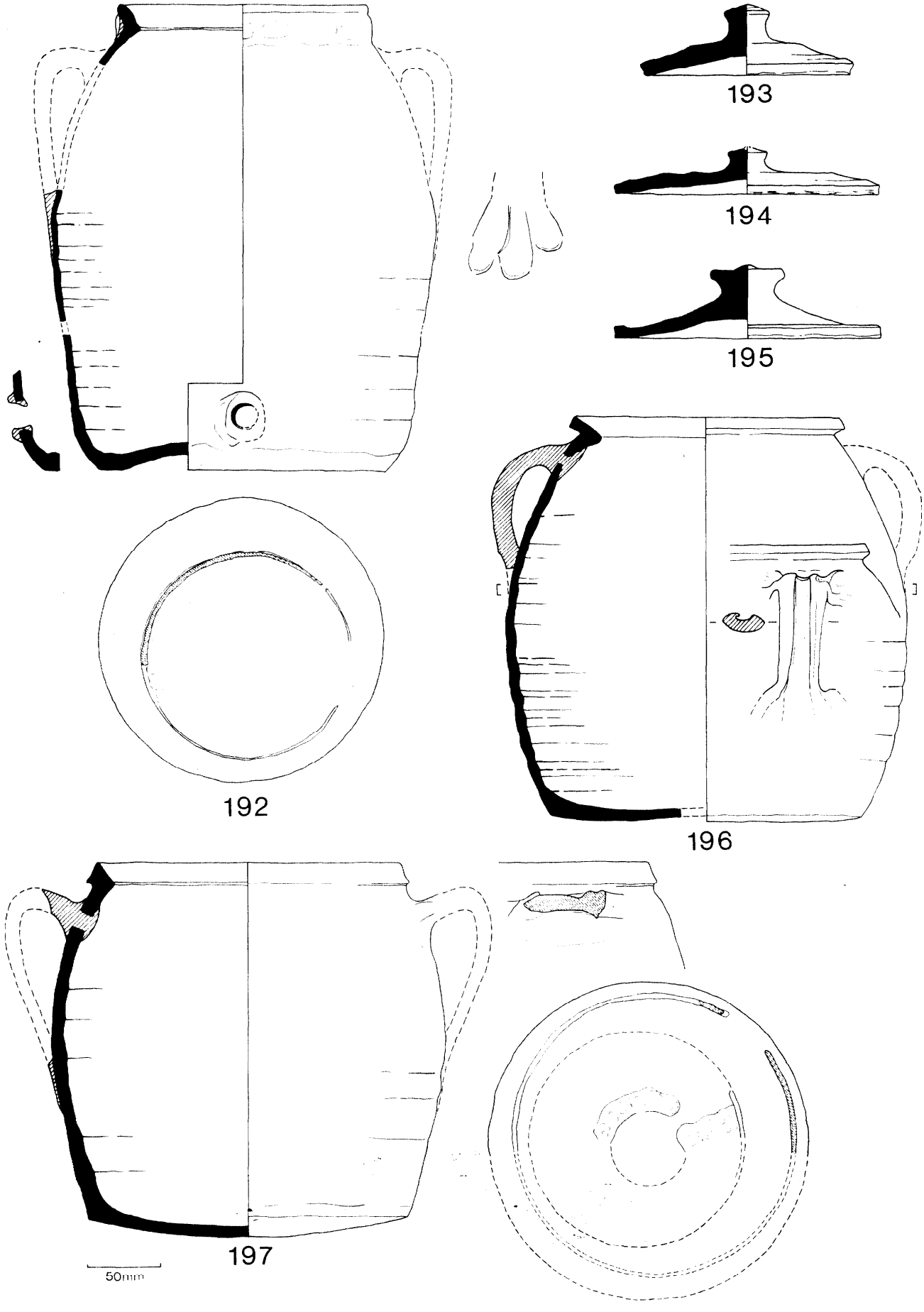

Fig 40 Pottery, 192-197. Scale 1:4

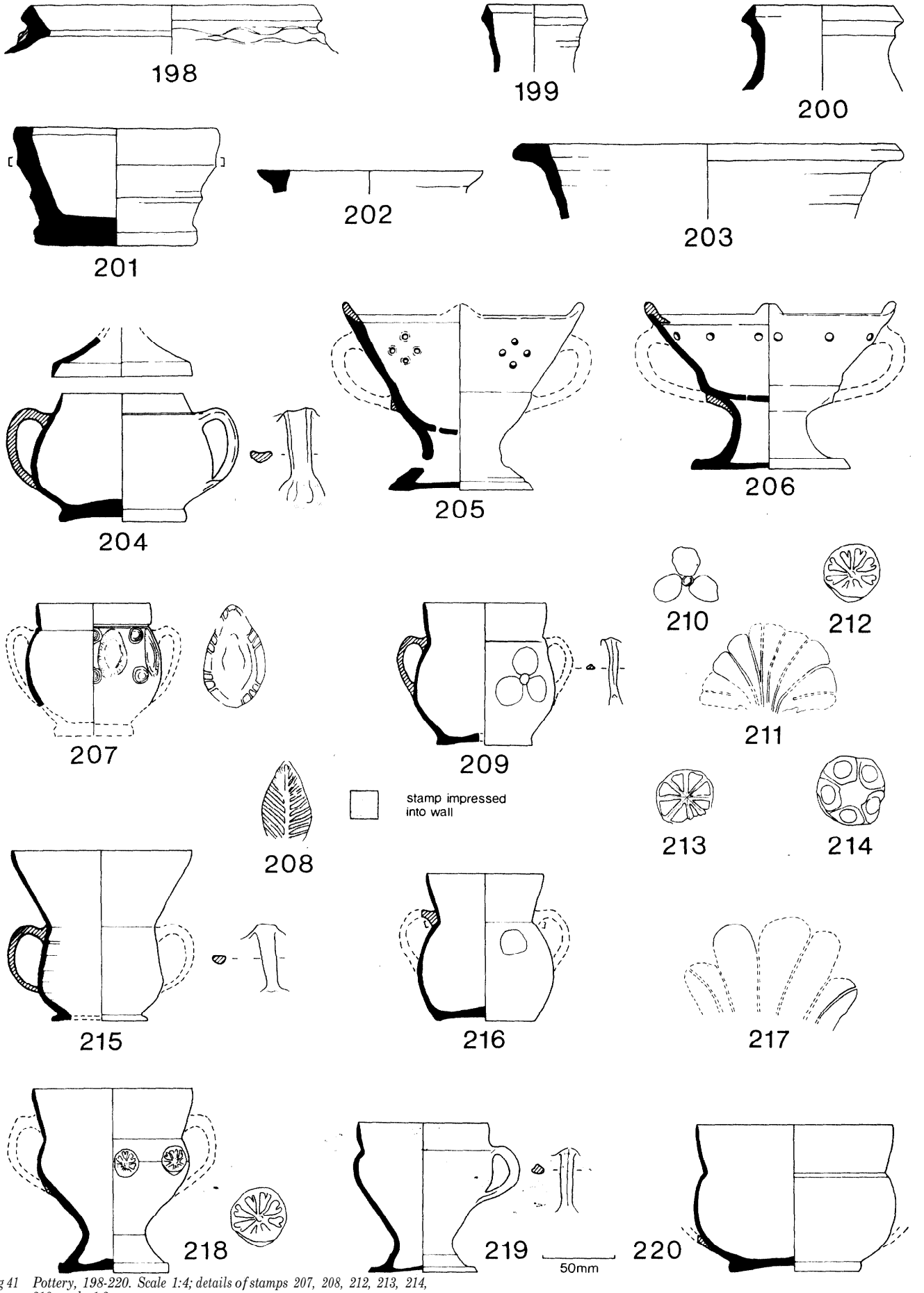

Fig 41 Pottery, 198-220. Scale 1:4; details of stamps 207, 208, 212, 213, 214, 218, scale 1:2

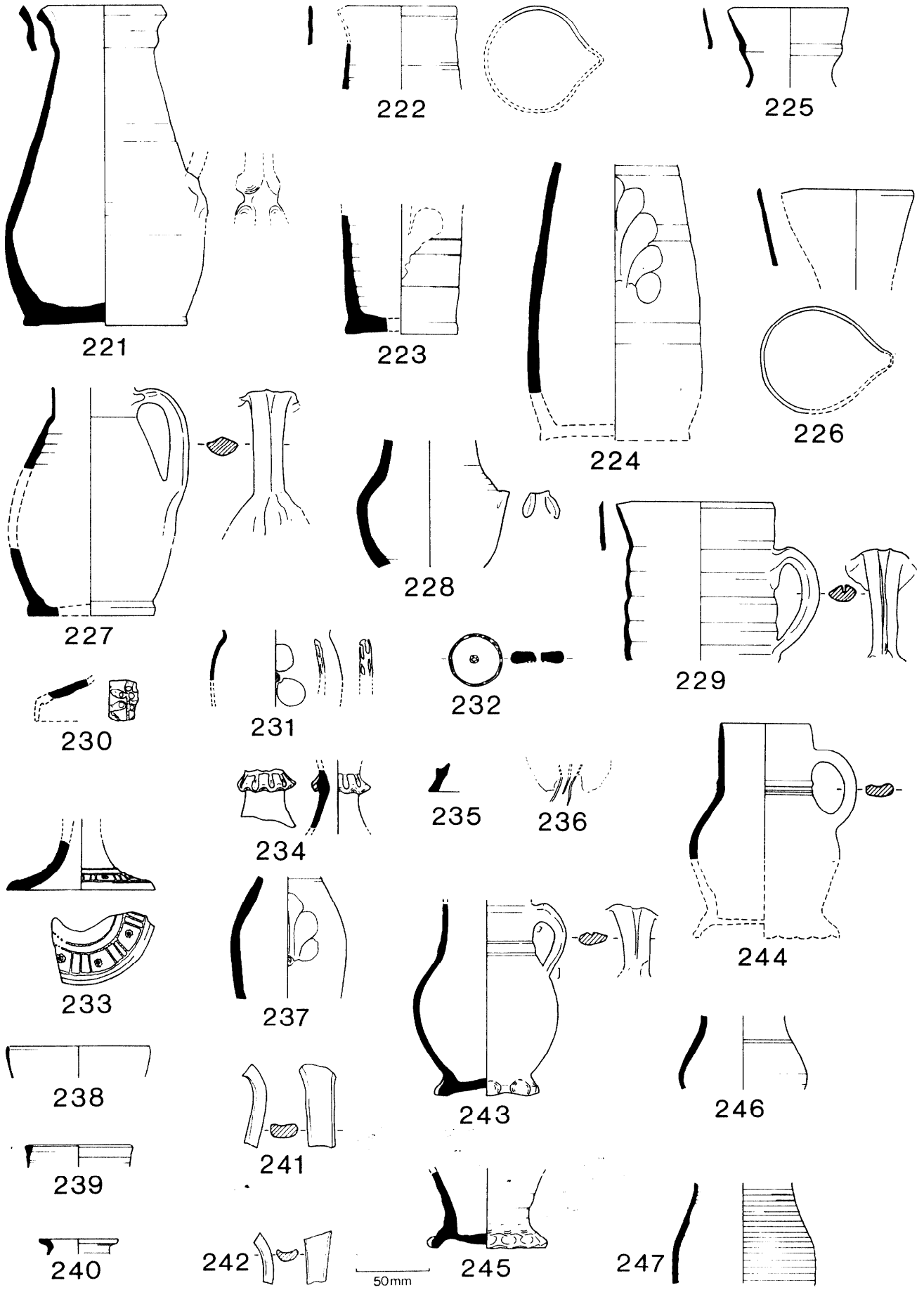

Fig 42 Pottery, 221-247. Scale 1:4

Illustration number	Fabric	
231	CW	Body of two-handled cup-type unknown. Group of applied white clay pads with conical pellet of-red clay applied at centre, and trailed slip decoration.
232	CW	Clay disc with hole punched through the centre before firing.
233	CW	Candlestick base with trailed slip decoration.
234	CW	Neck ofcandlestick with trailed or applied white clay decoration,
235	CW	Foot ring; vessel type unknown.
236	CW	Applied white clay leaf-decoration from base of two-handled cup of unknown type.
237	CW	Jug/flask/bottle body with applied white clay leaf.
238	TG	Rim of type 4 cup. Bright green glaze on interior and exterior surfaces.
239	TG	Rim of small jug. Patchy bright green glaze on exterior and interior.
240	TG	Rim of ink-pot. Bright green glaze on exterior, running over rim slightly onto interior.
241	TG	Jug handle. Bright green glaze on upper surf-ace of-handle, mottled green-yellow glaze on underneath of handle.
242	TG	Small jug or type 4 cup handle. Patchy bright green glaze on surfaces.
243	MY	Small jug; copy of Raeren form.
244	S	Raeren jug/mug. Salt-glazed interior and exterior giving grey-brown appearance.
245	S	Raeren jug/mug base. Salt-glazed interior and exterior giving grey-brown appearance.
246	S	Frechen jug/mug. Salt glazed exterior giving grey brown appearance.
247	De	Jug/mug body. Clear glaze on exterior over brick red fabric, giving an orange-brown appearance. Possibly a Dutch import.

PHASE 9A
AREA IV DRAIN

Figure 43

248	P(xviii)	Wide-flanged bowl. Unglazed.
249	CW	Jug base with splayed foot.
250	CW	Chafing dish. Six, or possibly seven holes in base of dish, three holes in sides of pedestal base. See illustrations 205 and 206 for similar forms.
251	TG-type	Base of pedestal bowl(?) altered into a lamp. Glazed bright green-black on all surf-aces. Some glaze removed when base reshaped.
252	MY	Lid, vessel type unknown.

PHASE 10B-see illustrations 274-277

PHASE 10C
COLLAPSE OF SOUTH RANGE

253	P(xviii)	Bowl(?) rim. Patches of brown-purple glaze on inner wall, near base?
254	P(xviii)	Wide-flanged bowl rim. Unglazed.
255	P(xix)	Wide-flanged bowl with pouring lip. Patches of green purple glaze on inner wall.
256	P(xxi)	Urinal handle—unique form and method of attach to wall. The wall is pushed through-from the interior of the vessel into each end of the handle, unlike any of the other urinal handles found on the site, which are probably all dowelled into the wall at one end, Unglazed.
257	P(xx1)	Cistern lid. See illustrations 193-195 for similar form in P(xviii). unglazed.
258	CW	Two-handled cup with short rim. Applie white clay pads, and leaf stamped directly on to wall. For same form and similar decoration see illustrations 207 and 208.
259	CW	Two-handled cup with short rim. Groups of applied white clay pads with a circle stamped directly on to wall at the centre. See illustrations 258 for form.
260	CW	Two-handled cup with cordon below rim.
261	CW	Narrow cylindrical jug base. For rim form see illustration 222.
262	CW	Cylindrical jug base with applied white clay leaf. For form see illustration 261.
263	CW	Rim and neck of incense burner?
264	CW	Base, vessel type unknown, with decorative slashing above foot ring.
265	TG	jug handle; copy of Beauvais form. Even cover of dark-green glaze on upper surface of handle; mottled yellow-green glaze on underneath.
266	TG-type	Straight-sided lobed cup; unusual form. Knife-trimmed. Yellow-green speckled glaze on interior and exterior.
267	MY	Rim of a straight-sided vessel, possibly a jar.
268	MY	Rim of a Straight-sided a vessel, possibly a jar.
269	MY	Inturned bowl rim, with stamp on interior below rim. For similar form and decoration see illustration 297.
270	MY	Rim of wide-mouthed bowl.
271	ME	Rim of wide-flanged bowl.
272	ME	Dish? rim,.
273	S	Fragment of body of Cologne jug/mug with oak-leaf decoration. Salt glazed on both surfaces giving a grey-brown appearance.

PHASE 10B
COLLAPSE OF GARDEROBE SHAFT

Figure 44

274	P(xviii)	Wide-flanged bowl. Patchy brown-purple glaze on top of rim, and on inner base and partially up wall.
275	P(xxi)	Jug. Stacking evidence under base, 'Bib' of very light green glaze on exterior of' shoulder opposite handle. (Glaze colour affected by soil.
276	P(xxi)	Urinal handle, probably dowelled. Base of wall knife-trimmed, stacking evidence under base. Fairly even cover of green-purple glaze over exterior, patchy towards base.

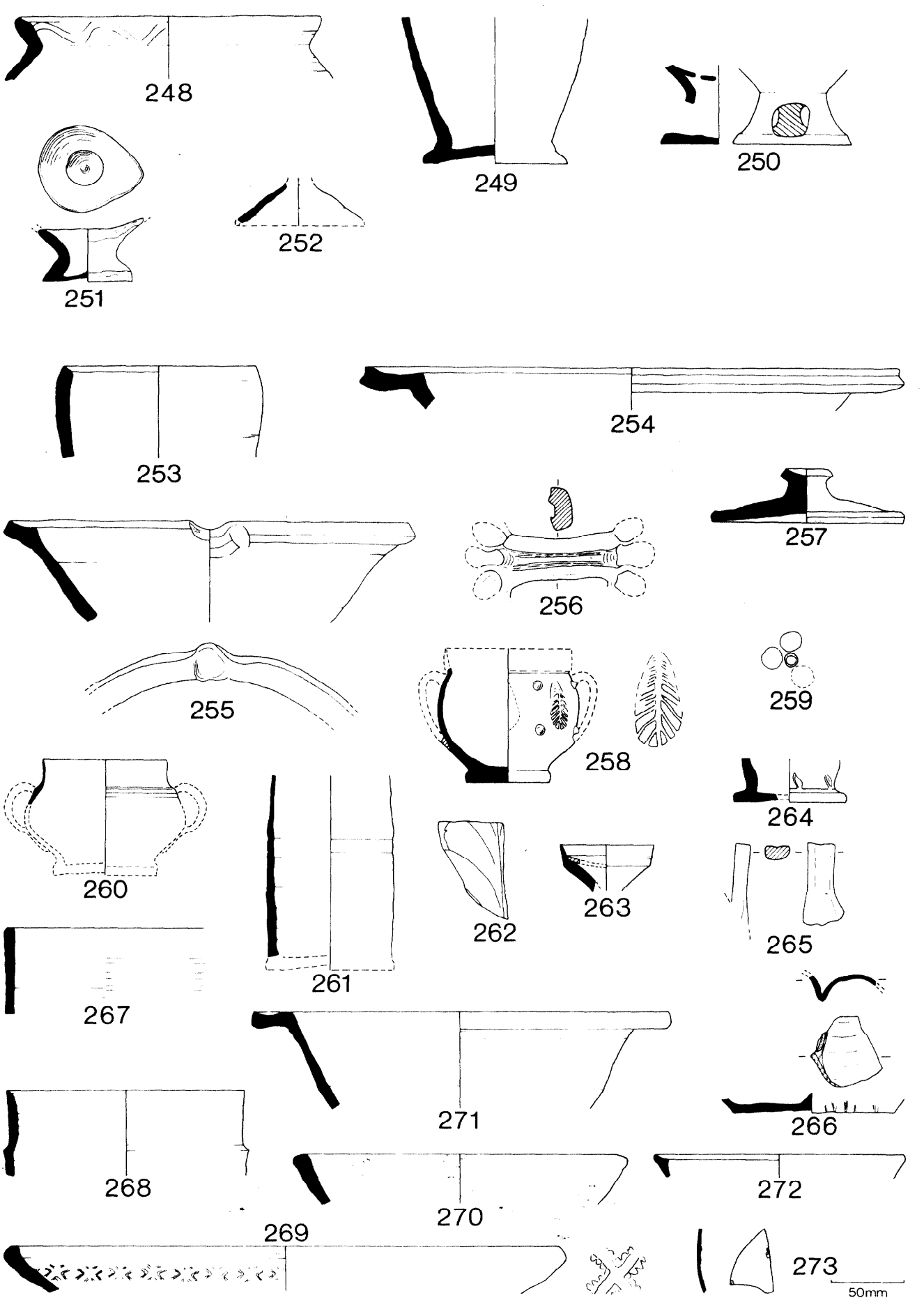

Fig 43 Pottery, 248-273. Scale 1:4; details of stamps 258 and 269, scale 1:2

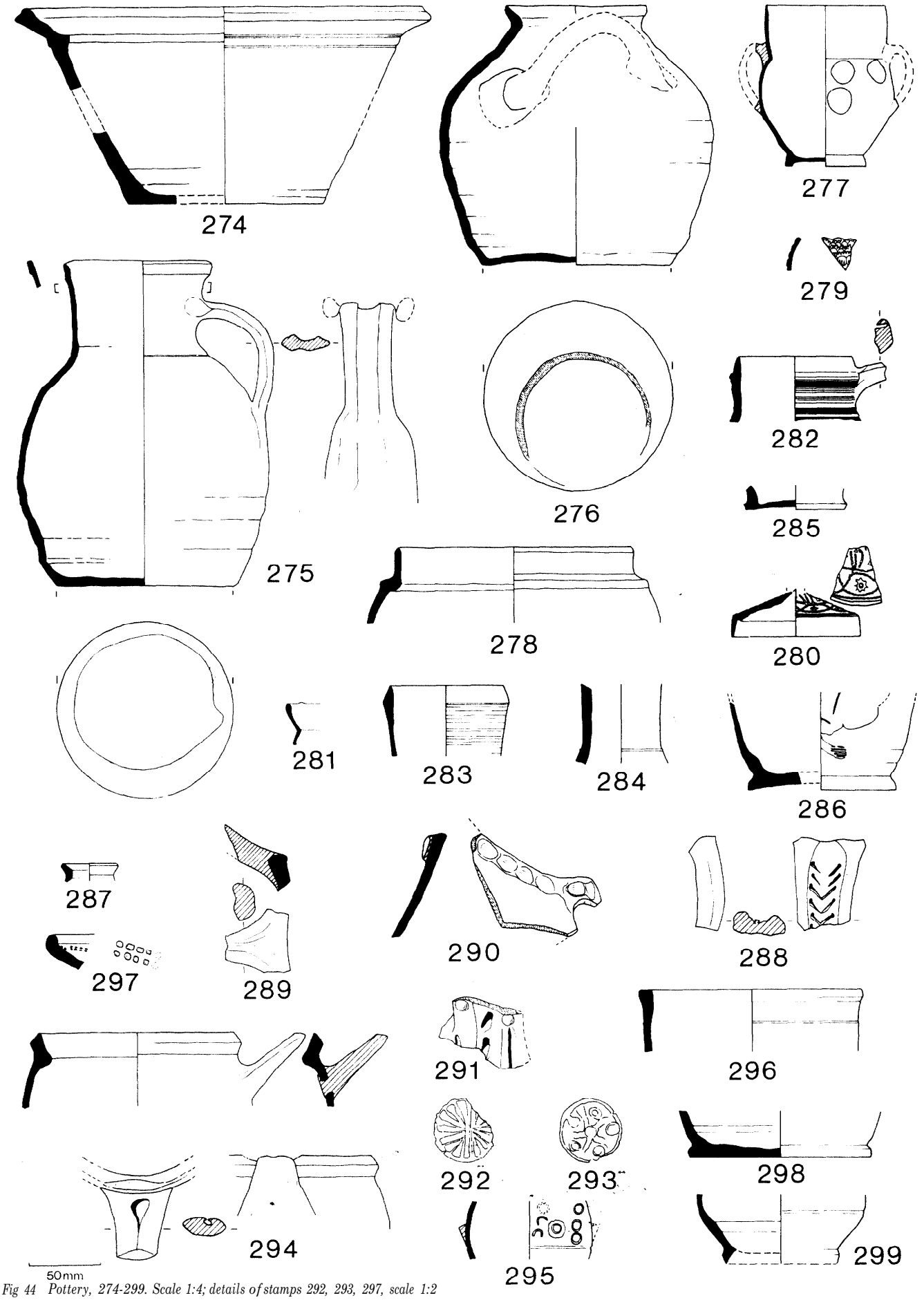

Fig 44 Pottery, 274-299. Scale 1:4; details of stamps 292, 293, 297, scale 1:2

Illustration Number	Fabric	
277	CW	Two-handled cup with tall rim. Applied white clay pads. For other decorative motifs used on this form see illustrations 209-214.

PHASE 10D
SUBSEQUENT DISTURBANCE OF PHASE 10C

278	P(xviii)	Cistern rim, unusual form. No evidence for/against cut-outs on rim. Patchy brown-purple glaze on exterior.
279	CW	Posset pot(?) body sherd, with white trailed slip decoration. For possible form see illustration 204.
280	CW	Posset pot lid, with white trailed slip decoration on the top.
281	TG	Rim of type 8 lobed cup. Dark green glaze on exterior, yellow glaze on interior.
282	S	Westerwald; rim and part of handle of jug/mug. Stabbing down centre of handle. Cobalt painted onto exterior neck, then salt-glazed over most of body. Grey-light blue where glazed on exterior, dark blue where painted and glazed.
283	S	Langerwehe; rim and neck of jug/mug. Salt-glazed on interior and exterior, giving light-dark brown appearance.
284	S	Frechen; neck of-jug/mug. Salt-glazed, giving brown-grey speckled appearance to exterior, light grey to interior.
285	De	Base of South Netherlands altar vase. Blue and white paint used to decorate exterior of vessel.

PHASE 10E
COLLAPSE OF WALL W18

286	CW	Base of tall, rounded/cylindrical jug with applied white clay leaf decoration. For body form see illustration 224.
287	TG	Ink-pot rim. Dark green glaze on interior and exterior.

PHASE 10G
DESTRUCTION LEVELS IN AREA I

288	P(iv)	Jug handle fragment with stabbed and pulled decoration down central groove. Dark green glaze covering upper surface of handle; patchy lighter green glaze on underneath surface.
289	P(vi)	Pipkin handle and part of rim. Patchy orange-green glaze with blue spots underneath handle and on part of exterior of body.
290	P(xii)	Fragment of distilling apparatus, possibly a cucurbit; applied thumb-pressed strip around body and cut-outs in wall of vessel. Patchy dark-green glaze on exterior and interior.

PHASE 10H
DESTRUCTION DEPOSITS IN SOUTH CLOISTER RANGES

291	N	Handle of jug, centre groove stabbed and side ridges slashed. Light green glaze with blue spots on exterior of handle. Applied pellets of same clay as body above slashing.

Illustration number	Fabric	
292	CW	Applied white clay pad with 'wheel' stamped onto pad-vessel type unknown.

PHASE 10J
ROBBING OF SOUTH CLOISTER WALLS

293	CW	Applied white clay pad with 'wheel and dot' stamped onto pad-vessel type unknown.

UNSTRATIFIED MATERIAL

294	P(xxi)	Pipkin rim and handle, with cut-out above handle. Handle dowelled. Slight splashes of purple glaze on interior.
295	CW	Body sherd from two-handled cup, type unknown, with applied white clay pad. Circles and half-circles stamped on pad and directly on the wall.
296	MY	Straight-sided bowl rim.
297	MY	Inverted bowl rim with stamped decoration on interior below rim. For similar form and decoration see illustration 269.
298	MY	Base; vessel type unknown.
299	MY	Cup? base.

Discussion

The pottery from the excavation has been divided for the purposes of this discussion into three main groups; the first covers the pottery whose main period of use occurs in pre-friary contexts, that is, fabrics A to O. Table 17 shows the number of vessels occurring within these fabric groups, and it is evident from this table that the fabrics that contain glazed and/or wheel-thrown vessels, fabrics E, F, L, N, and O, are the largest fabric groups in these early contexts. The unglazed vessels are the most difficult to date, since they possess few identifiable characteristics, and no comparative material has been studied from the city or county.

Fabric A is the earliest of the unglazed fabrics. All the vessels are hand-made, and both cooking pots (illustration 170) and cooking pots/storage vessels are represented. The type name 'cooking pots' has been applied in this report to those vessels with thick sooting over the whole of the exterior surface, which were evidently used solely for cooking or warming food. The vessels that are included below under the type name 'cooking pots/storage vessels' were used for either purpose; some of these have sooting on the exterior, but sooting is patchy, suggesting that the vessels were not placed in direct contact with the fire but were stood near the fire to keep the contents warm. Cooking pots from the site are unglazed, and only occur in this first group of pre-friary fabrics, whilst cooking pots/storage vessels are sometimes glazed and continue in use into the main occupation of the site (Table 19). The cooking pots and cooking/storage vessels in fabric A are undecorated and unglazed, and the composition of the fabric and the roughness and uneven thickness of the walls suggest a fairly early date for this fabric of *c* AD 900-1000. Most of the vessels remaining in fabric A are residual in context (Table 17), and support for this date is therefore unavailable from the stratification.

In the case of fabrics B, C, D, G, K, and M, dating by context is equally impossible. The majority of the vessels from these fabrics occur in phase 1 (Table 17), and are all either cooking pots or cooking pots/storage vessels (Table 19). The only new vessel form that occurs in any of these

fabrics is the tripod pitcher in fabric D. This vessel form only appears to occur in Leicester in early contexts; the example from the friary is however from a modern context, and must be residual (Table 18). The only decoration on any vessel in this group occurs in fabric C (Table 22), and consists of rouletting on the shoulder of one cooking pot. The date range for these fabrics, based, as in the case of fabric A, on coarseness of fabric and manufacture, lies somewhere between 1000 and 1250.

The two unglazed fabrics that proved the most difficult to categorize were fabrics H and J. Fabric H possesses several of the vessel forms present in the earlier unglazed fabrics (illustrations 58 and 91), but is also used in the manufacture of a new, bowl form (Table 19 and illustration 47). Moreover, the rim forms of both the cooking pot/storage vessel and the bowl are unusual, and the decoration on the rim and body of the former is an unparalleled combination from the site (Table 22). The vessel forms present suggest a slightly later date for this fabric than for the fabrics above of *c* 1100-1250; this date is approximate only, and since it is impossible to tell whether the vessels are residual in context, no conclusions can be drawn from Table 17.

The one vessel that occurs in fabric J is residual in context (Table 17) and, although the form of the vessel is familiar, several features of the vessel are unusual (illustration 48). The decoration consists of heavy rilling over the whole of the exterior of the vessel (Table 22), and the rim of the vessel has been shaped at one point to form a pouring lip. This is the only cooking pot/storage vessel from the site to possess a pouring lip, and it is quite possible that this vessel was made as an individual or 'one-off' product, since the fabric, as well as the form and decoration, is uncommon among the material examined here. The pitting on the surfaces of the vessel, caused by the explosion during firing of the limestone particles used as tempering material, is excessive, and suggests that the potter had not succeeded in judging correctly the amount or size of inclusions necessary to produce a reasonable quality of fabric. The date range for this fabric may lie between 1100 and 1250, although this is tentative since it is based on characteristics of form and fabric.

Most of the glazed fabrics from the pre-friary contexts can be assigned to known kiln sources. From its fabric and decoration, fabric E was identified as a Stamford product, although it has not so far been possible to assign this fabric to any of the excavated kilns at Stamford. The only vessel forms to have been recognized are two spouted pitchers (Table 19). Fragments of the spouts survive, but the form of the body of the vessels is unobtainable (for possible forms see Kilmurray 1977, figs 6.5 and 7.8). Fabric F is comparable to fabric E in fineness of fabric, but contains large quantities of mica and does not appear to be a Stamford product (K Kilmurray, pers comm). Only one vessel form has been identified in fabric F (Table 19), and therefore it is impossible to tell whether forms have been copied from the Stamford original as the fabric apparently has been. Certainly the decoration used on the vessels in these two fabric groups differs (Table 22). The only motif used on vessels of both fabrics consists of incised horizontal lines around the shoulder of vessels; this is a popular design on wheel-thrown vessels of nearly all fabrics (Table 22), probably because it is a simple design and easily carried out while the vessel is still on the wheel. It seems probable that fabric F is a locally made copy of Stamford ware, and that both fabric E and fabric F were in use on the site somewhere between 1100 and 1250. It is doubtful that any vessels of fabric E would have been exported from Stamford after this date, since the Stamford ware industry is thought to have been in decline by the middle of the 13th century (Kilmurray 1977, 60). The same is not necessarily true of the more locally produced fabric F, but it seems unlikely that it would have continued long after this date. The phasing of both these fabrics is unhelpful, since most of the material is residual.

Fabric L is much coarser than fabrics E and F above; the most distinctive feature of the vessels in this group is the glaze, which was applied to the exterior in powder form producing a 'splashed' effect. 'Splashed ware' such as this was manufactured in several centres in the Midlands, including Lincoln and Nottingham. The closest parallel for both the fabric and glaze of fabric L occurs amongst the Nottingham products. A date range of 1100-1250 is suggested for this fabric, based on the decorative motifs used which appear to have their floruit on the site in pre-friary contexts; these include thumbed, applied clay strips (Table 22) and thumbed handles (illustration 17 and Table 23). In addition, the two jug handles that occur in fabric L both spring directly from the rim of the vessel; the only other examples of handles springing from the rim rather than the neck of the vessels occur in fabrics N and O (illustrations 20 and 116), and this feature appears to have gone out of use on the site by the early part of the 13th century. Although vessels in fabric L are spread throughout the phases (Tables 17 and 20d and e), it seems likely that these vessels are residual and that this fabric was not in use on the site in friary contexts.

Fabric N is the only fabric from the site that includes coil- or slab-built vessels that were finished on a turntable. Only one vessel in this fabric is wheel-thrown (illustration 49); glaze occurs on this vessel, and also on a number of the hand-made vessels (illustrations 2 and 7). Evidence of smoothing the coils over with the fingers remains (Table 21), although in many cases this has been removed. A few vessels are knife-trimmed on the exterior at the junction of the base, and the wall; this is more usually found on wheel-thrown vessels (Table 21), and its use on hand-built vessels of fabric N may indicate an intermediate stage in the development of pottery manufacture between the hand-made local wares and the wheel-thrown products of manufacturing centres exporting to Leicester, first Stamford and later Nottingham and Nuneaton (see below, p 125-6).

The kiln source for fabric N is thought to be at Potters Marston, approximately eight miles south-west of Leicester, since the fabric, vessel forms, and decoration closely parallel the products of the Potters Marston workshops. Only one kiln has been excavated here and was identified as being of 13th century construction (Haynes 1952, 56). The distribution of fabric N within the phases of the site (Table 17) suggests, however, that there was a pottery industry operating at or near Potters Marston both before and after this date. While it is evident that a large proportion of the vessels in fabric N are residual in context, it seems certain, from the number of vessels present both in pre-friary and friary contexts, that this fabric had a fairly long life. Vessel types from the site support this; the earliest cooking pot/storage rims are bifid (illustration 4), folded, or simple everted rims (illustration 1), occasionally decorated; jugs have handles springing from the rim (illustration 20), and bowls have very slight, simple everted rims (illustration 26). In the later phases the forms begin to change; jugs have handles springing from the neck (illustration 60), while bowls have more sloping sides and more pronounced rims, often with applied thumb-pressed strips running under the flange (illustration 62). These more developed forms are thought to date to the latter part of the 13th century, if not into the 14th century. The date range for fabric N on the site is therefore placed between 1150 and 1350 approximately, with the floruit of the fabrics placed in pre-friary contexts and a

continued but declining use in early friary contexts. The terminal date for fabric N on the site is based on details of form and phasing, but it seems likely that the fairly coarse, hand-made vessels that are characteristic of this manufacturing centre would soon have lost favour once the superior products of Nottingham and Nuneaton began to appear in Leicester.

Fabric O is the only shell-tempered fabric from the site, and is represented by only six vessels, four of which are of unidentifiable form (Table 19). The one handle occurring in this fabric springs from the rim (illustration 116); this suggests a date of *c* 1150-1250 for this fabric, but the date is tentative. All the vessels are residual in context (Table 17) and so no support can be given to this date from the phasing. No kiln source is known for this fabric; it is fairly certain that these shell-tempered wares originate in the Northamptonshire area, but further work needs to be done on other shell-tempered wares from both the city and county of Leicester in order to place this fabric in its proper perspective.

The fabrics designated by the P fabric codes are those whose main period of use occurs in friary contexts, although some of the fabrics were deposited in pre-friary contexts. It seems probable, however, that none of the sources supplying P wares was in operation much before 1250 since few vessels in any of these fabrics occur in phase 1 (Table 17). The few known kiln sources whose products have been recognized from friary contexts can be fairly accurately dated and do not appear to begin production much before 1250. The P fabrics arc not necessarily in strict chronological order; since the fabrics were divided and coded before the tables were drawn up, some anomalies do occur. Similarly, it is now thought that some P fabrics are the products of the same kiln source but represent various periods of production within that tradition; such fabrics will be linked together in the discussion below.

Fabric P(i) is represented by jugs (Table 19); the decorative techniques used on the body of these vessels are simple (Table 22), and little or no decoration is used on the handles (Table 23). Borth decoration and fabric compare very closely with wares produced at Nottingham from c 1250 on wards, and it is suggested that the oxidized examples in fabric P(i) are products of the Nottingham kilns. The reduced vessels in this fabric are, however, the subject of some doubt. Wares of this type were produced at Notthigham, but it was thought that there may have been a kiln producing these wares at Shelthorpe, Loughborough, since a number of complete vessels of this type were discovered in a well there during the extension of a clay pit at Tucker's Brickyard. For this reason, the reduced vessels of this form and fabric are sometimes referred to as 'Loughborough Ware'. However, no kiln has ever been found at Shelthorpe and no waster have been recognized. It seems likely, therefore, that the reduced vessels in fabric P(i) from the site were made somewhere in the Nottingham/ Loughborough area, although the exact kiln site is unknown. The date range for this fabric on the site of *c* 1250-1400 is based on vessel form and decoration, and upon the phasing of the vessels (Table 17).

Fabrics P(ii), P(vii), and P(xv) have very similar inclusions and may well originate from the same clay/kiln source. Fabric P(ii) is the earliest of the three fabrics, and is represented solely by jugs (Table 19). Decoration consists of incised parallel lines around the shoulder of vessels and cordons around the neck (Table 22 and illustrations 34 and 35). Some jugs were removed from the wheel using a wire (Table 21); the only other example of this technique from the site occurs in fabric P(viii) (see below). Dating of fabric P(ii) is difficult; vessels first appear in phase I and in fairly large numbers in the various phases of the main drain (Table 17). Most of the vessels recovered were relatively complete, especially those from phase 7A (Table 20e) where they occurred together within a three metre stretch of the drain, in the same deposit as Cistercian ware vessels. Since this latter fabric does not occur on the site much before AD 1450, the stratification suggests an extremely long period of use for vessels in fabric P(ii). However, five out of the eight vessels in phase 7A are narrow baluster jugs (Table 20e); this form is replaced on the site by the squat jug form during the 14th century, and it seems unlikely that vessels of a baluster form in this fabric would have been carefully used well into the 15th century before being deposited, still in a fairly complete state, in the drain. Moreover, squat jugs do appear in fabric P(ii) (Table 20a and illustration 35), although in a smaller quantity than baluster jugs. This development of-vessel forms makes the occurrence of baluster jugs in this fabric within the drain layers of phase 7A even more surprising.

One explanation that covers all the anomalies mentioned above concerns the activity on the site in the pre-friary period. Little is known of the land use during this time, but the hearth feature in phase 1, Area II, suggests that some form of industrial activity took place here. It is known that kilns were operating in the immediate vicinity during the Roman period (McWhirr 1975/6, 59), although no evidence of medieval kiln activity has been found. It is possible that there was a kiln operating on the site immediately before the foundation of the friary, producing fabric P(ii) wares, and that the unsatisfactory products were disposed of in pits near the working site. The concentration of fabric P(ii) within a small area of the drain in phase 7A suggests that one of these pits was cut and the contents exposed during the widening of the ditch. Certainly one of the baluster jugs from phase 7A has a crack in the base that must have occurred during firing and prevented the vessel ever being used (illustration 148). The kilns must have been moved to a new locality once the friars began activity on the land and, although it is possible that fabric P(ii) continued in production for a time after the move to the new site, the evidence from the site suggests that new fabrics and forms began to emerge from this centre during the 13th and 14th centuries. The dating for fabric P(ii) is based upon the vessel forms and decoration present, and may lie between 1200 and 1350; the earlier rather than the later date is more likely.

Fabrics P(viii) and P(xv) occur in phase 1, and may have been manufactured and deposited on the site in the pre-friary period. The floruit for both these fabrics occurs in friary contexts, however, and the majority of products must derive from the new workshops. Development in fabric, form, and manufacturing techniques is evident in these later wares. Fabric P(viii) is the earlier of the two fabrics, with a shorter lifespan on the site than fabric P(xv). Both these fabrics are less coarse and friable than fabric P(ii), although they compare closely in composition to the earlier fabric, and appear to derive from the same clay source. One vessel in fabric P(viii) has been removed from the wheel with a wire (Table 21); this also occurs in fabric P(ii), but not in fabric P(xv). Knife-trimming around the base of the wall of vessels, and new, more secure methods of fastening the handles ofvessels to the wall, occur in both later fabrics but do not appear to be used on vessels of fabric P(ii) (Table 21).

Vessel types show development within these fabrics; fabric P(viii) possesses some cooking pots/storage vessels and other vessel forms that occur in earlier fabrics, but a new form, the urinal, appears that is not present in fabric P(ii) (Table 19). Fabric P(xv) contains no cooking pots/ storage vessels and only two bowls, but includes the largest

number of urinals in any one fabric from the site. In addition, a pipkin, flasks, and dripping dishes occur in this fabric. These latter vessel forms do not occur in pre-friary contexts (Table 18), and are produced contemporaneously in several different fabrics (Table 19). Urinals are so called because of the use to which they were put, although other vessel forms, such as jugs and cisterns, show evidence of urine salt deposit on the interior, suggesting that urinals were not the only vessels to be so used.

New firing techniques were tried at some period during the life of the workshop; some overtired examples in fabric P(viii) indicate this, but the most successful attempts occur in fabric P(xv), which appear to lie somewhere between the less highly-fired wares of the 13th and 14th centuries and the harder Midland Purple wares represented on the site by fabrics P(xviii) to P(xxii) (see below, p 127). Fabric P(xv) might therefore be termed 'Transitional Midland Purple ware'. The date range for fabrics P(viii) and P(xv) is similar although it is probable, from the evidence of the vessel forms and lack of highly-fired vessels in fabric P(viii), that fabric P(xv) remained in use for a longer period than fabric P(viii). It is suggested that fabrics P(viii) and P(xv) both began to be produced at the same time, c 1250- 1300, and that fabric P(viii) continued in use, if not in production, to *c* 1350-1400, while fabric P(xv) may have continued to *c* 1400- 1450, being used concurrently with Midland Purple fabrics towards the end of its floruit on the site (Table 17). Although the subsequent location of the kilns producing these fabrics is unknown, it is interesting to note that similar wares to fabrics P(viii) and P(xv) have been excavated from the Lodge buildings at Donnington Park, Leicestershire, which formed part of the Duchy of Lancaster (Liddle 1979). It is known that in 1304 Thomas, Earl of Lancaster, gave a grant of land to the Augustinian Friars (see above, p 1). It is tempting to suggest that a pottery workshop was operating on this site, prior to the acquisition of the land by the friars, under the patronage of the Earls of Lancaster. The workshop may have reestablished itself in another part of the Duchy and continued producing pottery to supply the Duchy and all its dependent establishments which may have included the Lodge at Donnington and the friary at Leicester. This is an interesting interpretation, with some evidence to support it, but the Donnington material needs to be studied in much more depth before it can be definitely assigned to the same kiln source as fabrics P(viii) and P(xv), and the above must be seen as tentative until more work has been carried. out on the pottery of the Leicester area.

No kiln source is known for fabrics P(iii) or P(vii), although the similarity in fabric composition suggests that both derive from the same source. Vessel forms within the two fabric groups are also similar; this is especially true of the wide-mouthed bowls (illustrations 118, 119, and 123). There is too little decoration to draw any comparison between the two fabric groups (Tables 22 and 23), and no distinctive manufacturing techniques are used in either fabric (Table 21). Both fabrics occur in phase 1, although only one vessel is represented in each (Table 17). This suggests an initial date of c 1250- 1300 for both fabrics. Fabric P(iii) appears to be residual in contexts after phase 5A, while fabric P(vii) continued in use in later phases, although it is impossible to tell the exact date at which it becomes residual on the site. A terminal date of c 1375- 1400 is suggested for fabric P(iii) and of 1400- 1425 for fabric P(vii); both these dates are tentative.

Fabric P(iv) cannot be assigned to any known clay/kiln source, either on the basis of similarity of fabric or of vessel types (Table 19) and decorative techniques (Tables 22 and 23). The fabric first appears on the site in pre-friary contexts, and the majority of the vessels occur in early phases (Table 17). The vessels after phase 4B appear to be residual in context. The date range for this fabric on the site is based both upon phasing and vessel forms, and is thought to lie somewhere between 1250 and 1400, although the earlier rather than the later date is more likely.

Fabric P(v) does not appear on the site in pre-friary contexts (Table 17), and its life on the site is short, with a suggested range of c 1300- 1400. The number of vessels in this fabric is small, and all are jugs (Table 19). Ovoid (illustration 79), squat (illustration 112), and baluster (illustration 120) are represented; decoration on the body is unimaginitive (Table 22), but that on the handles is unusual (Table 23). Handles are attached to the vessel wall either by the use of dowels ('pegging') or by pushing the wall of the vessel into the clay of the handle from the interior of the vessel (Table 21). It seems likely that this fabric is the product of a small, local kiln with a low output; certainly very few vessels in this fabric occur on the site.

Fabrics P(vi) and P(xii) are both thought to derive from the Chilvers Coton kilns, situated just outside Nuneaton. Decorative techniques used in both fabrics are paralleled at Nuneaton (Tables 22 and 23), as are the vessel forms. Both fabrics appear to occur concurrently on the site (Table 17) and to have a date range of *c* 1250-1400, or possibly slightly later. The vessel forms present in both fabric groups support this; jugs, bowls, and cooking pots/storage vessels are well represented (Table 19), although there is little development in form throughout the phases. Urinals and dripping dishes also occur in both fabrics, although only one pipkin occurs, in fabric P(vi). The most unusual vessel forms to appear in fabric P(xii) are the distilling apparatus and the crucibles, which were presumably used in some form of chemical experiment. The exact period of use of these vessels is unknown, although three out of the four occur in phase 5A (Tables 18 and 20d) and may date to the late 14th century. Distilling apparatus is known to have been made at Chilvers Coton (Moorhouse 1972, 107, 109, 113, 116) although it is by no means a usual product of these kilns. It may only have been made to order for a specific customer, and it is possible that in some instances the pottery needs of the community were met not through the open market, but through direct contact with the supplier. Another unusual vessel form occurs in fabrics P(vi) and P(xii); this is the 'lighthouse' jug, so called because of its shape, with the base being the widest part of the vessel. The only two examples from the site occur in these fabrics (Tables 20e and f). One cistern is recorded in fabric P(xii); it is the only cistern from the site that occurs in a pre-Midland Purple fabric (illustration 131, Table 20c), and may represent an attempt by the potter to copy the vessel types that were being produced in the more highly-fired Midland Purple ware. The Chilvers Coton kilns began to produce Midland Purple wares in the 15th century, but no vessels of this type have been recognized from the friary. It seems likely that fabrics P(vi) and P(xii) were eventually replaced on the site by Midland Purple wares that derived from a different source. The date for this changeover is uncertain, but probably occurred *c* 1400 (see below, p 127).

Very little can be said about fabric P(ix); only one vessel is decorated (Table 22), and only plain strap handles occur (Table 23). There are several vessel types represented (Table 19), although the total number of vessels is small. Their distribution on the site (Table 17) indicates, that this fabric was not in use on the site in pre-friary contexts, although it is difficult to be sure when the fabric was introduced to the site or when it became residual, since the distribution pattern of such a small number of vessels cannot accurately reflect their chronology. No kiln or clay source is known for this fabric; consequently the suggested

date range of 1300 - 1400 is based solely on the conjectured period of use of this ware on the friary site.

Fabrics I'(x), P(xi), and P(xiii) are in no way similar but will be dealt with together here since there are so few vessels in total from these three fabric groups. No kiln source is known for any of these fabrics, and no decoration occurs on either the body or handles of-any of the vessels (Tables 22 and 23). The specific vessel types that occur are shown in Table 19, and these seem to support the fairly early date suggested for all three fabrics by their phase distribution (Table 17) (although none appears to have occurred in pre-friary contexts). Until further examples of each of these wares have been examined, it is impossible to do more than mention their existence on the site and suggest a date at which each may have been in use of *c* 1300-1350.

Fabric P(xiv) appears to have a much longer life span than the above fabrics; Table 17 shows that vessels occur from phase 1, suggesting an early start for this fabric of *c* 1250. Only two vessel types occur, and jugs far outnumber the bowls (Table 19). Most of the vessels are too fragmentary to give any idea of the exact form of-either the jugs or bowls (Tables 20a-h). Decoration on the body usually consists of incised decoration around the shoulder, although one vessel has vertical and diagonal slashing together on the body (Table 22). Two jug handles are also decorated with slashing (Table 23); this is one fabric from the site that possesses this decorative technique on the handles, yet does not apparently belong to either the Potters Marston or Nuneaton pottery traditions. While a date range has been postulated for its use on the site of *c* 1250-1400, no kiln source for this ware is known.

Fabric P(xvi) is similar to fabric P(xiv) in that it contains only jugs and bowls (Table 19); again, the vessels are too fragmentary to recognize specific vessel forms (Tables 20a-h). There is one unusual vessel, however; a jug appears to have been adapted for use as a colander or strainer, since holes were made in the base whilst the clay was leather-hard, and some flaking has occurred where the clay was slightly too dry to be cleanly pierced (illustration 76). This vessel, together with several others in this fabric, has a thumbed base (Table 22); indeed, the largest number of-vessels decorated in this way occurs in fabric P(xvi). Incised decoration IS a popular technique on some vessels, while one vessel has what seems to be an unusual design consisting of applied 'scales' of clay within vertical incised lines on the body. The handles that occur in this fabric are devoid ofdecoration. This fabric does not occur in any quantity from phase 3E onwards, and the amount found in the phases prior to this is not great (Table 17). The conjectured date range lies between 1250 and 1350. No kiln or clay source is known for fabric P(xvi).

Fabric P(xvii) IS perhaps the most difficult fabric of all to date from its distribution on the site (Table 17). In no phase do more than three vessels occur, and its erratic distribution pattern may suggest that the fabric appears fairly early on the site, possibly in pm-friary contexts, and soon becomes residual. This may explain the small number of vessels occurring in this fabric. As in the case of both fabrics P(xiv) and P(xvi), the only vessels occurring within this group are jugs, and one bowl (Table 19). No decoration occurs on the one strap handle remaining, and decoration on the body of vessels is rare (Table 22). No kiln or clay source is known for this fabric; a date range of *c* 1250 1350 is suggested.

As has been mentioned above (p 126), fabrics P(xviii) to P(xxii) are much harder-fired than the other earlier I' fabrics, and are representative on the site of-the type of pottery known as 'Midland Purple Ware'. These fabrics will therefore be discussed as a group, despite the fact that in no case do they appear to originate from the same clay/ kiln source. Fabric P(xviii), the-first fabric in this group to appear on the site, contains a percentage of less highly-fired vessels and was probably first produced during the period of transition. when Dotters were experimenting with multi-flued kilns that could fire wares to a much higher temperature, and trying to obtain fabrics that were" sufficiently plastic to take such temperatures without cracking during firing. It has been suggested above (p 126) that fabric P(xv) was also such a 'transitional' fabric although it did not continue in use on the site for as long as fabric P(xviii). This transition period appears to begin c 1350 1375, or possibly slightly earlier, while the true Midland Purule wares. both in fabric P(xviii) in its later period and in fabrics P(xix) to P(xxii), do not occur on the site until *c* 1400, when they may have been used concurrently with vessels of the 'medieval sandy' tradition for a short time. It seems clear from the distribution of the fabrics on the site (Table 17) that the Midland Purple Wares had almost completely taken over from the earlier, softer fabrics by *c* 1450 (this does not include fine wares-see below, p 128). If one looks at the distribution of vessels within the drain layers, in phase 9A, Areas II and IV, the concentration of fabrics P(viii), P(xv), and P(xviii) to P(xxii) is high, while fabrics P(vi) and P(xii), the two fabrics with the next largest number of vessels present in the drain (excluding fabric N which is residual in-these deposits), are very poorly represented.

Together with the change in fabric and firing, the vessel types also change at this period; jugs are still produced in the Midland Purple fabrics, and generally speaking retain the squat form that had become the most-common jug form in the medieval sandy fabrics by the end of the 14th century. The bowl form changes slightly, since the vessels become wider and deeper with rim flanges of up to 50mm across. The cooking p&/storage vessel form disappears completely, while a new vessel form, the cistern, replaces it, taking over the storage function of the earlier vessels. The cisterns are in some ways more suitable for use as storage containers, since the bung-hole in the wall would have facilitated the extraction of both solid and liquid foodstuffs from the vessels, especially if the cisterns were stored on shelves at a height. The positioning of the bung-hole would also prove useful if ale was stored in these vessels, since it would prevent sediment being drawn off when the level in the cistern was low. No evidence was found on the site to suggest what type of bungs were used. The four lids apparently belong to this vessel form; no trace of wooden lids large enough to be used on cisterns was found (illustrations 193, 194, 195, and 257).

The purpose of the cut-outs in the rim is uncertain; it may be that cut-outs above the handles were used as thumb-rests when the vessel was lifted by the handles. This cannot be true of the cisterns that have four cut-outs, none of which is placed above the handles, not of those cisterns with no cut-outs in the rim at all. It is known that cisterns were used to protect Cistercian ware vessels in the kiln during firing, since the impression of Cistercian ware vessels occurs on the exterior of the base of some cisterns (illustrations 158, 197), and it is possible that the cut-outs in the rim ensured that sufficient air could reach these vessels during firing.

Two main types of cistern have been recognized from among the Midland Purple wares on the site (for tall cistern form see illustration 190; for squat cistern form see illustration 196). Neither type appears to occur exclusively within one fabric group, and there does not appear to be any decorative motif that is unique to either form. In fact, very little decoration occurs on any of the vessels within the Midland Purple ware from the friary, either on the

handle or the body (Tables 22 and 23). Fabric P(xviii) contains the greatest variety of decoration, with incised wavy-line decoration on rims and, in several cases, applied thumb-pressed strips under the rim flange of cisterns. This technique is usually found on vessels of a much earlier date and is therefore unusual in this context. Similarly, one jug base in fabric P(xix) is thumbed around the junction of the wall and the base; this feature, together with the form of the base, suggests an attempt to copy the frilled bases on German and French stoneware imports, rather than a return to earlier decorative motifs.

It has already been noted (above, p 127) that some cisterns in all Midland Purple fabrics except P(xxii) were used as saggers in the kiln to protect fine-ware vessels from the direct heat of the flames. There is some evidence on vessels in both fabrics P(xviii) and P(xxi) that the friars not only bought vessels with, at best, an exterior base covered with uneven deposits of glaze and, at worst, with the remains of fine-ware vessels on the exterior, but that they were also prepared to accept sub-standard products. In fabric P(xviii), for example, two vessels have cracks in the bases which must have occurred before or during firing since glaze has run over and into the cracks. In one case glaze from the interior of a cistern has run into a crack in the base for about three-quarters of its depth. The flaw would not have been visible from the exterior of the base, but it would have considerably weakened the vessel. Another example is from a jug base; in this case the glaze covers the crack completely and runs through from the interior to the exterior of the base. The flaw would be invisible until the jug was used, when any liquid would drip through the crack. One of two explanations may be put forward for this; either the friars bought their pottery in large consignments, sight unseen, taking the chance that one or two of the vessels might be faulty, or they purposely bought 'seconds' from the potter or middleman to save money. Too little is known about the marketing of pottery at this period to say whether this was a common practice in any large household or religious establishment.

A date range for the Midland Purple group of fabrics on the site is tentatively placed between 1375 and 1538; although no kiln source is known for any of the fabrics, it seems evident from their distribution throughout the phases of the site that they continue in use on the site up to the dissolution of the friary. The date at which it is suggested that these fabrics first appear on the site is somewhat earlier than has previously been thought for the introduction of vessels of this degree of firing, but the stratigraphical evidence from the site supports such a date, and further work, both on other pottery from the city and on any kiln sites that may be found, will hopefully provide much more information concerning these wares.

The final group of fabrics consists of the fine wares that appear on the site from *c* 1450 onwards. Fabric CW, or Cistercian ware, is the first of this group of fabrics to be discussed. One vessel occurs in phase 5A (Table 17), but is represented by one small sherd only which may be intrusive in this context. The first significant deposit occurs in phase 7A, and the fabric continues in use on the site up to the Dissolution, with several vessels lying in the collapsed garderobe shaft (illustration 277 and Table 24; phase 10B). The vessel forms and decoration are shown in detail in Tables 24 and 25. Both decorated and undecorated examples of most vessel forms occur, although all the tall-rimmed cups from the site are decorated (Table 25). One of these vessels has an applied white clay pad with wheel-stamped decoration on the body (illustration 212) and the same stamp was used to decorate a pedestal cup (illustration 218). This suggests that these two vessels were made at the same workshop. Although production centres for Cistercian Ware are known at Ticknail, Melbourne, and Chilvers Coton, none of the friary material can be assigned to a known kiln source. A date range for this fabric on the site of *c* 1450-1540 is suggested, based mainly on the phasing of the vessels on the site.

The letter code TG on all tables indicates true Tudor Green vessels and several apparently local products whose fabric appears identical with the Tudor Green ware fabric, but whose vessel forms do not occur within the Tudor Green ware tradition. The pedestal bowl (?) (illustration 251) and the straight-sided lobed cup identified by S Moorhouse (illustration 266) are both local copies; their forms are unique on the site (Table 19) and both vessels are coarsely made and badly finished. Chilvers Coton produced some copies of Tudor Green ware fabric and forms, but neither of these vessels can be assigned to this or any other kiln source. One handle fragment has been identified as a possible Oxfordshire product; the fabric is similar to the Oxford fabric BC, but apparently contains more mica (M Mellor, pers comm). The remaining vessels in this fabric group are fairly certainly products of the Surrey industry and can be termed true Tudor Green ware. In manufacture and finish the vessels are very similar to Cistercian ware, and it is probable that Cistercian ware is the Midlands and Northern equivalent to Tudor Green ware, the latter occurring most usually in the south-east of England. Table 17 shows the total number of vessels occurring in this fabric group; if the three Tudor Green type vessels are subtracted from this total, only thirteen vessels remain. These vessels may have been brought back to the friary, either as curios or containers for foodstuffs or other items, by friars returning from their journeying ministry.

The vessel forms that occur on the site are shown in Table 19; the phasing of some of the forms can be seen in Table 18, since forms such as the lobed cup are unique to this fabric group. A date range of *c* 1450-1538 is suggested for the Tudor Green wares on the site, based on the stratification of the material.

The distribution of the Midland Yellow ware vessels, code MY, is shown on Table 17; one vessel occurs in the garderobe shaft (phase 10B) while the largest deposit was recovered from the destruction deposits in the area of the south range (phase 10c). The vessel forms present in these contexts are shown in Table 20h, and several- forms previously unknown on the site appear. Straight-sided vessels, possibly jars (illustrations 267 and 268), and a possible dish (illustration 272) occur; another form, the inverted rim bowl, has stamped decoration on the interior under the rim flange (illustrations 269 and 297). The complete range of vessel forms is shown in Table 19. The lid is similar in form to the posset pot lids in Cistercian ware, but is undecorated and the vessel to which it belonged is unknown (illustration 252). The jug profile seems to be a copy, both in form and decoration, of a Raeren form (illustration 243). This is the first stratified group of Midland Yellow vessels to have been examined from Leicester, and very few conclusions can be drawn from such a small amount of material. The phasing suggests a fairly short life of *c* 1500-1538 for this fabric on the site. No kiln source has as yet been traced for this material.

The stoneware vessels from the site have been grouped under one fabric heading, code S, on the basis of their smooth, virtually inclusion-free fabric, and the high firing of the vessels that caused the fabric to become vitrified. The vessels do not all originate from the same kiln source; although they have been grouped together on all tables, the products of the various manufacturing centres are separately illustrated and will be described individually

below. The term 'jug/mug' has been used to describe all identifiable stoneware vessels from the site since, although in form they resemble jugs, none of the vessels is equipped with a pouring lip and they were most probably used as drinking mugs.

The earliest stoneware vessel on the site occurs in phase 5A (Table 17); this is a Siegburg jug/mug and is datable by its form to the 14th century (illustration 147). Decoration consists of pronounced rilling on the exterior. This form of tall-necked jug is common at Siegburg during this period (Reineking-von Bock 1971, nos 156-9). No other Siegburg products occur on the site.

Four Raeren jug/mugs occur in phase 9A, in Area II drain deposits (Tables 17 and 20f). Three bases are frilled (illustration 245); the only other decoration consists of incised parallel lines around the neck of one vessel (illustration 244). These vessels have been dated to the late 15th, early 16th century on contextual evidence. Of the Frechen jug/mugs illustrated, one occurs in this phase (illustration 246). The form is paralleled at St Neots (Addyman & Marjoram 1972, 86, fig 39, no 46). The St Neots vessel is dated to the mid 16th century, but the friary example must be earlier than this, since it occurs in pre-Dissolution drain deposits. The other Frechen vessels, also jug/mugs, occur in phase 10D and are more difficult to date from stratification. They do not appear to date much later than 1550, and may have been deposited on the site after the dissolution of the friary (illustration 284).

Only one stoneware fragment occurs in phase 10C (Table 17), and it would have formed part of the body of a Cologne jug/mug. There are traces of applied clay leaves on the exterior (illustration 273). A similar vessel with foliage decoration occurs at St Neots (Addyman & Marjoram 1972, 86, fig 39, no 52), and is dated to the later 16th century. The fragment from the friary probably dates slightly earlier than this, on stratigraphical evidence.

Two Langerwehe vessels and one Westerwald occur in phase 10D; the rim of one of the two Langerwehe jug/mugs is shown in illustration 283. Both vessels in this fabric are dated to *c* 1500-1550 on the site on the basis of vessel form, The Westerwald vessel consists of the rim and neck of a jug/mug, with part of the handle attached. The neck of the vessel has incised line decoration around it, with the thicker incised lines at the top and bottom painted dark blue (illustration 282). The strap handle is decorated with stabbing down the central groove (for suggested form see Reineking-von Bock 1971, no 462). The form of the vessel suggests a 17th century date, and it is probable that this vessel was deposited on the site during post-Dissolution activity.

The Dutch imports from the site are small in number (Table 17) and only one vessel form has been identified (Table 19). This consists of the base of a southern Netherlands altar vase (illustration 285). Decoration consists of blue paint under the glaze; the exact design is unknown. The vessel occurs in phase 10D, and may have been redeposited during the disturbance of phase 10C; an early 16th century date is suggested, but must be seen as tentative. One vessel which has been included, both in the tables and illustration lists, under the fabric code De is not, in fact, Delftware. The vessel form is unknown, and the fabric is much coarser than the Delftware fabric, firing to a brick-red colour. This vessel has been listed with the fabric De vessels since it is thought to be a Dutch product; however no kiln source is known for this vessel. From its stratification in phase 9A, Area II drain, a date range of 1500-1550 is tentatively suggested (illustration 247).

A very small amount of 17th to 19th century pottery occurred in the post-Dissolution deposits on the site. This has not been described in detail in this report, since the stratification is uncertain and vessels are too fragmentary either to draw or describe. All the vessels have been listed in the Level III Archives, together with the relevant information on decoration and fabric.

The pottery from the site covers a large period of time, with the main deposits occurring in the period AD 1250-1550. It is evident, from the wide variety of fabrics and vessel forms, that the friary was using the products of a number of manufacturing centres. Some of these centres were fairly local to the site, while others, such as Nottingham, were exporting products for some distance. Both the Potters Marston and Nuneaton vessels originate in the south-west of the county, and this may indicate a source area for some of the fabrics from the site for which the manufacturing centre is unknown. There is very little evidence to suggest that kilns in Northamptonshire might be exporting wares to Leicester, while there do not appear to be any imports from the eastern part of the county among the friary material. It is to be hoped that future work, both in the city and county of Leicester, may provide more information on the pottery industry during the medieval and post-medieval period. This report, dealing with the pottery from a specific site, will provide an initial basis on which such work can be based.

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The small finds-non-structural
Patrick Clay

Coins and jetons

Identified by NJ Mayhew

1. Phase 3B I 152
Silver halfpenny Edward I 1272- 1307 15mm diameter 0.32 grams
Obv EDW(A)R ANGL DNS HYB
Rev Long Cross, Three Pellets in each angle
CIVITAS LONDON
Fox class III g London Mint *c* 1281

2. Phase 3D II W37
Silver halfpenny Edward I 1272-1307 15mm diameter 0.44 grams
Obv E(DW)AR ANGL DNS H(Y)B
Rev Long Cross, Three Pellets in each angle
VILLA BEREV VICI
Blunt class III B Berwick Mint *c* 1298

3. Phase 4B I 5
Silver penny Edward I 1272 1307
Obv Long Cross. EDWAR ANGL DNS HYB
Rev (CIVITAS LONDON)
Fox class IX b London Mint *c* 1300

4. Phase 3B I 131
Bronze jeton Edward II (?) 1307-27 20mm diameter
Berry type 9 'Medusa' (Berry 1974, 62, pl 4.12)

5. Phase 3B I 152
Bronze jeton Edward II (?) 1307-27 20mm diameter
Berry type 8B 'Martlet among fruit' *(ibid,* 62, pl 4.10)

6. Phase 3B I 131
Bronze jeton Edward II (?) 1307-27 20mm diameter
Variation of Berry type 8B 'Martlet among fruit'

7. Phase 3B II 111
Bronze jeton Edward II (5) 1307-27 22mm diameter
Shield with three bands *(ibid,* pl 5.7)

8. Phase 3C VI 298
Bronze jeton, possibly Edward II (?) 1307-27 18.5mm diameter
Berry type 13. Three crowns obverse type with short cross moline reverse *(ibid, 37)*

Mr N J Mayhew of the Ashmolean Museum, Oxford, writes:

> I do not think the grounds for dating the jetons to Edward II's reign rather than Edward I's are terribly strong. Little is really known about them either way. One of the jetons (6) is a variety of bird and berry type and is not illustrated by Berry. All Berwick coins are rare and the halfpennies doubly so.

Pewter

Figure 45

1 Phase 3F II 33
Rim, flattened and turned down at the edge, possibly from a paten

2 Phase 9A II 32

3 Phase 9A II 32

Two hammered pewter patens with flattened rims turned down at the edge. The roghly inscribed square within a circle on the bases may have acted as a guide for punching the raised central mound. They both have a Gothic 'T' facing inwards, stamped 9mm from the edge of the rim. The same stamp occurs on a larger pewter dish from Smithford Street, Coventry (HAGM 49/227/6) and is probably a manufacturer's mark. Pewter makers were required to stamp their wares following a charter of 1503 but the practice would have started earlier. The poorer orders used pewter for church plate in lieu of silver; if there was little wear involved these pieces might have had long lives. If this was the case these patens might be of an earlier date than their 16th century context.

4 Phase 10C II 29

5 Phase 10C II 29

Two spoons with fig-shaped bowls. Number 4 has a round knob at the end of a tapering hexagonally sectioned handle. Considering the scarcity of pewter for domestic purposes these were most likely to have been used as incense spoons to convey incense from the navette to the censor, or to place bread on the paten. Like the patens these were from the west end of the drain. The plain knobbed handle of 4 and the shape of the bowls suggests a late 15th or early 16th century date.

Copper alloy

Figure 46'

6 Phase 2D II 34
Bowl rim, hammered and turned

7 Phase 3F II 54
Small rim fragment from a cast bowl with horizontal raised ribbing

8 Phase 3B I 131
Cast repair to a bowl. A series of indentations (A) would have been cut into the damaged bowl and surrounded by a clay mould (B) for the new casting (C). This appears to have failed as there is no trace of the original bowl but the fact that such a repair was attempted Indicates the value attached to metal bowls (cf Hall & Coppack 1972, 39, fig 6. 10).

9 Phase 9A IV 27
Base fragment from a hammered and turned bowl with possible traces of another similar vessel inside

10 Phase 9A II 32
Bowl rim, cast

11 Phase 10C II 30
Curved strip with six holes, possibly from a reused bowl rim

12 Phase 10C II 29
Strip with rivet hole, possibly from a damaged hammered bowl

13 Phase 10C II 30
Bowl rim, cast, with the remains of a twisted bronze rivet, possibly for attachment to a chain to hang over a fire

14 II unstratified
Bowl rim, cast. The raised ribbing at right angles to the rim results from casting rather than being decorative. A similar pottery form can be found in a wide mouthed bowl in P(xii) fabric (see Fig 31.74).

There were also four very corroded fragments from hammered bowl rims from Phase 10C (II 19, 29, 30).

Figure 47

15 Phase 3B I 131
Small square plate with a small hole at each corner. Traces of iron adhere to the centre underside. Fitting for a belt or small box

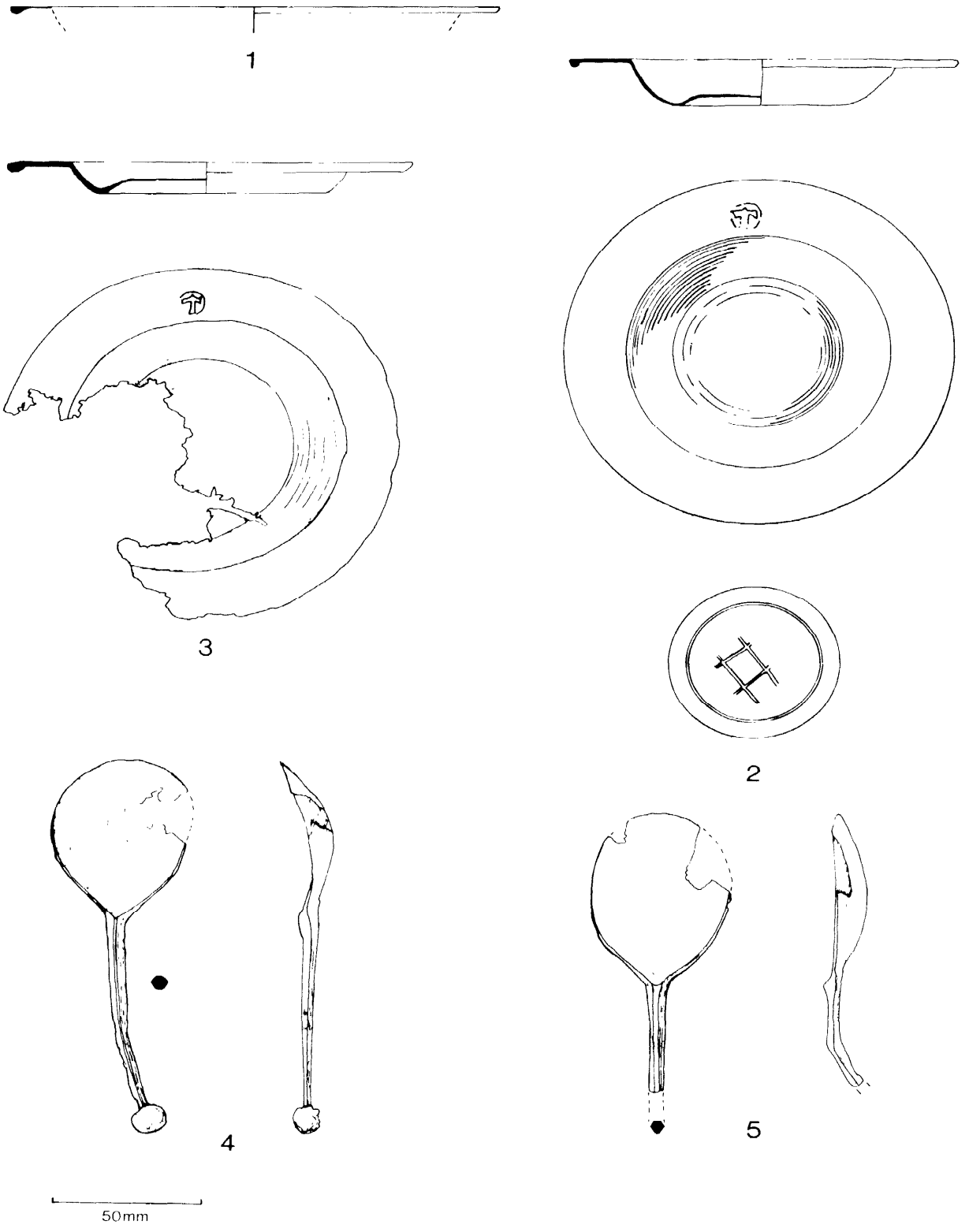

Fig 45 Pewter, 1-5. Scale 1:2

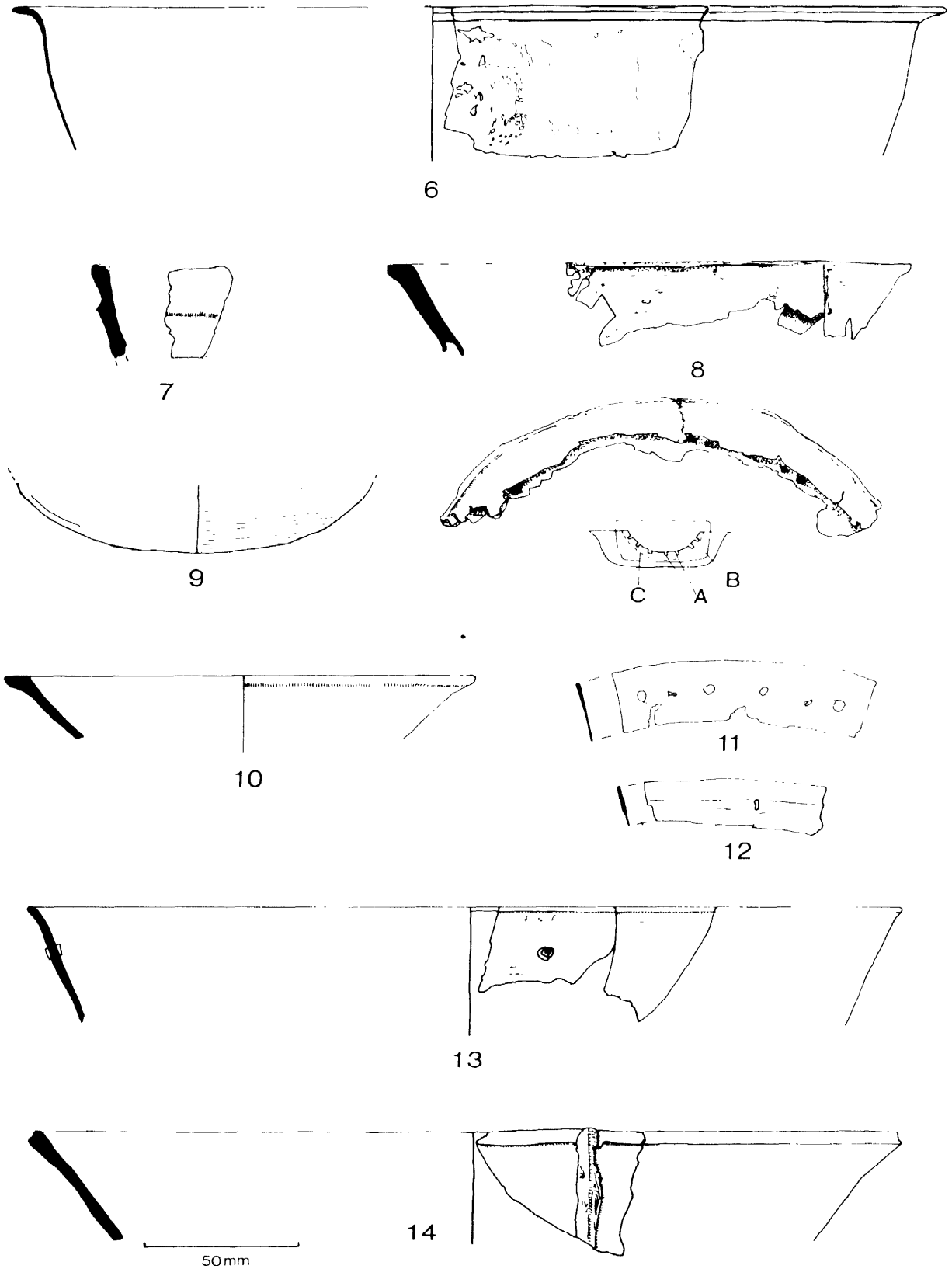

Fig 46 Copper alloy, 6-14. Scale 1:2

16 Phase 5A IV 29
Small plate, perforated with five rivet holes, two rivets surviving, possibly from a belt fitting

17 Phase 9A II 32
Belt plate with rivet holes

18 Phase 10C II 30
Flat plate with three rivet holes, the corner of the widest side being folded over

19 Phase 10C II 30
Large, roughly triangular plate with rounded corners and eight rivet holes, with two surviving rivets along the perimeter and iron adhering to the centre underside. Fitting for a bucket mount (?)

20 Phase 10C II 29
Several fragments from one or two strainers including part of the ferrule for attachment to a wooden handle. Five rivets survive for attaching the ferrule to the scoop (cf London Museum 1940, 206, fig 68.8). Similar objects have been found from Strood Temple (Rigold 1965, 125, fig 2.3), London (Guildhall Museum 1908, 40, 147, fig XXX l), and Norwich (Hurst & Golson 1955, 99, figs 24.8 and 14). 16th century.

Figure 48

21 Phase 2B VI 82
Belt plate fragment with wavy line decoration

22 Phase 3B I 38B
Small belt end, with traces of tinning, still containing leather fragments. The iron rivet was probably for attaching a pendant.

23 Phase 3B I 124
Plate from belt end. Late 13th to early 14th century

24 Phase 3E VI 159 (Grave 6, probable female 30-35 years)
Annular buckle found with leather attached to the body and pin (see below, p 160). Had this been found in another context or without the attached leather fragments its form would suggest an annular brooch (cf London Museum 1940, 197, fig 63.3, and 275, pl LXXVII 1 and 2). Also associated with this buckle was a wire repair joining two pieces of leather (see Fig 61.39).

25 Phase 3E VI 151 (Grave 7, male 21 years)
Pointed buckle with buckle plates, found with leather between the plates and attached to the pin. Early mid 14th century (cf Fingelin 1971, 114, 181).

26 Phase 3E VI 356 (Grave 14, immature)
Pointed buckle with buckle plates containing leather traces, and iron pin. Early-mid 14th century

27 Phase 3F II 33
Plate from a belt end. Mid 14th century (cf Steane & Bryant 1975, 109, fig 42.21; London Museum 1940, 269-72, p1 LXXV 9).

28 Phase 4B I 44
Belt end, cast, with a decorated head, two pendant holes, and a flat back. The front terminal plate has indented decoration along each edge. Late 13th to early 14th century

29 Phase 4B III 14
Belt end with traces of leather between the plates (cf London Museum 1940, 269, pl LXXV 14)

30 Phase 4B III 3
Small buckle, pin missing, with traces of an iron plate adhering to the hinge. The bow is pierced by two holes 16mm from the hinge. 14th century

31 Phase 3C VI 474 (Grave 17, male 23-25 years)
Pointed buckle with buckle plates. Pin missing. 14th century

32 Phase 7A VI 60 (Grave 3, male 23 years)
Double buckle with fragments of-belt plate attached to the central bar. Late 15th century--early 16th century (cf London Museum 1940, 278, pl LXXVII 10; Fingelin 1971, 183, 309)

33 Phase 9A IV 28
Buckle plate with hinge for buckle attachment, raised loop for pendant, and parallel lines of incised decoration along each edge. Mid 14th century

34 Phase 10C II 30
Rectangular strap end buckle with chamfered edges. The pin has a raised knob on its back (cf Hobley 1967, 121, fig 16, 11 and 12).

35 Phase 10C II 30
Small buckle plate with two surviving rivets

36 Phase 10D II 13
Decorated 'medallion' belt end with hook missing. Late 14th century

Belt plate fragments were also found from phases 1 (VI 407), 2D (II 34), 4A (I 30), 3B(i) (II 109), 9A (II 32), and 10C (II 29), and buckle fragments from 10C (II 29).

The buckles from the burials form an interesting group. Evidence of clothing from later medieval burials is rare and usually associated with richer priests' burials (cf Whithorn Priory, Wigtownshire, Hurst 1958, 194). Of the eighteen burials located in Area VI, eight were accompanied by buckles, five bronze and three iron. The position of the buckles on the skeletons gives some indication of how the belts or straps were worn. With the exception of Graves 3 and 7 they were lying on the pelvis and slightly to one side indicating a belt worn low over the hips. This was in fashion during the 14th century (cf the effigy of Walter de Helyon at Much Marcle Church, Herefordshire of c 1360, Nevinson 1977, 39, fig 1 (see also figs 2-3)). Buckle 65 in Grave 12 is very low down on the pelvis and may have been from a belt worn low at the front (cf a female figure from a tomb in Cluny Museum, Hartley 1931, 105-6). Graves 3 and 7 contained buckles from belts worn around the waist with buckle 25 in Grave 7 worn centrally and the later double buckle 32 in Grave 3 on the left.

The two female burials had the annular buckle 24 (Grave 6) and an iron double buckle 66 (Grave 12) both of which showed evidence of narrower straps (approx 14mm) than the other buckles would have had (20mm+). Grave 11 had fragments probably from an iron annular buckle (65) similar in form to 24 (Grave 6). From osteological evidence these two burials may have been related.

The use of annular brooch forms as buckles is very interesting. Similar examples were found in the mass graves at Visby, Gotland (1361) on either thigh and were thought to be fastenings of a cod piece worn beneath the outer clothing or possibly attachments for hose (London Museum 1940, 275). In the light of buckle 24 in a similar position but with leather strap remains, it is possible that the Visby examples were also buckles, the belts having perished, and that these items could have had a dual usage.

The bronze buckles from the burials beneath the east cloister walk (Graves 6-14) are all of 14th century style. The iron buckles 64-66 are more difficult to date but their context puts them in the same period as the bronze examples 24-26, prior to the insertion of the tile pavement. Double buckles (cf 66) are thought to be later (cf London Museum 1940, 278) but a simple iron form such as this could be contemporary. Buckle 31 from Grave 17 is a 14th century form while buckle 32 from Grave 3 is probably later, *c* late 15th-early 16th century.

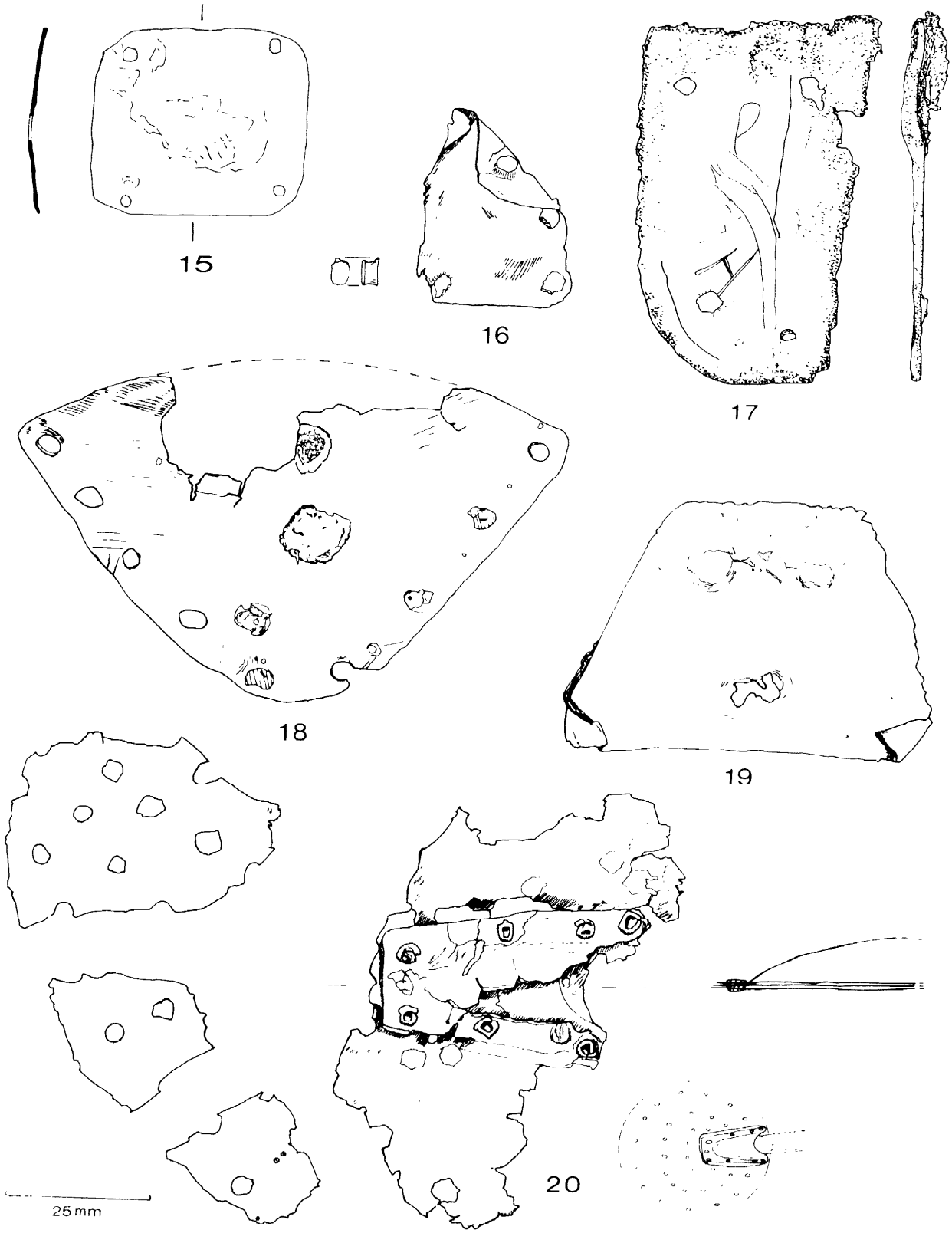

Fig 47 Copper alloy, 25-20. Scale 1:1

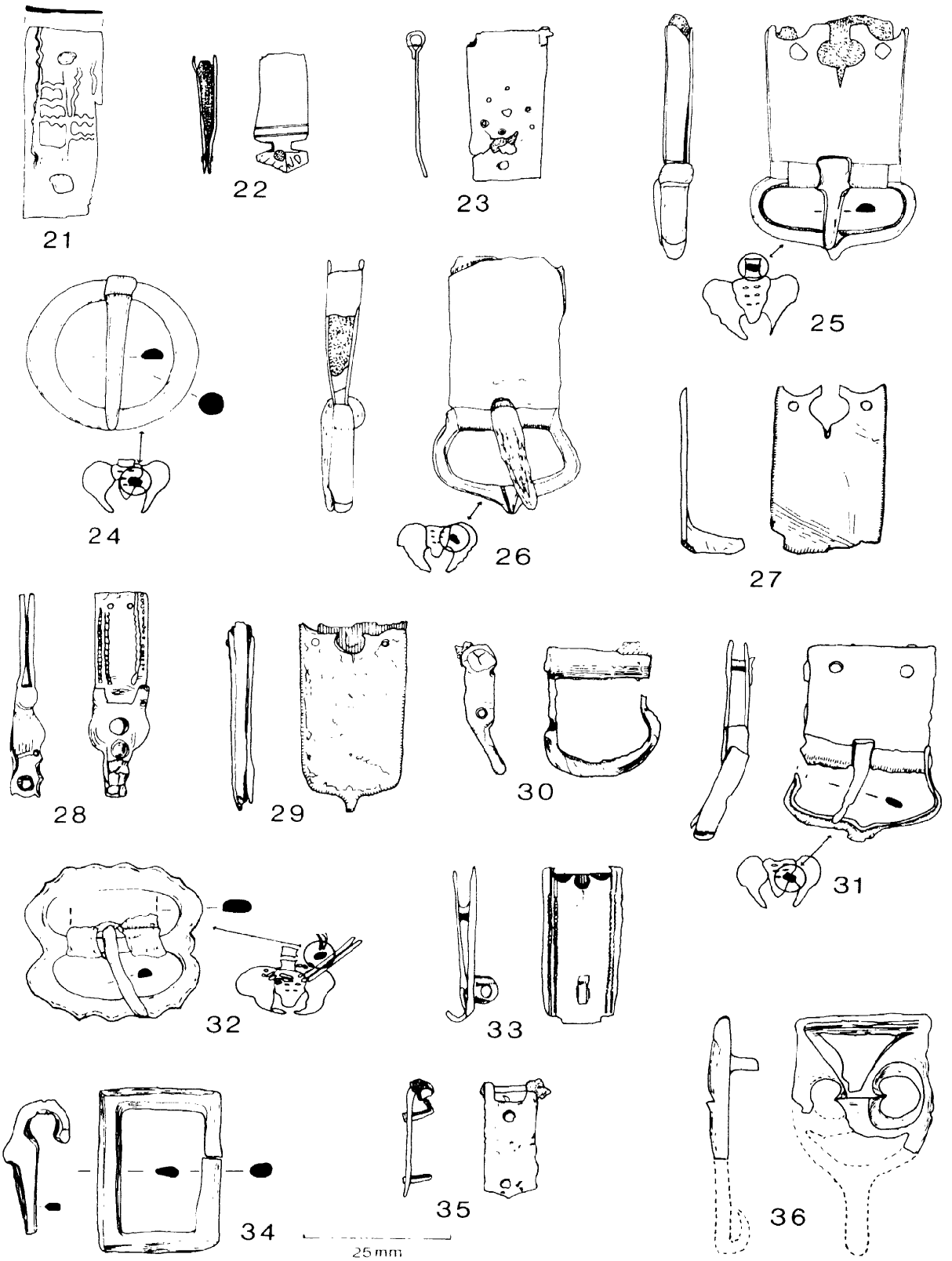

Fig 48 Copper alloy, 21 36. Scale 1·1

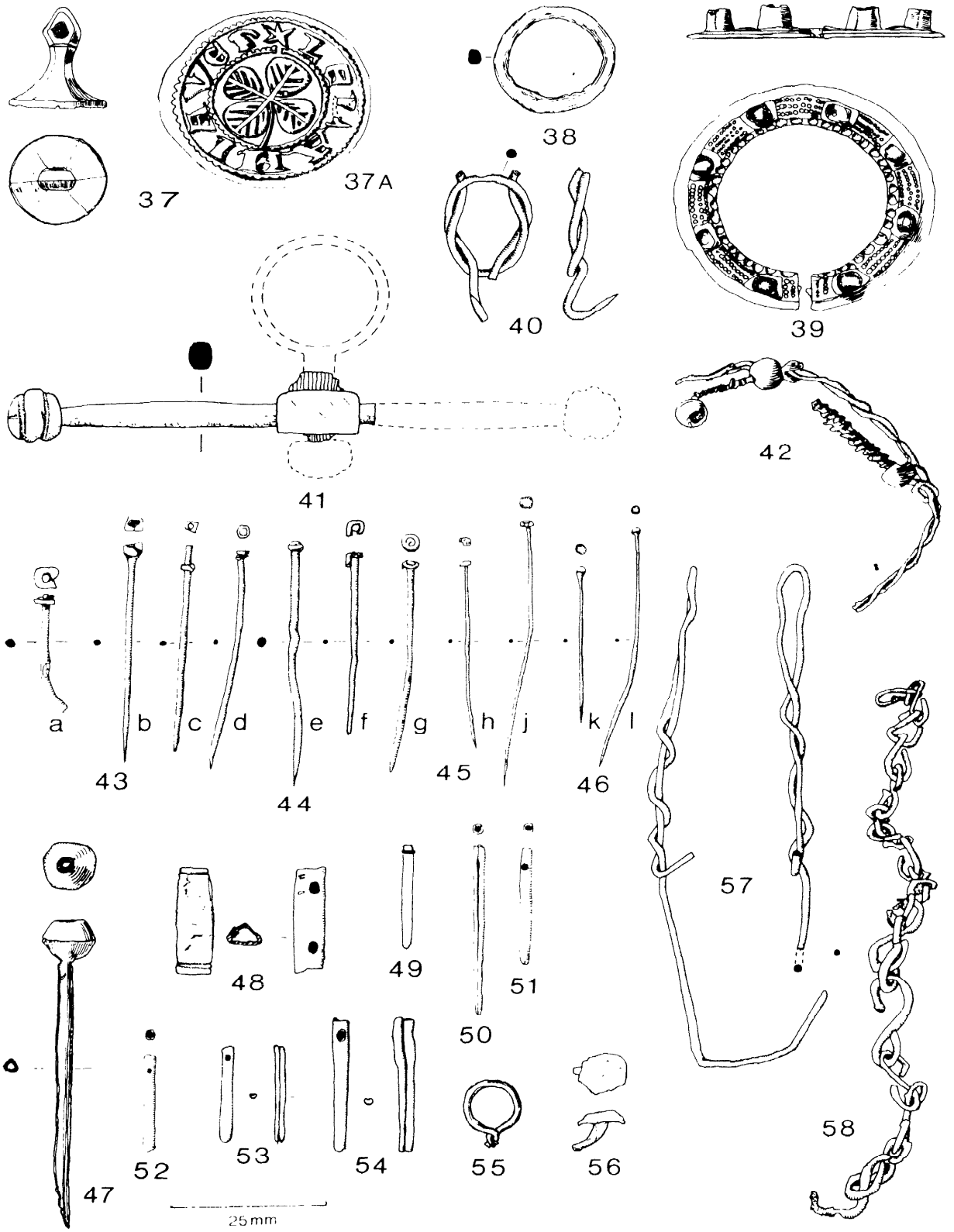

Fig 49 Copper alloy, 37 58. Scale 1:1 except 37A, scale 2:1

Figure 49

37 Phase 3B I 152
Personal seal matrix with a conical handle divided into six segments. The handle is pierced and has traces of an iron pin for attachment to a chain which would have been worn round the neck.

Professor G Martin of Leicester University writes:

> The seal is circular, *c* 16mm, with a device depicting a f-our-leaved clover on a short stem, and the inscription LEL AMI AVET in capitals. It appears to date from the early 14th century and its motto '(He) hath a loyal friend', associates it with a series of love and friendship tokens of that period. The expression sometimes appears, however, in a longer form and it may be that the present specimen is a counter seal which had a matching half reading AMIE AMET (cf Cherry 1976, 253; Tonnochy 1952, nos 709-40).

A similar latten example was found at Welfbrd Road, Leicester (LM 60, 1870) with the same clover leaf-motif and the inscription 'JESUS ELDAM ('Jesus saves all').

38 Phase 3D II 123
Plain ring with rhomboidal section (also from 4B I 2 and 10C II 30)

39 Phase 5A IV 63
Ring brooch, pin missing, decorated with three/four rows of-punched dots and eight equidistant bosses containing paste ornament. Late 13th century to early 14th century (cf Grant King 1969, 118; London Museum 1940, 276, pl LXXVIII)

40 Phase 9A IV 56
Two hooked objects (one illustrated) formed from two pieces of intertwined wire. These could have been used together for fastening, for example, a cloak, although the hook is very sharp for such a purpose.

41 Phase 10C II 30
The arm and central boss from a purse mount. It has a roughly spherical twisted terminal and a plain shield-shaped boss with the remains of an iron pin for the central loop. There are no pendant loops and the purse would have been sewn directly onto the bar. Late 15th to early 16th century (cf London Museum 1940, 168, fig XXXVII 4 Type B3)

42 Phase 10C: II 30
Bracelet formed from intertwined wire with two twisted wire extensions for spherical glass bead terminals, three of which survive

Fifty-four pins were found on the site and can be categorized as follows (with the exception of eighteen with missing heads):

43 Type A heads formed from square sectioned wire (a,b,c)

44 Type B heads formed from circular sectioned wire (d,e,f)

45 Type C pins with flat heads from hammered circular sectioned wire (g,h,i)

46 Type D pins with spherical heads from hammered circular sectioned wire (k,l)

47 Type E large hollow-headed pin with a flattened spherical head, 16the century (cf Platt & Coleman-Smith 1975,260, fig 243, 1790)

Type D of the 15th 16th centuries is a refinement of Types A C whose sharp edges would have caught on the material. Although from destruction levels, Type A pins are the simplest and crudest and are possibly unfinished.

Fourteen lace tags were found on the site which is a small number compared to the large numbers of laced shoe fragments found, none of which was associated with the tags. This might suggest that they were used on clothing laces rather than specifically with shoes. It has been suggested that these objects were used as pin protectors (Groves 1966) and are often found with pins. Some, however, contain traces of leather and the size of 48 would support the suggestion that it was used as some sort of clothing tag. Large numbers of the two items were found together in Coventry, where pin making was known to be practiced. It is possible that these two items of different usage were both made by pinners. Whether pin making was carried out at the friary is unclear; fragments of wire were found with the pins and tags but no pinner's bones (used to hold the pin while surplus metal was filed away). It is, however, possible that Type A and some of the headless examples were in the process of manufacture (cf Steane & Bryant 1975, 117, fig 44, 78-83).

48 Phase 3B(i) II 111
Lace tag with traces of decoration

49 Phase 1 II 105
Lace tag with rivet and leather. The bottom has been pinched closed (section from X-ray)

50 3 Phase 9A IV 28
Lace tags

54 Phase 10A II 108
Lace tag

55 Phase 4A I R4.8
Small wire loop (cf Platt & Coleman-Smith 1975, 265, fig 245, 1871)

56 Phase 3B II 33
Small tack

57 Phase 3F II 33
Wire twisted into a loop at one end with hook at the other

58 Phase 10C II 29
Chain formed from sixteen 'S' shaped links, one of which is still moveable

Iron

Figure 50

59 Phase 1 II 256
Small tanged arrowhead with triangular blade, mid 13th century (cf London Museum 1940, 70, fig 17.10, Type 17)

60 Phase 1 I 128
Scale bar with central stem, the remains of four hanging loops and two bronze links attached to iron fragments at each end. This was very corroded, reconstruction only being possible from X-rays (cf Goodall 1976, 300, fig 28.89; Delort 1972,72).

61 Phase 4B I 5
Small casket key with circular bow

62 Phase 10C II 29
key with damaged bow and symmetrical ward. 15th century (cf London Museum 1940, 142, Type VII A)

63 Phase 10C II 29
Fragment of key, bow missing, with tubular stem

64 Phase 10C II 29
Fragment of knife blade with hole for handle attachment (cf London Museum 1940,54, pl XIII 3). There were also four other blade fragments from Phase 10C II 29.

65 Phase 3E VI 181 (Grave 11, male 35-45 years)
Badly corroced fragments from an annular buckle, similar to 24

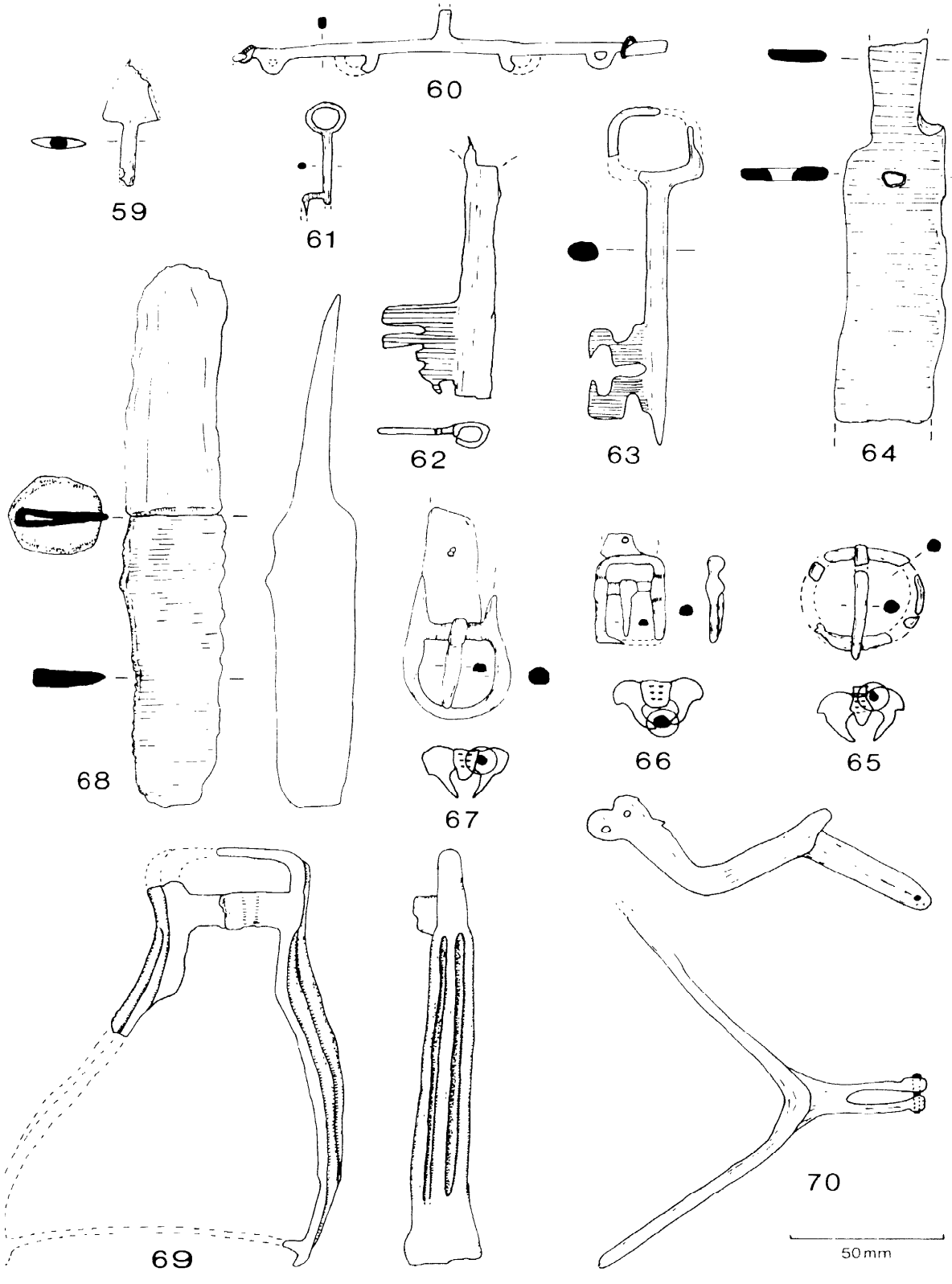

Fig 50 Iron, 59-70. Scale 1:2

66 Phase 3E VI 348 (Grave 12, probable female 15-16 years)
Rectangular double buckle with central bar and remains of belt plate

67 Phase 3E VI 352 (Grave 13, adult 35-45 years)
'D' shaped buckle with remains of a belt plate. The shape of a belt approximately 30mm wide was preserved by iron corrosion as an 'anti-object'.

68 Phase 7A II 60
Knife with wooden (Elder, *Sambucus nigra)* handle, attached by a pointed tang, and broad blade with one cutting edge. 15th century

69 Phase 10C II 30
Stirrup, part of loop missing, with grooved decoration along each side. The narrow strap attachment and shape of remaining loop suggests an asymmetrical form for the right foot. Late 14th early 15th century

70 Phase 10C II 30
Rowel spur with rowel and one terminal missing. It has a short shank, originally housing a 40mm diameter rowel, and sharply angled flat sides with two terminal holes. Early 15th century (cf London Museum 1940, 107, Type A)

Lead

Figure 51

71 Phase 9A II 32
Spindle whorl with triangular decoration and wooden shaft (Oak, *Quercus sp.)*

72 Phase 4B V 13

73 Phase 10C II 30
Circular objects with central holes, possibly spindle whorls (cf Jones & Grealey 1973, 125, fig 45.43)

Glass

(I would like to thank Messrs R F Charleston and C H Truman of the Victoria and Albert Museum for help with this item)

74 Phase 9A II 16 (also 10C: II 29)
Three fragments from a thin walled goblet in light blue glass. Venetian, late 15th century (cf a similar form in clear glass VA 4259 1857)

Ceramic

75 Phase 7A II 60
Head from a small pottery figurine in a grey (reduced) smooth clay fabric with brown outer surf-aces and very few inclusions of ironstone 0.1 0.75mm diameter, quartz, and quartzite.

Mr J Cherry of the British Museum writes:

> The top and sides of the piece appear to be unbroken and the only break is at the bottom of the chin. This, together with the way the back has been smoothed, suggests that it may have been a head of a figure (standing Virgin? or Virgin and Child?) that was made by pushing the clay into a mould. It can hardly have been an applied stamp for attachment to a pot. The style of the head with curls flowing down the side and the simple crown with a fleur-de-lys looks mid 14th century or second half of the 14th century. It may well be that styles in such figure moulds were conservative and so a later date cannot be ruled out.

Wood

(Types of wood identified by Mr G C Morgan of Leicester University)

Figure 52

76 Phase 2D II 34
Bowl with pitch lining and an owner's or maker's mark 'S' stamped with a heated brand at the centre of the underside of the base. It has prominent turning lines on the exterior and interior. Ash *(Fraxinus excelsior)*

77 Phase 2D II 143
Bowl with prominent exterior turning lines. Poplar *(Poplus SP.)*

78 Phase 2D II 34
Turned bowl, Ash *(Fraxinus excelsior)* (cf Birch example in Platt & Coleman-Smith 1975, 228, fig 227, 1625)

79 Phase 2D II 34
Turned bowl. Field Maple (Acer *campestre)*

80 Phase 2D II 34

81 Phase 2D II 34
two turned bowls with round bases. Oak *(Quercus sp.)*

82 Phase 2D II 34
Fragment of turned bowl base. Ash *(Fraxinus excelsior)*

Figure 53

83 Phase 2D II 34
Shallow turned bowl. Poplar *(Poplus sp.)* (cf Birch example in *ibid* 1975, 228, fig 227, 1628)

84 Phase 3F II 33
Shallow turned bowl with roughly carved 'X' on the base bottom. Ash *(Fraxinus excelsior)*

85 Phase 3F II 33
Shallow turned platter with angled rim. Ash *(Fraxinus* excelsior)

Wooden bowls of-this type were common in medieval England, large numbers being recorded in inventories. They would have been for a variety of-uses depending on shape, size, and durability of the wood used. The five Ash examples varied between the small platter (85) and deeper bowls (76, 78, 82, 84) possibly used for drinking (cf Bagley 1960, 77). The pitch lining to 76 indicates that one of its uses was to hold liquids. Poplar, a similar strong wood and easy for turning, was used for a broad shallow bowl (83) and a small deeper bowl (77), while oak, a harder coarser wood, was used for the two large round-based bowls (80, 81), possibly used for mixing. A similar pottery form to the latter was produced at Nuneaton in the 13th century (information from Mr K Scott of Atherstone). The bowl made of Field Maple (79) is very thin walled and brittle and apparently impractical except for the most delicate of functions.

An examination of different materials with connected uses, notably pottery, helps to shed light on the function of wooden vessels. Except for 80 and 81 there are no obvious pottery parallels and wood alone seems to have been used for the broad shallow dish-like vessels and the small bowls during this period. The shallow bowls would probably have been used for individual platters or for holding side dishes at the table, while the small deeper vessels were probably used as drinking bowls. The 11th century banquet scene from the Bayeux tapestry shows similar drinking bowls, and similar items, most likely of-wood, are depicted in the illustration of the manor's table from the Luttrell Psalter of' *c* 1340.

Very few survivals and, as the forms are simple, little change in style makes dating these objects difficult but their contexts suggest a late 13th to early 14th century date.

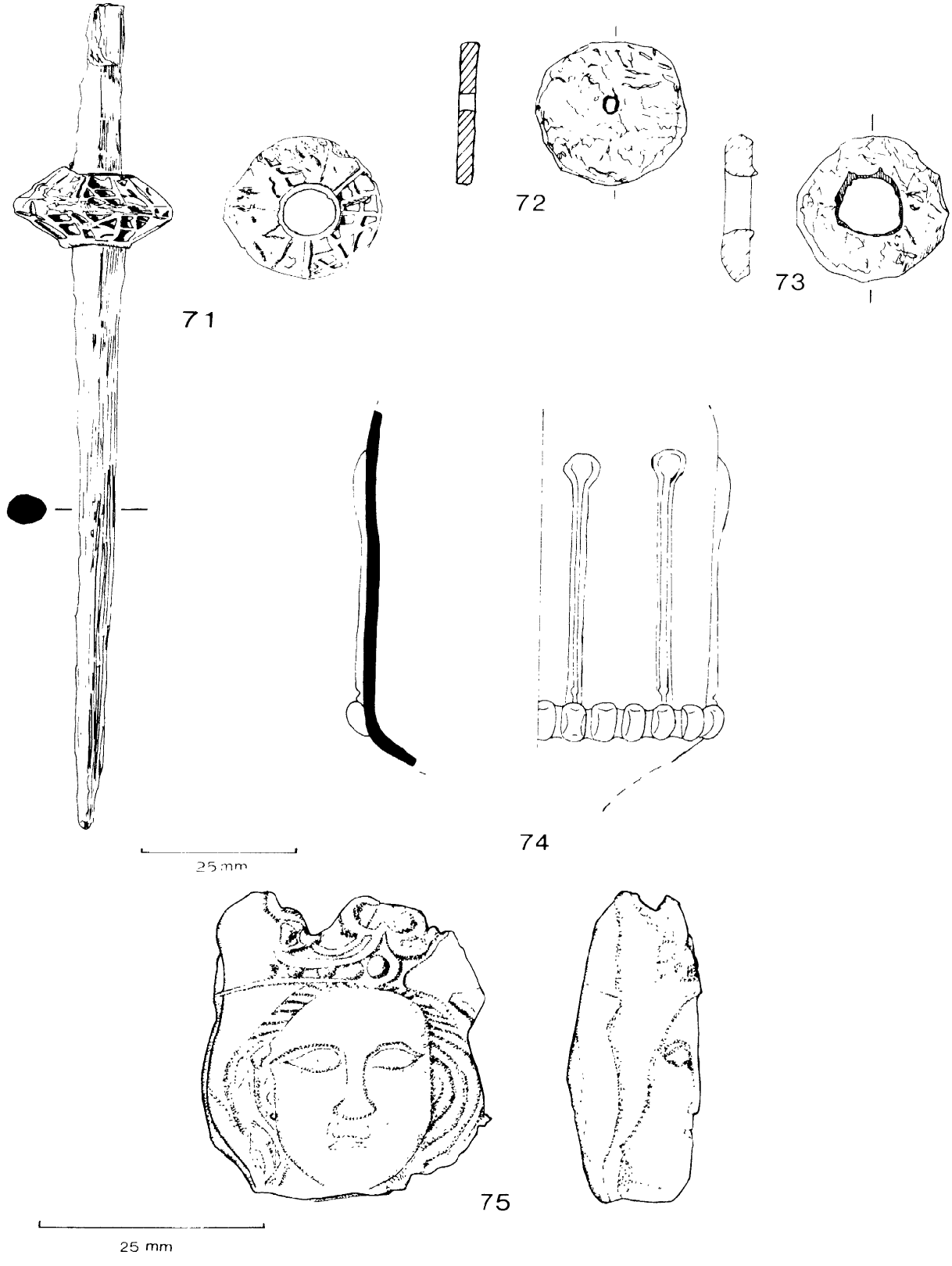

Fig 51 Lead, 71–73, glass, 74, ceramic, 75. Scale 1:1 except 75, scale 3:2

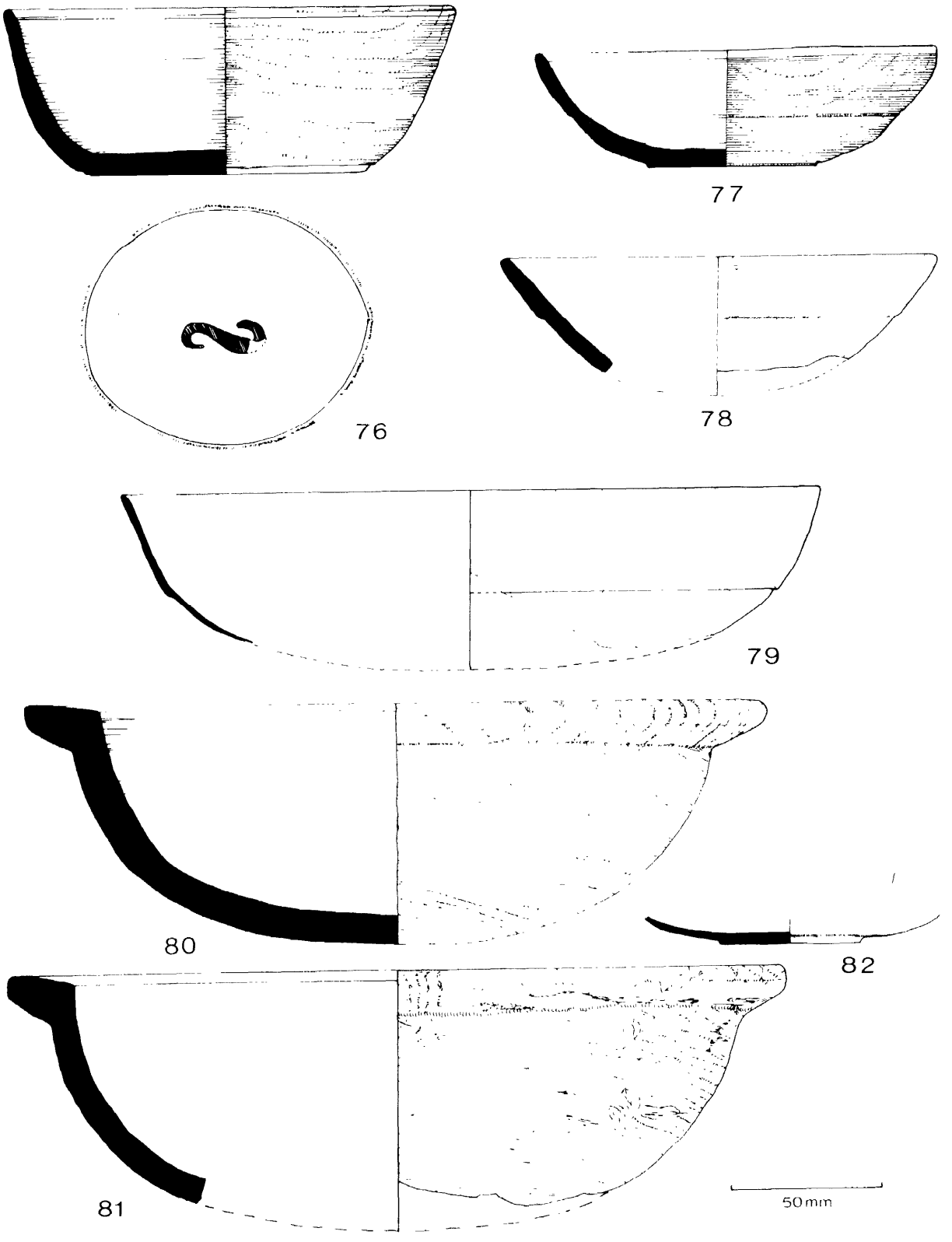

Fig 52 Wood, 76 82 Scale 1:2

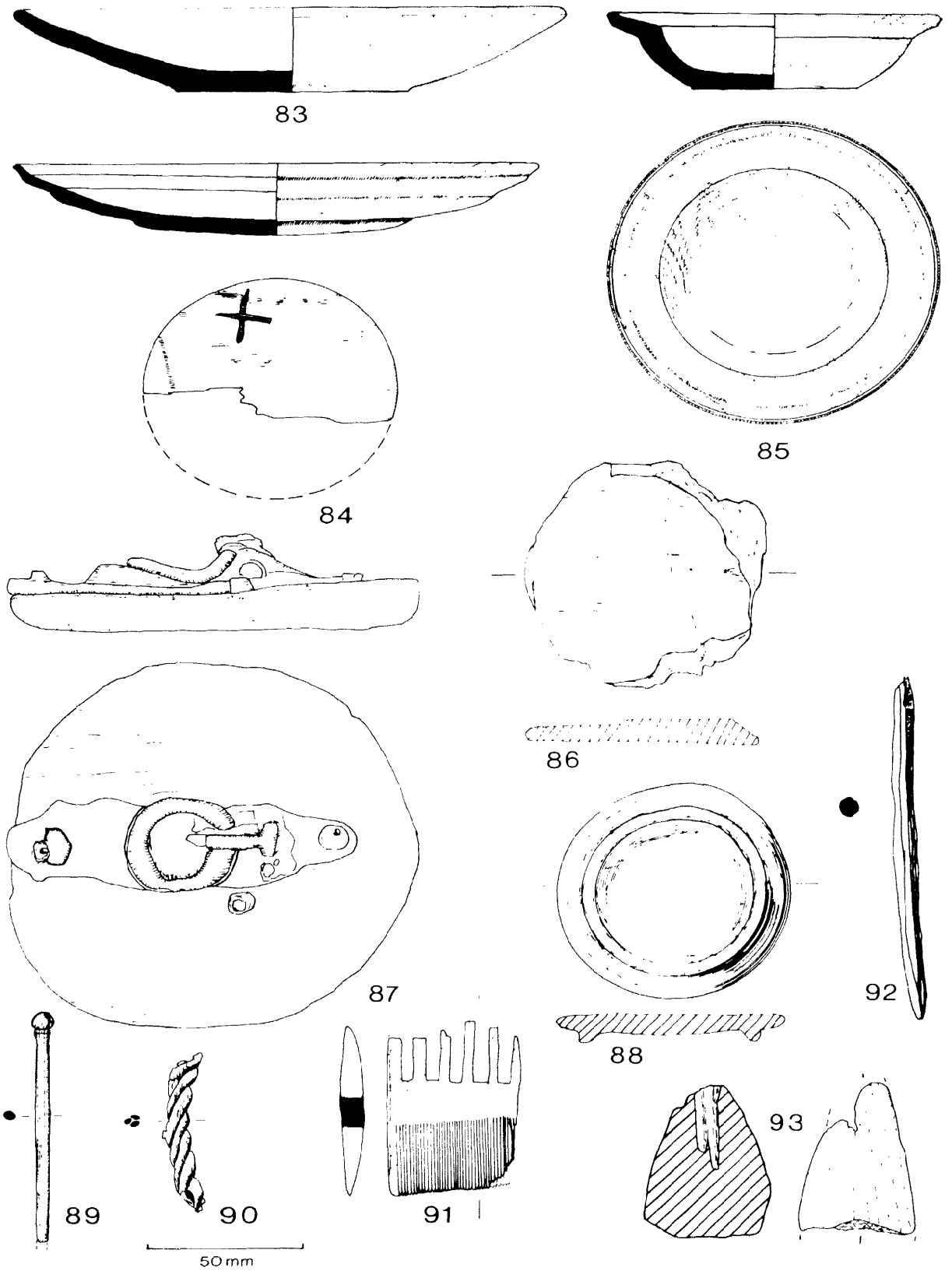

Fig 53 Wood, 83-93. Scale 1:2

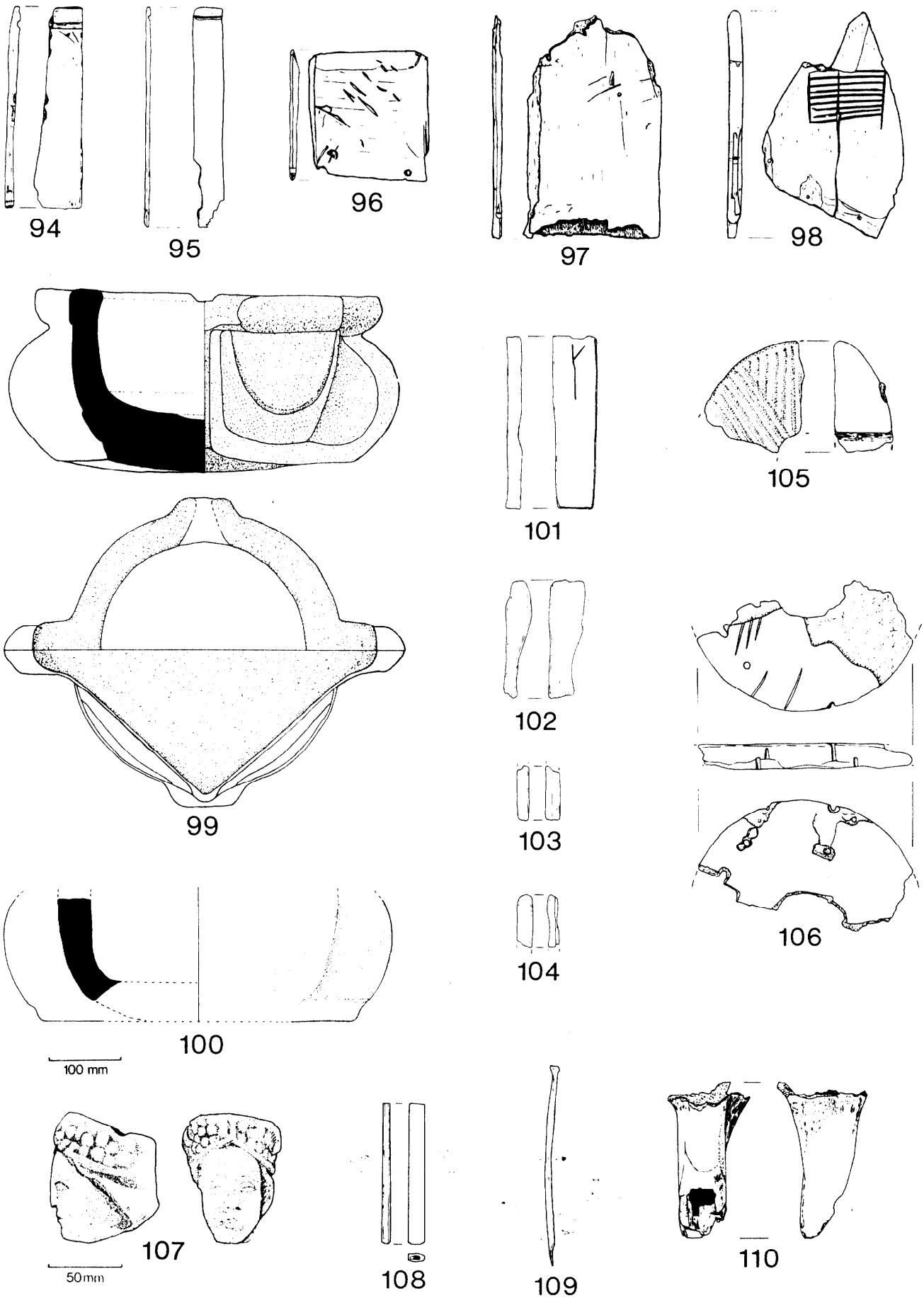

Fig 54 Wood, 94-98, stone, 99-107, bone 108-110. Scale 1:8 except 107-110, scale 1:4

86 Phase 2D II 34
Flat lid. Oak *(Quercus sp.)*

87 Phase 3F II 33
Flat lid with iron hinge and ring handle attached to a central mount. This would probably have fitted to a wooden straight-sided container. The type of-container is not clear although it would apparently have been for items which needed to be kept dry, possibly grain or flour. Oak *(Quercus sp.)*

88 Phase 9A II 32
Small lid with flange possibly for a lipped vessel although the asymmetrical shape could result from uneven shrinkage nearer the heart of the wood. Apple/Hawthorn type *(Crataegus sp.)* (cf Platt & Coleman-Smith 1975, 228, fig 227, 1637)

89 Phase 2D II 34
Turned pin with round head. Yew (mature) *(Taxus baccata)* (cf bone example in Platt & Coleman-Smith 1975, 274, 1937)

90 Phase 2D II 34
Length of rope, possibly Hazel *(Corylus avellana)*

91 Phase 9A IV 56
Fragment of double comb with 6 coarse and 37 fine teeth. Double combs were common and varied little throughout the medieval period. This is probably of 15th-16th century date. Apple/Hawthorn type *(Craateagus sp.)* (cf Moorhouse 1971, 61)

92 Phase 2D II 34
Shaft for spindle whorl, tapered with octagonal section. Ash *(Fraxinus excelsior). See* also 71

93 Phase 2D II 35
Small conical object with narrow hole for securing with peg (?). Handle or knob (?). Poplar *(Poplus sp.)*

Figure 54

94 Phase 2D II 34

95 Phase 2D II 34
Barrel or bucket staves. Oak *(Quercus sp.)*

96 Phase 2D II 34
Box fragment with three nail holes. Oak *(Quercus sp.)*

97 Phase 2D II 34
Box fragment. Oak *(Quercus sp.)*

98 Phase 3F II 33
Fragment of box/board with three nail holes and incised device ofparallel lines resembling a crudely scratched counting board

Stone

(Petrological identitication by Mr M D Jones and Mr J H Martin of Leicestershire Museums)

99 Phase 4B I 44
Mortar with solid handles and square base. 14th century. Lincolnshire oolitic limestone

100 I unstratified
Mortar fragment with solid handles. Lincolnshire oolitic limestone

101 Phase 1 1 186
Whetstone. Phyllite or schist

102 Phase 7A II 61
Whetstone. Micaceous siltstone (carboniferous)

103 Phase 9A II 32
Whetstone. Phyllite or schist

104 Phase 10B II 9
Whetstone. Phyllite or schist

105 V unstratified
Fragment of runnerstone from a pot quern. Millstone Grit

106 Phase 10C II 29
Fragment of runnerstone from a pot quern, very worn, the holes on the outer edge suggesting reuse. Micaceous sandstone (carboniferous)

107 Stone head found on the site of the friary in the 19th century (LM 231.1951). Mr J Cherry dated this as 15th or early 16th century and it is probably of a female saint or noble lady. As the friary was dedicated to St Katherine, this and the pottery figurine (80) may have been representations of her.

Bone

(Osteological identification by Mrs (3 R Thawley)

108 Phase 3D II 49
Knife handle with slightly chamfered edges and hole, 13mm deep, to accept an iron blade tang (cf Beresford 1975, 77, fig 36.2). Long bone, probably cattle

109 Phase 3B I R.4.16
Goose radius sharpened to a point. Similar objects from medieval sites have been described as pens although the lack of flexibility makes this unlikely. A discussion in Moorhouse (1972, 23) suggests that they may have been used as extension bodies added to quills as they were worn down and this seems a likely explanation. One-also found from Phase 9A II 32

110 Phase 3E II 33
Worked bone, with polished surface and marks of. percussion, possibly a hand-held tool for scraping or smoothing. Ox right fibia

For other bone objects with possible signs of-working see microfiche 2 of 2.

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The leather

Clare E Allin

The leather, which was preserved mainly in the waterlogged deposits of the south ditch and the main drain in Area II and the north ditch in Area IV, comprised a large collection of medieval turnshoes, mainly soles, and a smaller number of-decorated complete and fragmentary knife sheaths, belts, straps, and other costume. All of the leatherwork falls within the period *c* 1300-1538 with an isolated example from the north ditch dating to the 19th century.

The shoes

(For a glossary of shoe terms see microfiche 1 of 3)

Only a representative number of shoes from the different phases has been published to give some idea of the various sizes, shapes, and fashions of the time. Associated with the shoes, most of which showed signs of considerable wear, repair, and reuse, was a large quantity ofcobblers' waste-offcuts and scraps-implying that shoes were actually being 'translated'-that is, cut up to repair other shoes-presumably by the friars themselves. The shoes which were thrown into the drain and ditches could be those which had originally been made by the friars as well as old, worn-out shoes given to the friars by the local people as a result of begging which was part of the friars' life. The amount of repair work on the shoes and the poor quality of' the leather suggests that the shoes reflect the poorer, working classes rather than the wealthy.

Connections with the Shoemakers' Guild are definitely known at a later period in the friary's history. An agreement of 1531 2 between the Mayor of the town and the Shoemakers' (build included a promise by the Guild: 'to give yearly to the Austin Friars in Leicester for all the brethren and sisters to be prayed for in ready money 10s, and that to be paid at 2 times in the year beside the offering days afore used . . .' *(RBL,* 3, 31). This may well reflect continuity of an earlier link, in which the friars may have been receiving shoes as well as money in return for prayers said for the deceased members of the guild. Presumably the shoes were thrown into the drain and ditches when no longer serviceable or when the best leather had been cut oft' and reused. There is also a reference to a cobbler working outside the Westgate in 1220 *(ibid* 1, 25) but this is obviously much earlier than the establishment of-the friary.

Certain characteristics in design and methods of manufacture do emerge from a close study of the footwear and these will be enlarged upon in the later individual phase by phase discussion of the shoes.

Two basic types of shoe upper emerge:

a) One-piece uppers, ie a single piece of leather joined with a single, inside seam. These are typical of children's shoes as their feet are small enough to require only a single piece of leather around the foot.

b) Two-piece uppers, ie separate quarters and vamp joined by two side seams.

Where ankle boots survive these are made from at least two pieces of leather and extra pieces usually have to be inserted near the instep.

The shoes either have a central front-lace fastening with two pairs of tie holes, or, in the case of-ankle boots, a side-lace fastening with two/three pairs of tie holes. There is only one surviving example of a strap fastening (Fig 58.20). Some of the laces end in a knotted toggle fastening of which examples do survive and there are also metal lace tags, one of which still has the leather preserved inside it (see p 137).

Similarly, quarters fall into two main categories:

a) Those made out of a single piece of leather cut high at the back of the heel and low beneath the ankles and ending in two side seams. Sometimes the leather is strong enough so as not to need a triangular heel stiffener to reinforce it at the back of-the heel. There is also evidence in the form of a scalloped edge for a decorative top-band sewn on with a whipped seam along the top of the quarters. These quarters are associated with shoes as opposed to boots (see Fig 55.7).

b) If made from a separate, single piece of-leather, or forming part of a one-piece upper, the shoe/boot quarters have a top edge which slopes in a straight line from the back of the heel down across the ankles to meet the vamp. There is usually a triangular or rectangular heel stiffener sewn into the back of the heel with a whipped seam (see Fig 57.16).

There is only one example of quarters with a back seam (Fig 56.9) which is unusual.

The uppers are attached to the soles by either a rand or a turn-welt-both of which served the same waterproofing function, but, with the wider turn-welt, repair pieces could be attached more easily as the extra stitch holes show. There is no evidence for welted shoes, which are usually found after *c* 1500.

It is the shoe soles themselves and their associated repair pieces, if-indeed these are what they are, which form the main body of the footwear. The soles vary tremendously in shape and size but are basically typical medieval turnshoe soles with edge/flesh seamholes at 5-8mm spacing. Sometimes the bracing threads used during 'lasting' have left their imprint on the inside flesh surface whilst on the sole bottom, which is the grain surface, the evidence for repair pieces remains in the form of nail holes, tunnel stitching, and sometimes the repairs themselves. Some of. the soles are the pointed toe, narrow waisted type prevalent in the 1360s and 1370s and a hundred years later, which contrast with the broad, oval-toed soles typical of the early 15th century. The clumps, which fitted underneath the sole forepart, and the heel-seats, may indeed be repair pieces sewn onto the sole when the latter was wearing through, or they could be an integral part of the shoe itself sewn on at the very beginning of its life. The majority of soles and repair pieces show signs of-wear usually at the toe, across the tread, and at the back of the heel. There are two surviving examples of-the wooden pegs or nails which held these pieces in place (Figs 60. 30 and 60.34).

Two shoes (phase 7A-15th century) have been interpreted as slashed/concealed shoes which are usually connected with superstition and witchcraft (see p 155).

Platt, C, & Coleman-Smith, R, 1975 *Excavations in medieval Southampton 1953 65*, **2**, *The finds*
Rigold, S E, 1965 Two camerae of the military orders, *Archaeol J*, **122**, 86 132
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Tonnochy, A B, 1952 *Catalogue of seal dies in the British Museum*
VA Victoria and Albert Museum

The leather

Clare E Allin

The leather, which was preserved mainly in the waterlogged deposits of the south ditch and the main drain in Area II and the north ditch in Area IV, comprised a large collection of medieval turnshoes, mainly soles, and a smaller number of-decorated complete and fragmentary knife sheaths, belts, straps, and other costume. All of the leatherwork falls within the period *c* 1300-1538 with an isolated example from the north ditch dating to the 19th century.

The shoes

(For a glossary of shoe terms see microfiche 1 of 3)

Only a representative number of shoes from the different phases has been published to give some idea of the various sizes, shapes, and fashions of the time. Associated with the shoes, most of which showed signs of considerable wear, repair, and reuse, was a large quantity ofcobblers' waste-offcuts and scraps-implying that shoes were actually being 'translated'-that is, cut up to repair other shoes-presumably by the friars themselves. The shoes which were thrown into the drain and ditches could be those which had originally been made by the friars as well as old, worn-out shoes given to the friars by the local people as a result of begging which was part of the friars' life. The amount of repair work on the shoes and the poor quality of' the leather suggests that the shoes reflect the poorer, working classes rather than the wealthy.

Connections with the Shoemakers' Guild are definitely known at a later period in the friary's history. An agreement of 1531 2 between the Mayor of the town and the Shoemakers' (build included a promise by the Guild: 'to give yearly to the Austin Friars in Leicester for all the brethren and sisters to be prayed for in ready money 10s, and that to be paid at 2 times in the year beside the offering days afore used . . .' *(RBL,* 3, 31). This may well reflect continuity of an earlier link, in which the friars may have been receiving shoes as well as money in return for prayers said for the deceased members of the guild. Presumably the shoes were thrown into the drain and ditches when no longer serviceable or when the best leather had been cut oft' and reused. There is also a reference to a cobbler working outside the Westgate in 1220 *(ibid* 1, 25) but this is obviously much earlier than the establishment of-the friary.

Certain characteristics in design and methods of manufacture do emerge from a close study of the footwear and these will be enlarged upon in the later individual phase by phase discussion of the shoes.

Two basic types of shoe upper emerge:

a) One-piece uppers, ie a single piece of leather joined with a single, inside seam. These are typical of children's shoes as their feet are small enough to require only a single piece of leather around the foot.

b) Two-piece uppers, ie separate quarters and vamp joined by two side seams.

Where ankle boots survive these are made from at least two pieces of leather and extra pieces usually have to be inserted near the instep.

The shoes either have a central front-lace fastening with two pairs of tie holes, or, in the case of-ankle boots, a side-lace fastening with two/three pairs of tie holes. There is only one surviving example of a strap fastening (Fig 58.20). Some of the laces end in a knotted toggle fastening of which examples do survive and there are also metal lace tags, one of which still has the leather preserved inside it (see p 137).

Similarly, quarters fall into two main categories:

a) Those made out of a single piece of leather cut high at the back of the heel and low beneath the ankles and ending in two side seams. Sometimes the leather is strong enough so as not to need a triangular heel stiffener to reinforce it at the back of-the heel. There is also evidence in the form of a scalloped edge for a decorative top-band sewn on with a whipped seam along the top of the quarters. These quarters are associated with shoes as opposed to boots (see Fig 55.7).

b) If made from a separate, single piece of-leather, or forming part of a one-piece upper, the shoe/boot quarters have a top edge which slopes in a straight line from the back of the heel down across the ankles to meet the vamp. There is usually a triangular or rectangular heel stiffener sewn into the back of the heel with a whipped seam (see Fig 57.16).

There is only one example of quarters with a back seam (Fig 56.9) which is unusual.

The uppers are attached to the soles by either a rand or a turn-welt-both of which served the same waterproofing function, but, with the wider turn-welt, repair pieces could be attached more easily as the extra stitch holes show. There is no evidence for welted shoes, which are usually found after *c* 1500.

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Two shoes (phase 7A-15th century) have been interpreted as slashed/concealed shoes which are usually connected with superstition and witchcraft (see p 155).

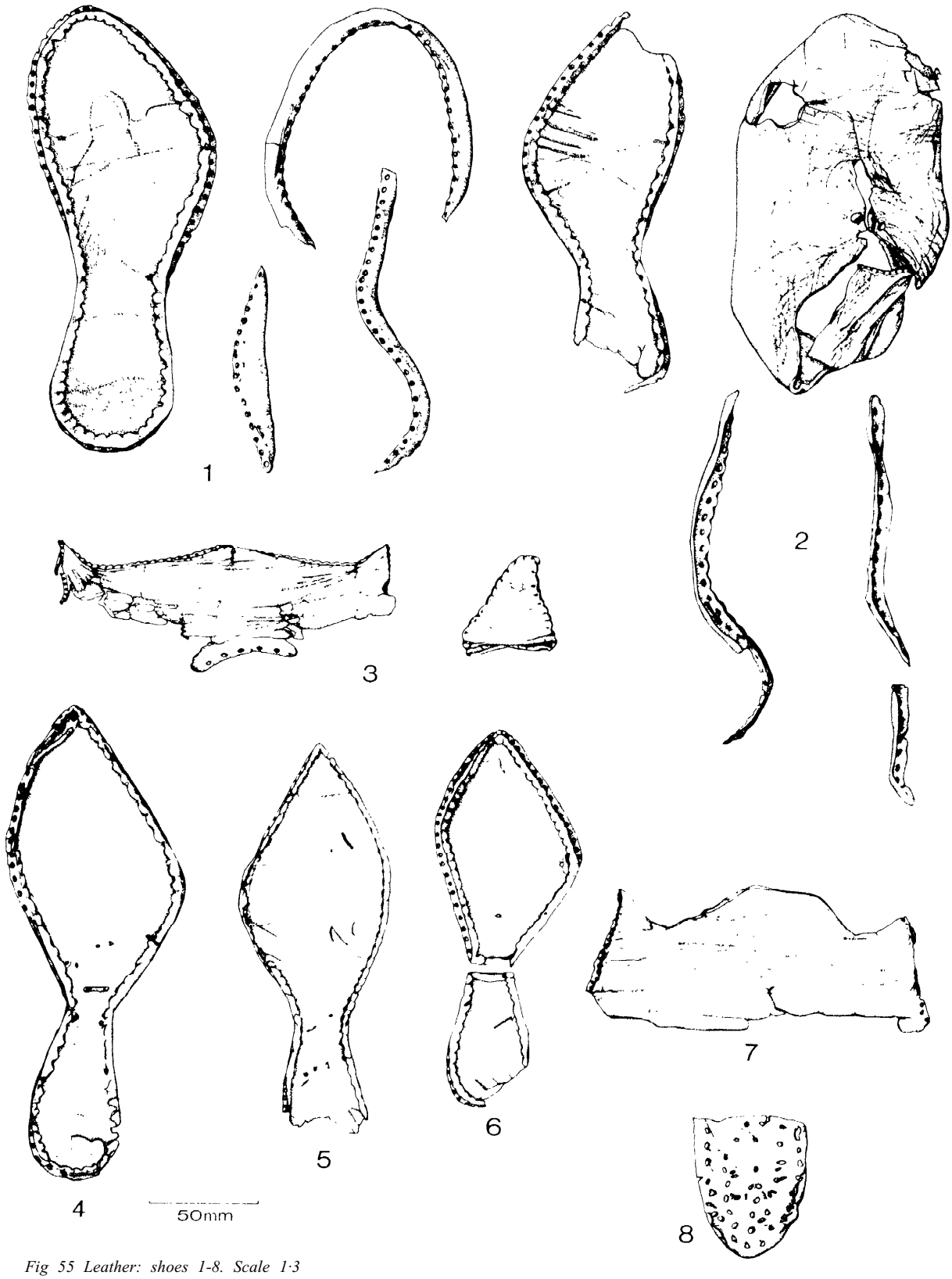

Fig 55 Leather: shoes 1-8. Scale 1·3

Dr R Reed identified some of the shoe leather as being cattlehide, which is usual, although there is at least one sole made from horsehide and also a sheepskin upper. However, the presence of warble holes-the result of-warble flies laying their eggs in the cattle when alive and the grubs hatching out leaving small holes in the hide-indicates the poor quality of some of the leather, especially that of the soles. Presumably the better quality leather would be used for the uppers which would be more noticeable.

It does not appear from the archaeological evidence that tanning was actually carried out on the site although the washing of hides was certainly carried on in the near vicinity, as an entry in the Borough Records for 1399 proves. It reads, 'Order from the steward to allow an Easement in the Soar' (an easement = the right or privilege of using something not one's own) 'whereas the burgesses and tenants of the town of Leicester were wont to have easement from old time to put their hides and wool fells in the water of the Soar at Bridge which is called West Bridge up to the North Bridge . . .' (*RBL* 2, 210-11). However, an interesting sidelight thrown on the industry was the discovery of a preserved dog's nose with the leather which implies that other, less reputable, skins and hides were possibly finding their way into the tanners' vats. Apparently dogskin was used in the medieval period but the leather would be of poor quality.

The shoes are all vegetable tanned which would include leaves, fruit, bark, and twigs in the tanning process.

The shoes are described in more detail area by area in their relevant phases and a glossary of shoe terms (microfiche 1 of 2) is by courtesy of Mr John Thornton. The shoe measurements which are given are after conservation which was carried out by Mr Theodore Sturge, Assistant Keeper, Antiquities Conservation, Leicestershire Museums, and his assistant, Mr Simon Aked, using an acetone-bavon based method. Most of-the shoes were drawn prior to conservation but where this is not so mention is made in the text.

AREA II

Phase RB/1

Layer producing leather-II 88

This Romano-British or pre-friary medieval occupation level produced a sole and some scrap leather, none of which is illustrated.

Phase 2D

Layers producing leather--II 34, 35, 143. Fig 55.1-3

This represents the bottom fill of the south ditch which was dug in the early 14th century. The date range for these shoes, then, lies within the 14th century although some could be earlier. Rounded, broad soles characterize this deposit although pointed and two-piece soles also survived as did one- and two-piece uppers. The open ditch must have acted as a convenient rubbish pit. Knife sheaths, belts, part of a spectacle case, and costume fragments also occurred in this level.

Sole and pieced rand II 34 (Fig 55.1)

Complete, right-foot, turnshoe sole with a round toe and a broad waist. It is worn away at the inside toe although there is not much sign of wear on the sole except for possible tunnel stitching below the tread. Adult shoe size 2. The sole shape is in marked contrast to the pointed soles with narrow waists typical of II 33, Phase 3F.

Three lengths of pieced rand survive-probably there were originally four pieces to fit completely around the sole. All three fit in place around the sole with a single row of seamholes. Not illustrated is small upper fragment with a lasting margin at 5-6mm spacing surviving in a deteriorated condition. The leather is possibly rawhide.

Shoe comprising sole, rand, and one-piece upper II 34 (Fig 55.2)

Sole

Small left-foot turnshoe sole worn completely away at the toe and at the back of the heel-seat. Marks on the waist and the forepart bottom indicate that repair pieces were once attached. There are five knife-cuts in the leather across the tread. Child's shoe size 11.

Pieced rand

Three lengths of pieced rand with the usual single row of edge/flesh seamholes. Tunnel stitching shows that repair pieces were attached to the rand as well.

One-piece upper
(drawn after conservation)

The one-piece, cattlehide, upper has a centre front-lace fastening and an inside seam. The lasting margin survives along the forepart and outside the back of the heel, although it is completely worn away at the toe and has been partially cut away across the back of the heel. A small piece of-leather has been cut out over the position of the little toe possibly to relieve pressure on a corn. The throat is a knife-cut slit with a fastening comprising two opposite pairs of tie holes (the top two holes have deteriorated). There is a seam along the right vamp wing probably to attach a top-band. Stitching inside the quarters indicates that there was once a heel stiffener.

Quarters with heel stiffener II 34 (Fig 55.3)

A virtually complete one-piece quarters with two side seams, part of the lasting margin, and a scalloped top edge for a top-band with seamholes at 4mm spacing. The quarters are cut low around the ankles and are high at the wings and the back of the heel. There is a small 'nick' in the leather at the back of the heel to make the shoe fit better. Six seamholes are all that are left of the lasting margin around the back of the heel and the surviving height of the back of the heel is 55mm (above where the lasting margin would turn inwards). Inside, the flesh surface bears the imprint of-the triangular heel stiffener, complete with scalloped side edges and lasting margin. The grain surface would be outermost against the wearer's feet.

Phase 3F

Layers producing leather--II 33, 140. Figs 55.4-8; 56.9-10

These are the upper layers in the open ditch lying immediately above II 34 and predating the building of the stone drain in 7A. Dating from the latter part of the 14th century II 33 produced markedly pointed soles which were certainly fashionable during the 14th century and are in direct contrast to the broad soles found in the lower fill, 2D. The leather included both front- and side-lace fastenings, the quarters section of an ankle boot, and the usual repair pieces and scrap but no recognizable one-piece uppers. Again, more decorative leatherwork in the form of knife sheaths, belts, a strap, and other costume survived.

Sole II 33 (Fig 55.4)

Pointed, right-foot, turnshoe sole with a marked narrow

waist and a long heel-seat. The sole has worn edges at the inside toe edge and at the outside back of the heel. The tunnel stitching at the waist indicates repair pieces. Adult shoe size 3.

Sole II 33 (Fig 55.5)

Small, very pointed, left-foot turnshoe sole which is worn away at the inside toe, outside joint, and completely at the back of the heel. Stitchmarks above and below the waist indicate a repair piece(s). The knife-cuts in the sole may be the cobbler's Child's shoe size 11.

Two-piece sole II 33 (Fig 55.6)

Right-foot sole comprising a separate forepart and heel-seat. This method of construction is possibly more economical as it uses up two small pieces of leather and it is easier to repair a shoe sole because if one end has worn away it can easily be replaced. The forepart is fairly pointed and slightly worn at the toe. Tunnel stitching on the bottom across the waist indicates where the repair clump was attached.

The heel-seat is worn completely away outside the back of' the heel. A tunnel stitch at the waist also Indicates a repair heel-seat. The five seamholes across the waist correspond to those of the forepart.

Not illustrated are the repair clump and heel-seat which were attached to the sole. They are both worn away in the same places as on the sole. Two lengths of pieced rand also survive. One fits around the outside edge of the forepart and joins a single curved length from the outside **waist.** The tunnel stitching on the latter length indicates that the heel-seat repair was sewn to it whilst the channel of regular seamholes corresponds to those of the sole. There are six other examples of separate sole components from the friary coming from phases 2D (II 34), 5A (IV 62, 65), and 9A (II 24, 32). They are also known in a late 13th/early 14th century context from Sewer Lane, Hull (Armstrong 1977, 52, 53).

Quarters II 33 (Fig 55.7)

This is another very good example of quarters which are cut high at the back of the heel and low underneath the ankles. The two side seams survive but the lasting margin has completely gone although a small separate piece could belong to the quarters. The leather is thick enough (3mm) so as not to require a heel stiffener. There is evidence for a top edge binding and the front of the shoe would be high. 15th century. The quarters and sole are not necessarily related on the absence of the lasting margin. The sole and pieced rand are not illustrated.

Example of scrap/warble holes II 33 (Fig 55.8)

A small scrap piece of leather sole pierced either by stabbing or by holes caused by warble flies. There are similar examples, one from 2D (II 34) and one from 5A (IV 37). If they are warble holes, the use of very poor quality leather for repair pieces is shown.

Shoe comprising sole, turn-welt, repair clump, and two-piece upper II 33 (Fig 56.9)

Sole

A right-foot, turnshoe sole with a pointed toe and a narrow waist which is worn away in the usual place at the outside back of the heel. The tunnel stitching at the waist is indicative of repair attachments. Lines across the flesh surface are the result of bracing threads used in lasting. Child's shoe size 13.

Pieced turn-welt

A complete length survives with a single row of seamholes and also tunnel stitching to attach a repair clump. The turn-welt follows the shape of the forepart down to below the waist.

Repair clump

The repair clump was attached to the shoe by being tunnel stitched to the turn-welt and to the sole across the waist so that the grain surface touched the ground. The clump is worn away at the outside wait, edge and bears the impression of-the forepart on its inside surf-ace.

Two-piece upper
(drawn after conservation)

Various upper fragments join together to form the vamp with a centre front-lace Fastening composed of at least two pairs of tie holes. Although the throat slit and top edge of the vamp are badly worn there are traces of a top-band seam. There are also two side seams where the vamp joined the quarters. The lasting margin survives along part of the left inside edge and around the toe.

One half of the quarters survives. The quarters have a back seam which is the only example in this collection of medieval shoes. The side seam survives and also the knife-CUT top edge which is cut low around the ankles. Three seamholes are all that remain of-the lasting margin. On the inside flesh surface are a double row of stitch holes where the heel stiffener was sewn into the back of the heel. The heel stiffener survives virtually intact with its straight top edge, scalloped sides with irregular stitching, and half of the lasting margin. The grain surface is on the outside so as to make a better grip and also presumably because it lasted longer.

Remains of a shoe and boot cut up for scrap leather II 33 (Fig 56.10)

Upper

The fragments of shoe upper include a centre front-lace fistening comprising two pairs of tie holes on either side of the throat which is a v-shaped slit. A lace IS still threaded through three of the four tie holes. The seamholes along the top edge and down one side of the throat could mean that it was reinforced at this point to prevent the strain of the fastening from tearing the leather or it could imply a tongue. This throat fastening formed part of a vamp which has been cut up for scrap.

Quarters of ankle boot
(drawn after conservation)

Also included is the quarters of an ankle boot with a double side-lace fastening surviving at one end. One lace still retains the knotted lace toggle which is characteristic of the shoes from this site and is also found on shoes from Hull and which prevented the lace from slipping out of-the tie hole. (It is interesting that the lace has a small seamhole in it-possibly scrap from another shoe reused as a lace.) The boot would have fastened across the instep. Another toggle also survives, which may come from the end of the lower lace. A seam down the fastening edge indicates a binding of' some form. The top edge and opposite end of the quarters have been cut with a knife and only about half of the lasting margin survives possibly from around the outside edge of the waist. Only a part of the heel stiffener survives because

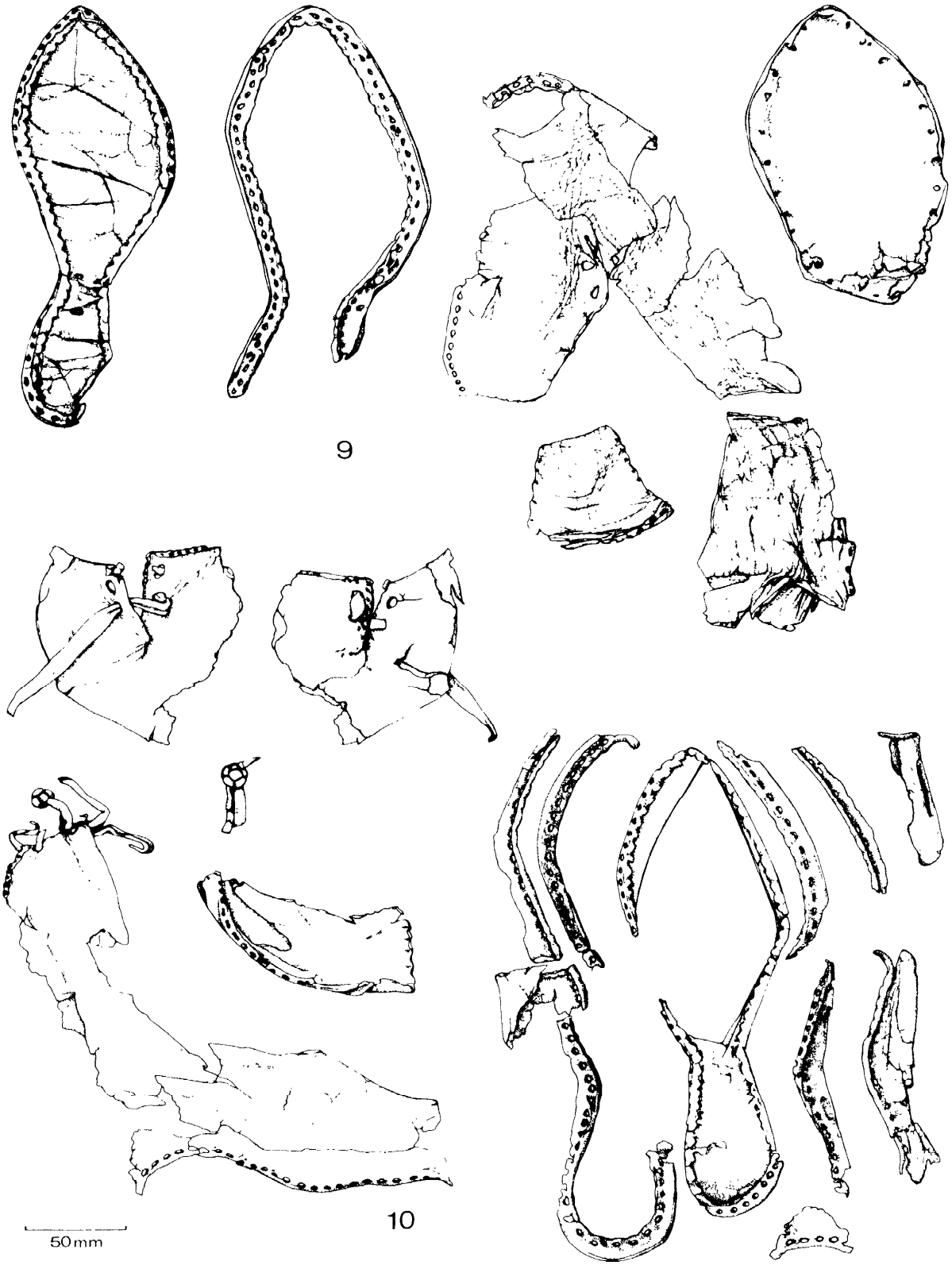

Fig 56 Leather: shoes 9 10, Scale 1:3

the top edge has been cut away with a knife. There is no evidence to suggest that the stiffener fitted inside the quarters.

Sole

The cut away remains of a sole with associated turn-welt and upper lasting margins also survive. The sole has had the forepart completely cut away so that only the edges and the heel-seat survive. The sole is in three pieces. Tunnel stitching on the remaining parts of the forepart indicate that a repair clump was attached. Adult shoe size 5.

Several lengths of pieced turn-welt fit around the sole with the usual single row of seamholes, evidence of tunnel stitching to attach repair pieces, and also signs of wear especially at the toe and heel-seat. Associated with these are several lengths of upper lasting margin, of which two have remains of side seams where the upper sections were joined together. The seamholes correspond to those of the turn-welt and sole. These pieces are illustrated as being clearly representative of cobbler's waste scrap implying work done at the friary or in the near vicinity.

Phase 7A

Layers producing leather-II 60, 61, 131, 135, 162. Figs 57.1 l-17; 58.18-22; 59.23

These layers are connected with the stone-walled drain built after 1400 on the site of the open ditch. Most of the leather derives from the two sandy banks (60 and 61) which lay along the drain sides and must represent a gradual silting-up of the drain.

Apparently, during the 15th century, shoe fashions were influenced by the political conflict between the Houses of York and Lancaster known as the Wars of the Roses (Swann 1973, 19). Both layers produced pointed soles (II 60) and rounded soles (II 61) which would fit in with this idea. There are also two small soles from children's shoes.

The two concealed/slashed shoes and various types of shoe fastenings, including the only example of a strap fastening from the site, came from these layers. It is also worth noting that there are remains of several ankle boots from this phase, and once again costume other than shoes. There was also less scrap leather than in the previous two phases.

Sole II 60 (Fig 57.11)

Left-foot, turnshoe sole with a very pointed toe, which has curled up, a broad tread, a narrow waist and a long heel-seat. The small, neat workmanship is noticeable. Adult shoe size 4.

Sole II 61 (Fig 57.12)

Pointed, right-foot, turnshoe sole with a narrow waist and a long, narrow heel-seat. Worn away at the inside toe, the outside joint, and at the back of the heel-seat. Warble holes in the heel-seat and the outside edge of the forepart imply cattlehide. There is tunnel stitching on the forepart for a repair clump and also two knife-cuts in the waist. Adult shoe size 1.

Child's shoe sole II 60 (Fig 57.13)

Left-foot with a rounded toe and a broad waist. The heel-seat is completely worn away and the side is also worn away along the forepart edges. Child's shoe size 8.

Child's shoe sole II 61 (Fig 57.14)

Right-foot, turnshoe sole worn away at the toe, the outside joint, and the back of the heel-seat. Holes at the end of-the heel-seat could be warble holes or repair stitches. Child's shoe size 1.

Shoe comprising one-piece upper, sole, and repair pieces II 61 (Fig 57.15)

Sole

Right-foot, turnshoe sole with a slightly pointed toe, a broad tread, and a short heel-seat. The sole is worn at the toe (the leather is cracked), the inside and outside joints, and the back of the heel. The leather has also delaminated on the sole bottom. Marks on the inside surface are probably those of bracing threads, and the tunnel stitching on the sole bottom also indicates that repair pieces were attached. In the sole is a nail hole where a nail was probably used to keep the various sole components together. Adult shoe size 2.

Pieced rand

Two lengths survive-a short curved length from the back of the heel and a long length (in two pieces) from around the forepart and extending to the inside and outside joints. The heel length is worn and has extra stitch marks where a repair heel-seat was attached. The same applies to the outside length of rand from the forepart. Not illustrated are three more lengths of rand.

Repair pieces-clump and heel-seat

There is tunnel stitching around the edges and both bear the imprint of the sole. The tunnel stitching appears along the inside flesh surface only as it does not pass through the leather. The clump has extra tunnel stitching on the inside above the waist, perhaps to make it more secure. There is a gap at the waist between the two repair pieces which was possibly filled with a shank perhaps held in position by a nail. Nails were certainly used in the construction of medieval shoes. The heel-seat is worn away at the outside back of the heel.

One-piece upper

This has a centre front-lace fastening, inside seam, and a heel stiffener. The top edge has been cut away with a knife. The toe is blunt and rounded, and the lasting margin survives intact apart from at the back of the heel-seat where it has worn away. Extra stitch holes along the vamp joint and along the quarters show how the repair clump and heel-seat were directly attached to the upper to make the shoe even more waterproof. Although deteriorated, the throat survives as a knife-cut slit with two tie holes on either side at the top. The opening for the foot has also been cut away with a knife and there is also a knife-cut in the vamp wing to the right of the throat slit. The left vamp wing is more or less intact showing how it sloped inwards to the throat. The top end of the side seam has been cut but the rest of' the closed butted seam survives.

Only the lower third of the heel stiffener survives with an intact lasting margin but the top edge has been knife-trimmed like the quarters of the shoe. It fits inside the quarters and was obviously still in place when the shoe was cut up.

The sole is made from cattlehide and the upper is made from sheepskin, the former presumably being more durable and the latter more supple.

Despite the knife-trimming this is possibly the best example of a complete shoe in the collection.

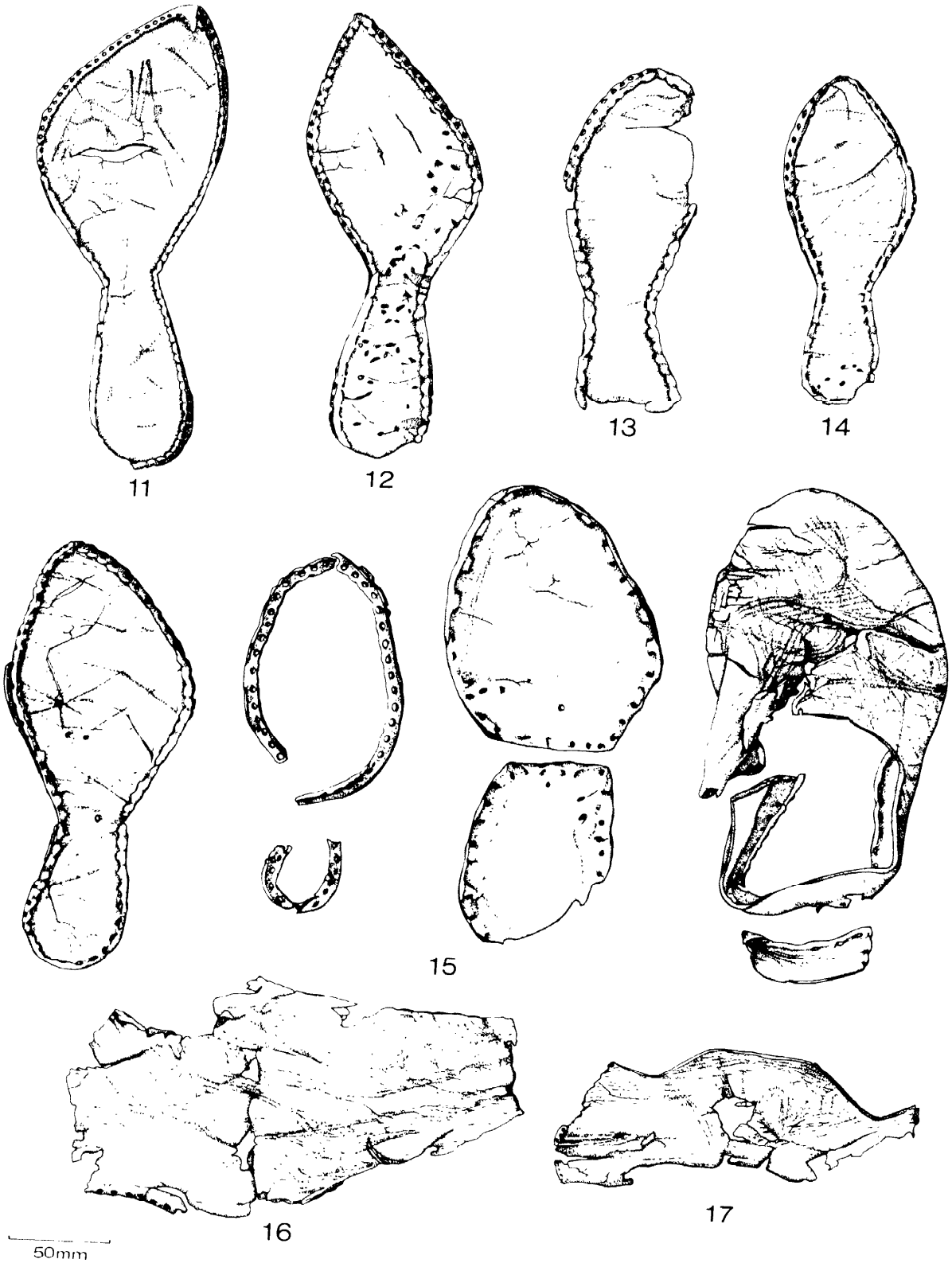

Fig 57 Leather shoes 11 17. Scale 1:3

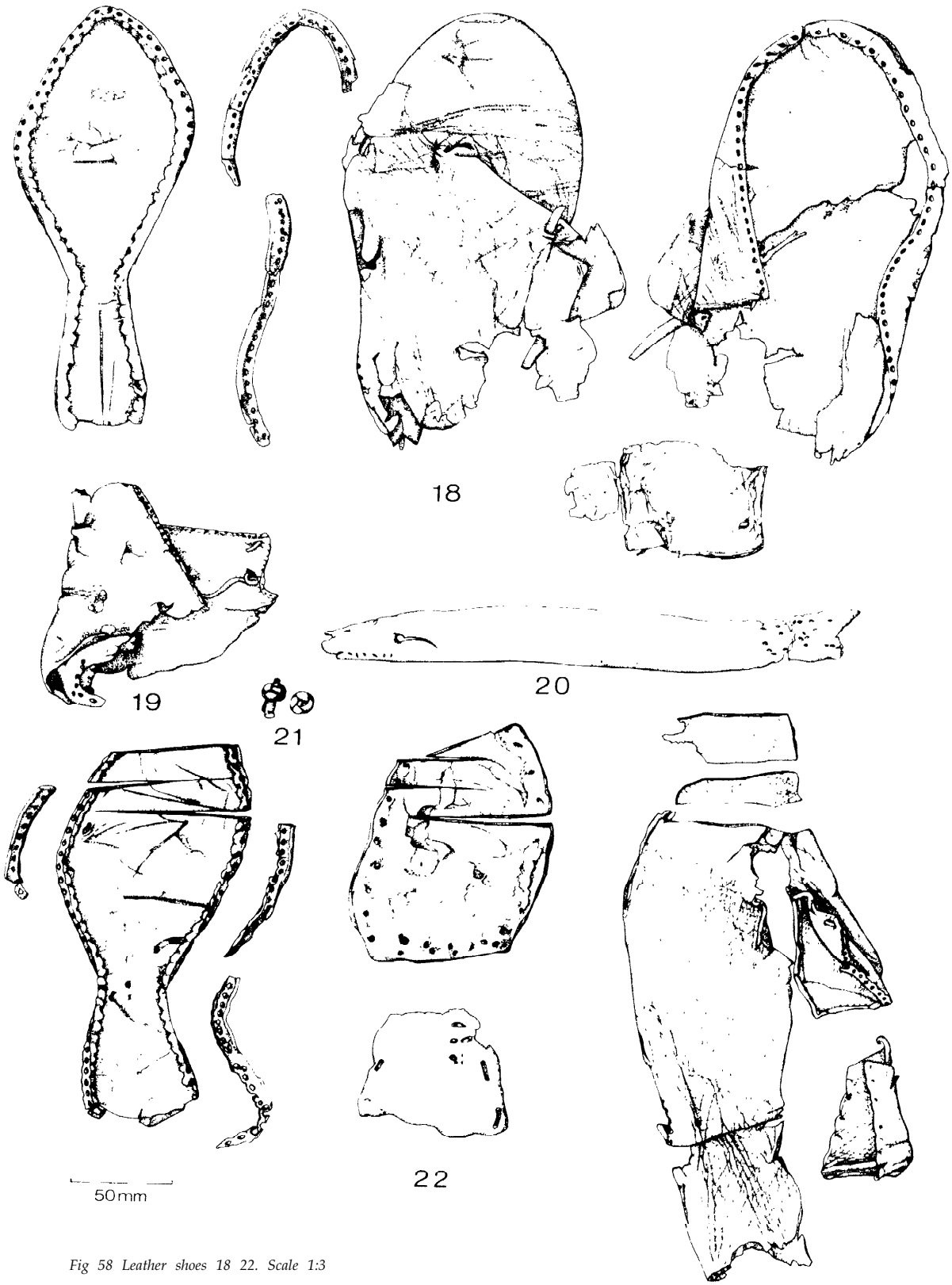

Fig 58 Leather shoes 18 22. Scale 1:3

Ankle boot quarters II 61 (Fig 57.16)

Part of the quarters of an ankle boot with evidence for a top-band and two tie holes for a side- or front-lace fastening. The lasting margin only survives as a length of six seamholes at the back of the heel. The quarters are cut at a sloping angle from the back of the heel down to the side seam. A double row of stitch holes on the flesh surface shows where the complete, triangular heel stiffener was sewn inside the back of-the quarters. The wing probably fastened across the instep.

Shoe quarters II 60 (Fig 57.17)

Another good example of quarters cut high at the back of the heel and low underneath the ankles with two side seams. Most of the lasting margin has gone except for a small length of seamholes at the base of the right wing. The left side seam survives although partially deteriorated and the top of the right side seam also survives. The top edge is knife-cut.

Winter boot comprising sole, rand, and ?one-piece upper II 61 (Fig 58.18)

Sole

Pointed, left-foot, turnshoe sole, worn completely away at the back of the heel, with two long knife-cuts along the length of the heel-seat and across the tread. There is *an* imprint of the ball of the foot across the tread. Leather-cattlehide. Adult shoe size 1.

Pieced rand

This comes from around the forepart and is now in three pieces but is not complete. There is also another short length from the inside waist, the extra stitching corresponding to that of the sole waist.

Upper

Ankle boor with a centre front-lace fastening. The quarters section is now missing. The lasting margin survives along its entire length. A very rounded toe. The centre front fastening must have fastened high over the instep. The throat is the typical v-shaped, knife-cut slit with the top edge worn away to the left of-the throat but with the right side of the throat still intact. At the base of the throat are two slits with a lace threaded through them and to the left are the deteriorated remains ofanother possible slit. There is a small slit further up on the left side of the throat near the deteriorated edge and a possible corresponding slit opposite. The leather has been knife-cut as far as the side seam where a small round tie hole and a slit with seamholes served to thread the shoe lace through out of-the way of the wearer. The inside seam survives up to this tie hole.

There is another rectangular piece of leather, possibly from the same boot, with two finished edges and two deteriorated edges. In one corner is a tie hole. It was sometimes necessary to insert further pieces of-leather for ankle boots and this could represent such a piece with a fastening.

The following examples illustrate two methods of-boot fastenings:

Ankle boot quarters with side-lace fastening II 61 (Fig 58.19)

(drawn after conservation)

The quarters of an ankle boor with a fastening originally consisting of three tie holes. The laces are still threaded through them and were probably originally knotted at the end to prevent them slipping through. The other wing has a side seam but with no evidence of a fastening, and must have joined either the vamp section or an extra piece of leather at the front which had a fastening. Part of the scalloped top edge survives, and this extends down the edge with the tie holes. The top edge is worn away at the back of the ankle and the lasting margin has completely deteriorated. Inside the back of the quarters is the complete heel stiffener with the grain side outwards. It is triangular in shape with scalloped edges caused by over-stitching and with the seamholes close together. The lasting margin also survives virtually intact. Side-lace fastenings, usually in three pairs, are known from the mid 14th century (Swann 1973, 20).

Strap fastening II 60 (Fig 58.20)

(drawn after conservation)

The only example from the site of a strap fastening to a shoe as all the rest are front- or side-lace fastenings. It is a long, narrow, tapered length of leather with knife trimmed edges, broken across one end where the small stitch marks indicate where a buckle was stitched onto it as well as onto the wing of a boot. It must have curved right round the ankle over a high leather vamp. The curved slit in the tapered end has a hole at one end indicative of a buckle pin. There is more stitching on this end, possibly as a finishing so that the strap would wear better in handling and fit into the buckle properly.

Knotted toggle II 61 (Fig 58.21)

From a shoe lace. This seems to be the typical method for ending laces from this site. It is a recognized medieval practice, having been found on other sites such as Hull and Oakham (Gathercole 1958, 32).

A concealed shoe or a shoe cut up for cobbler's scrap comprising a slashed upper, sole, rand, and repair pieces II 61 (Fig 58.22)

Sole

Left-coot, turnshoe sole with three deliberate knife-cuts across the toe end. The toe has been cut away and there are two more knife-cuts beginning on both sides of and going right across the forepart. There are slighter knife-cuts below these which do not pass through the learher. Tunnel stitches on the sole bottom above and below the waist and on the outside joint indicate that there were two repair pieces. The sole is worn completely away at the back of the heel-seat. Child's shoe size 11.

Pieced rand

Three lengths of a rand. Two pieces fit at the inside and the outside joint and have knife-cuts at the toe end corresponding to those on the sole. The inside length has extra stitch marks where the repair clump was attached. A third curved length fits at the inside waist and down to the heel-seat. Although worn away at the heel end it is a complete, pieced length.

Repair clump and heel-war

The repair clump has deep knife-cuts which correspond exactly to those of the sole except that the clump has not broken off across the toe and there is a fourth diagonal cut from the right which joins the top cut across the sole. Tunnel stitching along the edges corresponds to that on the sole and rand.

The heel-seat repair is worn away at the back of the heel as on the sole. It is tunnel stitched around three edges. (The illustration shows the bottom grain surf-ace.)

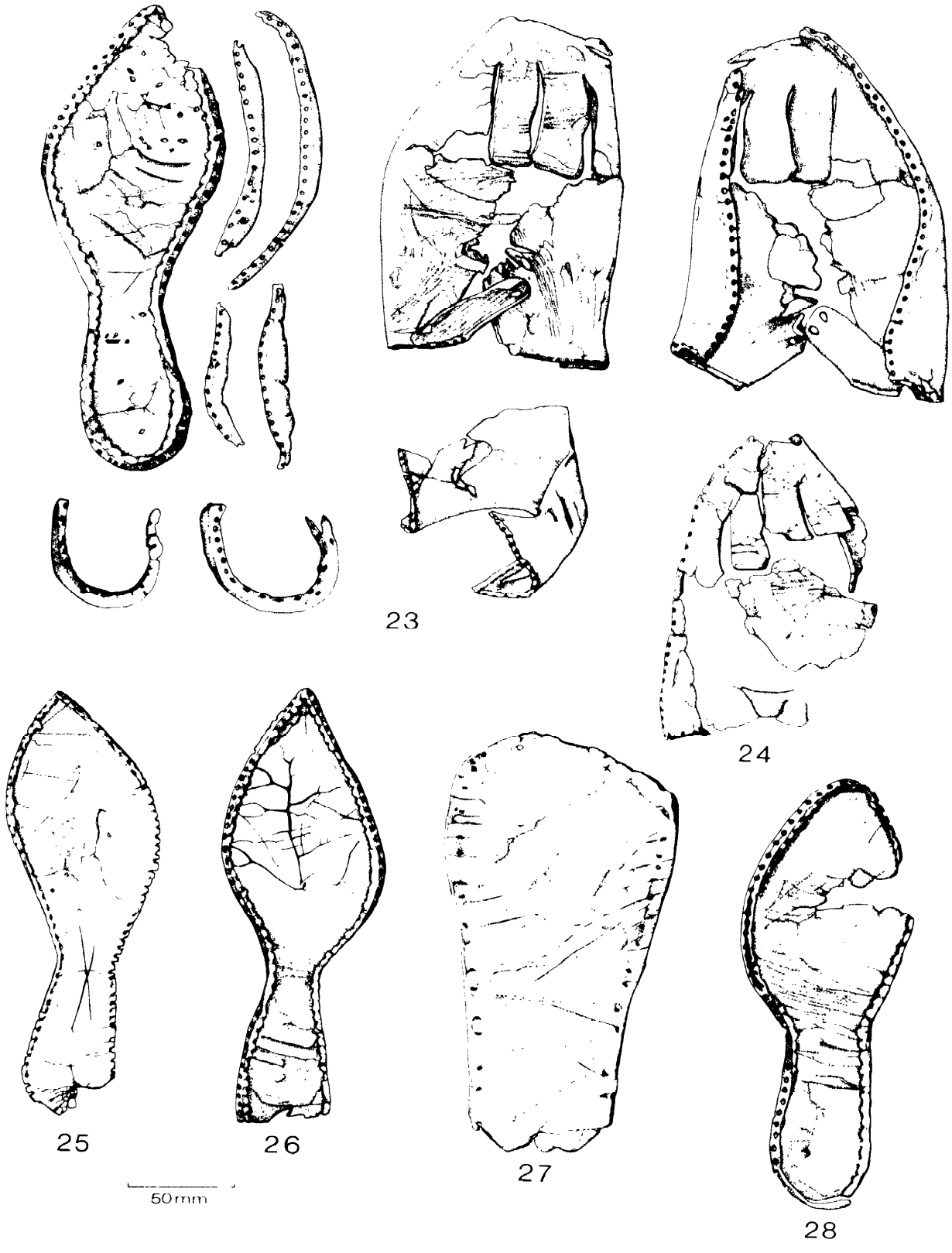

Fig 59 Leather: shoes 23-28. Scale 1:3

One-piece upper
(drawn after conservation)

'This is complete with slashes, offcuts, and a heel stiffener all made of cattlehide. 'The vamp ends at the knife-cut which corresponds to the lowest cut on the sole. Although cut across from the right to the opposite edge the cut is Incomplete finishing short of the lasting margin. Two small, separate pieces of leather are all that are left of the toe. The upper has a front-lace throat fastening, a virtually complete lasting margin, and the remains of two side seams forming a single inside scam. The seamholes of the lasting margin are at 6mm spacing. The front-lace fastening is a c-shaped cut with originally two pairs of tie holes. Those on the right of the throat survive with a lace threaded through both of them. The seam suggests a top-band edging to the throat. The top edge of the vamp from the throat to the quarters is knife-cut and there are two nicks at the back of the heel. Presumably the top-band seam has been cut away. The vamp side scam survives fairly intact, but that of the quarters is worn away except for the bottom seven scamholes. Inside the back of the heel are the imprint and stitch marks of the heel stiffener which would be complete hut for the top edge also having been cut off when the shoe was cut up. The lasting margin survives and the scalloped edges with seamholes. The flesh surface is outside, which is unusual. Miss J Swann interpreted this as a concealed shoe, a note on which follows this section. The shoe would have been intact when 'ritually' slashed as the cuts pass through the four thicknesses of upper, sole, rand, and repair clump. Four other examples of slashing occur in this collection.

Shoe comprising sole, slashed vamp, quarters to ankle boot, and rand II 60 (Fig 59.23)

Sole

Left-foot, turnshoe sole with a long, straight heel-seat and 3 pointed toe. It is worn away at the inside toe and the outside heel. There are deep knife-cuts in the tread and there is evidence for bracing threads whilst the holes represent a mixture of warble holes and tunnel stitching for repair attachments. Adult shoe size 4.

Pieced rand

The pieced rand associated with the sole is in five lengths. Two pieces which were once one fit around the forepart, two lengths fit at the inside and outside waist, and a curved length, broken at one end, fits around the back of the heel-scat. The seamholes correspond to those of the sole with possibly extra stitches to attach a repair piece.

Vamp

The slashed vamp has a centre front-lace fastening and two side seams. The toe has either been completely cut away or has worn away. There are three deliberate knife-cuts down the shoe and possibly one across where the three end. The central cut is the longest and the outer two are the same length. Below these cuts the leather has completely deteriorated so that it is impossible to ascertain their original length. The throat with its front-lace fastening and side seam is fairly intact. The fastening appears to be the usual two pairs of opposite tie holes with a lace still threaded through two of them. The top edge of the throat is knife-cut and slopes upwards to meet the two side seams. The side seams are complete down to the lasting margin which also survives intact except at the toe where it is worn away.

Quarters

Good example of quarters to a cattlehide ankle boot cut high at the back of the heel and low at the ankles. The lasting margin has been deliberately cut away, although a small length is still attached. A separate curved length fits around the back of-the heel-seat and is obviously knife-cut. The two side seams survive fairly intact. The top edge is knife-cut, there being no top-band, and the quarters were also thick enough so as not to require a stiffener. It has a curved top edge with small 'ears' to the wings. There are also cuts in the quarters especially the two slashes in the left wing. The cuts and slashing could be a result purely of the shoe being cut up for scrap or are connected with witchcraft and concealed shoes.

Slashed vamp Area II unprovenanced (Fig 59.24)

A vamp (basically in four main fragments) which is Interesting because of the four knife slashes down its toe end thought to be connected with witchcraft/concealed shoes. The original leather has deteriorated so it is difficult to tell how far the cuts extended down the shoe. The toe end of the shoe also appears to have been cut off. Some of the lasting margin and also part of the left vamp w ing side seam survives. Note that the cuts start at different places, the two outer cuts forming a pair as if they were done deliberately to a pattern. This shoe has been included as it is similar to Fig 59.23.

Concealed/slashed shoes

(cf Swann 1969)

A note on concealed shoes is necessary to understand the possible implications of the two from phase 7A in the drain and the other two examples, one unprovenanced and the other from 3F (II 33). Concealed shoes are so called because they were often deliberately hidden in walls. under windowsills, over door lintels, in rubble floors, and in roofs. to name but a few places, They seem to be connected with the actual building construction or with some other major alterations-in the case of the friary this was the building of the stone-lined drain and associated building range. They rarely occur in pairs but they have beer, found with other objects such as wooden bowls, spoons, and knife sheaths, all of which have turned up from the friary.

There are other known examples of concealed shoes which have been deliberately cut as are these examples from the friary. They might be connected with witchcraft and hence their presence may be unusual in a religious establishment. Two dating to the early 15th century have been found at Tewkesbury Abbey, but usually they occur in a domestic context (Swann 1969, 8) as in Leicestershire from the 17th century onwards.

However, the two shoes with what appear to be deliberate longitudinal slits (Fig 59.23, 24) do have some similarity with the decoratively slashed vamps of the Tudor period. Shoes of-this type are found in pre 16th century contexts in western Europe (Dr W Groenman-van Waateringe, pers comm). These two examples from the friary may therefore indicate that the slashing of vamps as a form ofdecoration does occur in a 15th century context in Britain. Further research on excavated shoe-leather from pre 1500 levels may produce more evidence to substantiate this statement.

Phase 9A

Layers producing leather-II 16, 24, 32, 136.
Figs 59.25-28; 60.29-30

These are the levels in the drain after 7A terminating in the

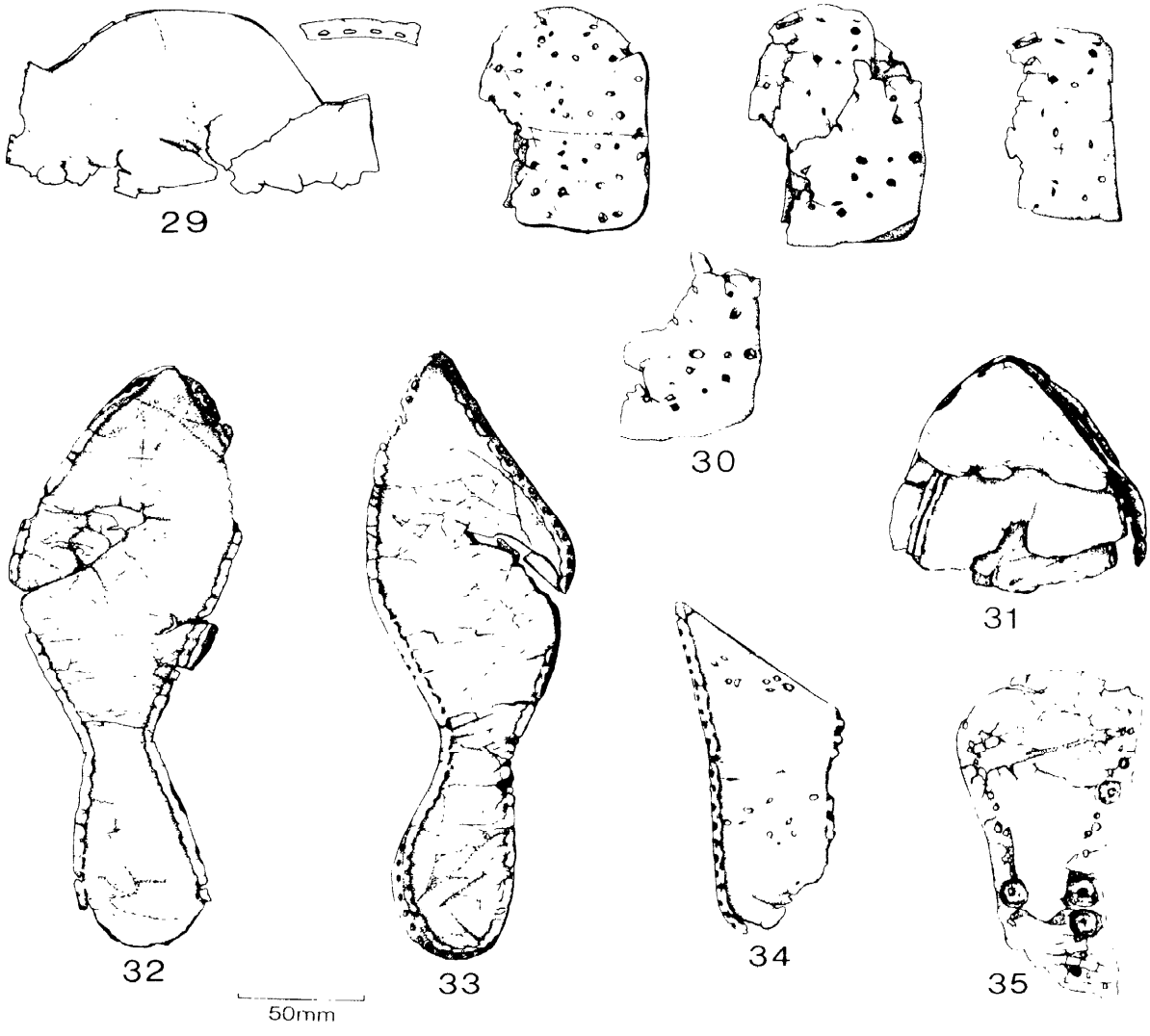

Fig 60 Leather: shoes 29-35. Scale 1:3

1538 destruction levels. These include not only earlier shoe soles but also a typical Tudor repair sole and a wooden-pegged piece both from 1132. These layers also included scrap leather which could indicate that cobbling was still being carried out in the vicinity. Costume fragments and knife sheaths also survived.

Sole II 32 (Fig 59.25)

(drawn after conservation)

Right-foot, turnshoe sole with a pointed toe. The outside edges of the sole and the heel-seat have worn away through wear. Just below the waist of the sole are two intersecting knife-cuts forming a cross-possibly to indicate that the shoe was beyond repair and marked out for scrap. Other lines on the leather are probably the result of bracing threads made during lasting. Adult shoe size 3.

Sole II 32 (Fig 59.26)

Right-foot, turnshoe sole with a pointed toe, narrow waist, and a long heel-seat. The leather has worn away at the inside toe and at the back of-the heel, Marks across the heel-seat and waist are made by bracing threads. Adult shoe size 3.

Tudor repair sole II 32 ext (Fig 59.27)

This repair sole has the distinctive broad shape of the Tudor shoe, which is in marked contrast to the pointed and narrow-waisted soles of the previous two centuries. The sole is completely worn away at the back of the heel and around the toe. The marks of bracing threads and possible knife-cuts survive on the inside flesh surface. The stitches are only visible on this inside surface and pass through the thickness of the leather. Holes in the sole bottom may either be tunnel stitches or warble holes. Adult shoe size 1. A date of post 1490 and probably in the 1520s 30s during the reign of Henry VIII is suggested (J Swann, pers comm).

Sole, rand (upper fragments not drawn) II 32 (Fig 59.28)

Sole

Left-foot, turnshoe sole with a rounded toe, a broad tread and waist, and a long, straight heel-seat. The leather has worn away across the tread, at the toe, and at the back of the heel. Adult shoe size 1.

Pieced rand

Three lengths of-pieced rand with a single row of seamholes corresponding to those of the sole survive. The curved length fits to the outside edge of the waist,

Quarters II 32 (Fig 60.29)

(drawn after conservation)

A good example of quarters cut high at the back of the heel and low underneath the ankles. The lasting margin has worn away apart from a small detached length. The two side seams, which joined the quarters to the vamp, survive as does the curved top edge which appears to have been knife-cut and not to have had a binding/top-band. It does not seem to have required a heel stiffener.

Toe or heel repair piece II 32 (Fig 60.30)

(drawn after conservation)

Three overlapping pieces of cattlehide are held together by wooden pegs. The small pegs are driven through from one side passing through all three pieces of leather. Only a few of the pegs actually remain in place. The edges are all knife-cut, though some have been worn away indicating wear.

Only half of the bottom fragment survives with three wooden pegs. The pegs have diamond-shaped heads and one peg measures 8mm long. There are several square holes which probably contained other pegs and the smaller, round holes are probably warble holes. The grain surface is uppermost. This piece would presumably form the bottom section.

The middle section is worn away along the same edge as the top but its intact top edge is curved. Two wooden pegs survive and there are also other peg holes and warble holes. A tunnel stitch in the top left corner implies that this was originally a repair piece before it was cut up to serve yet another repair. The shape of-the top piece is deeply imprinted on this middle section again indicating that it was used. Two holes pass through both pieces.

The third and most complete section is cut like a repair heel-seat and except where worn away at the bottom left corner the knife-cut edges survive. The middle section is imprinted on its grain surface. Again there are peg holes and warble holes with the tops of four pegs in place.

The purpose of this piece of leather is not clear but it could be a repair piece for an eared Tudor shoe although it does resemble a heel in shape. A reference in 'Piers Plowman' *c* 1362 to a 'knoppede shoe' could be translated as nailed, implying that nailed shoes existed before 1500 (J Swann, pers comm). This piece is probably 16th century on the dating of layer II 32. Small wooden pegs are embedded below and above the waist of a sole (Fig 60.34) from the north ditch, phase 9A, layer IV 56.

Phase 10C

Layers producing leather-II 19, 29

This post 1538 destruction level produced three pieces of leather from the destruction of the south range of the second cloister which have not been illustrated. They are a clump and two scrap pieces.

AREA IV

The leather came from the two sections cut across the north ditch. It is interesting that there is very little scrap leather and no belts or knife sheaths although this could reflect the smaller nature of the excavation in comparison to the complete excavation of Area II ditch and drain.

Phase 5A

Layers producing leather-IV 37, 54, 61, 62, 63, 65, 66, 67, 69, 72. Fig 60.31-33

Layers 37 and 54 are part of the backfilling of the ditch south of W 18; 61, 62, 65, 67 are ditch deposits following the construction of W18; and 63, 66, 69, and 72 are clay banks sealing the foundations to W18.

Sole IV 65 (Fig 60.31)

Badly worn, left-foot, turnshoe sole with a marked narrow waist and a fairly pointed toe. The leather has worn away at the toe, the inside and outside joints, across the tread, and at the back of the heel-seat. The impression of the wearer's big toe, ball of the foot, and heel, are left on the flesh surface. A small piece of rand is still attached to the side joint above the waist. Adult shoe size 4.

Sole IV 65 (Fig 60.32)

A complete, long, narrow, right-foot, turnshoe sole with a very pointed toe and a long heel-seat. There are signs of' wear at the inside toe, the outside joint, the hole across the

tread, the outside waist, and the back of the heel. The bottom of the forepart, near the inside joint, has a row of tunnel stitches or nail holes for a repair clump. Adult shoe size 6.

Toe end of shoe comprising upper, rand, sole, clump, and several fragments of sole IV 65 (Fig 60.33)

(drawn after conservation)

Interesting for the method of shoe construction, this pointed toe end of a vamp has a turned-under lasting margin with small seamholes. Along the left edge of the lasting margin are three tunnel stitches where the clump was directly attached to the upper. The upper was also joined to the rand by a corresponding single row of seamholes and the r&d also has a single tunnel stitch corresponding to one on the upper. The leather of the forepart has delaminated along its seams so that no seamholes survive. However, the sole bottom has four tunnel stitches to attach the repair clump. The repair clump, although very deteriorated, has tunnel stitching along both edges corresponding to that on the sole, rand, and upper, Obviously the art of attaching the repair clump by means of a widened rand or turn-welt was not yet known or understood. The thread to attach the repair clump must have passed through clump, sole, rand, and upper. Not illustrated are sole fragments with warble holes typical of cattlehide.

Phase 9A

Layers producing leather-IV 27, 28, 56. Fig 60.34

This is the equivalent deposit to phase 9A in the south drain. It produced upper fragments, repair pieces, offcuts, and a wooden-pegged sole, presumably post 1500 in date.

Part of sole with wooden pegs IV 56 (Fig 60.34)

Fragment of a sole which has been deliberately cut away across the tread. Holes above and below the broad waist arranged roughly in pairs may all originally have held wooden pegs, about six of which survive pushed through the sole from the bottom surface. These may have attached a repair clump and heel-seat or a shank across the waist. Some could also be warble holes not peg holes as they are rather large for the pegs which do survive.

The only other example of 'pegging' is from II 32 phase 9A. The sole is quite broad in shape and presumably is a 16th century Tudor sole.

Phase 10E

Layer producing leather-IV 14

This layer is part of the collapse of W 18 into the ditch and produced part of a sole, a shoe upper, and scrap leather, none of which is Illustrated.

Phase 10F

Layers producing leather-IV 25, 39. Fig 60.35

These are part of a much later disturbance of 10E. The only noticeable piece of leather from this phase dates from the 19th century when the site was used as a coal wharf and became a railway terminal.

19th century shoe sole with nails IV 39 (Fig 60.35)

The two rows of diamond-shaped holes indicate a 19th century date-certainly post 1798 and probably in the 1830s. Four iron nails survive and parts of two more. The sole is worn away at both ends of the sole and may be connected with the building of the railway terminus in the 1830s.

Other leather from the site is not illustrated.

AREAS I, V, AND VI

In Area I there was a sole fragment from W 11, and a repair fragment from R 4 15—both in phase 4A-and an offcut from R 4 21 in an earlier context, 3B. Area V produced an unprovenanced offcut while from Area VI there was part of a repair piece from VI 73 phase 3C in the foundation to W51.

The belts

These all derived from Area II phases 2D, 3F, and 7A and date between *c* 1300 and the mid 15th century. Graves 6, 7, and 14 in Area VI phase 3E still had some of-the leather preserved with the buckles, and belt ends from I 38, phase 3B and III 14, phase 4B also had some leather fragments contained in them.

It was possible to Isolate three different types of belts from the friary and an example of each type is illustrated. The 18th century historian John Nichols writing about the Austin Friars in Leicester states that 'in the choir, and when abroad, they had over the former (ie their habit) a cowl, and a large hood, both black, which were girt with a black leathern thong . . .' (Nichols 1, pt 2, 300). He also illustrates this *(ibid,* pl XXI). Taking together this statement and the evidence from the graves in Area VI it seems that these belts were those which were worn either by the friars or by their lay patrons and were probably made in a Friary workshop.

Wide belts with decorative slashing/stitching

Phases 2D-II 34, 7A-II 60 and 61. Fig 61.36
(drawn after conservation)

A long length of deerskin belt with six complete, elliptical buckleholes spaced at fairly regular intervals along the centre flanked on both sides by two parallel rows ofslashing or stitching which also continue around the end. Threaded through a small slit between two of these buckleholes is part of a thong or lace from which was probably suspended a knife or a whetstone or even a bunch of keys. Four other small slits cut in the leather between the buckleholes were possibly made by the bucklepin where it could not reach the next bucklehole. There is also a hole in the end of the belt.

The parallel rows of slashing may be purely decorative cuts made with a knife or they may originally have contained some form of thread or even a bronze wire similar to that from Grave 6 (Fig 61.39). This decoration finishes rather than continues along the belt implying that it only existed on the end of or on at least a part of the belt.

Knife-cuts on the belt imply that it was being cut as scrap possibly for reuse.

There were several other belt fragments of this type which have not been illustrated. These included two fragments from phase 2D, II 34. One has seven buckleholes, with the usual two parallel rows of-slashing and two small slits cut between two buckleholes possibly for the bucklepin. The outer row ofslashes may in fact be stitching as the leather has puckered as if-indicative of a thread having been pulled through it. The other small fragment from 2D has a small bucklehole and only one intact side with two parallel rows ofslashing stopping short of the end. Taking this small bucklehole as being fairly central the belt measures 48-50mm wide.

The two other wide belts are from phase 7A. One belt

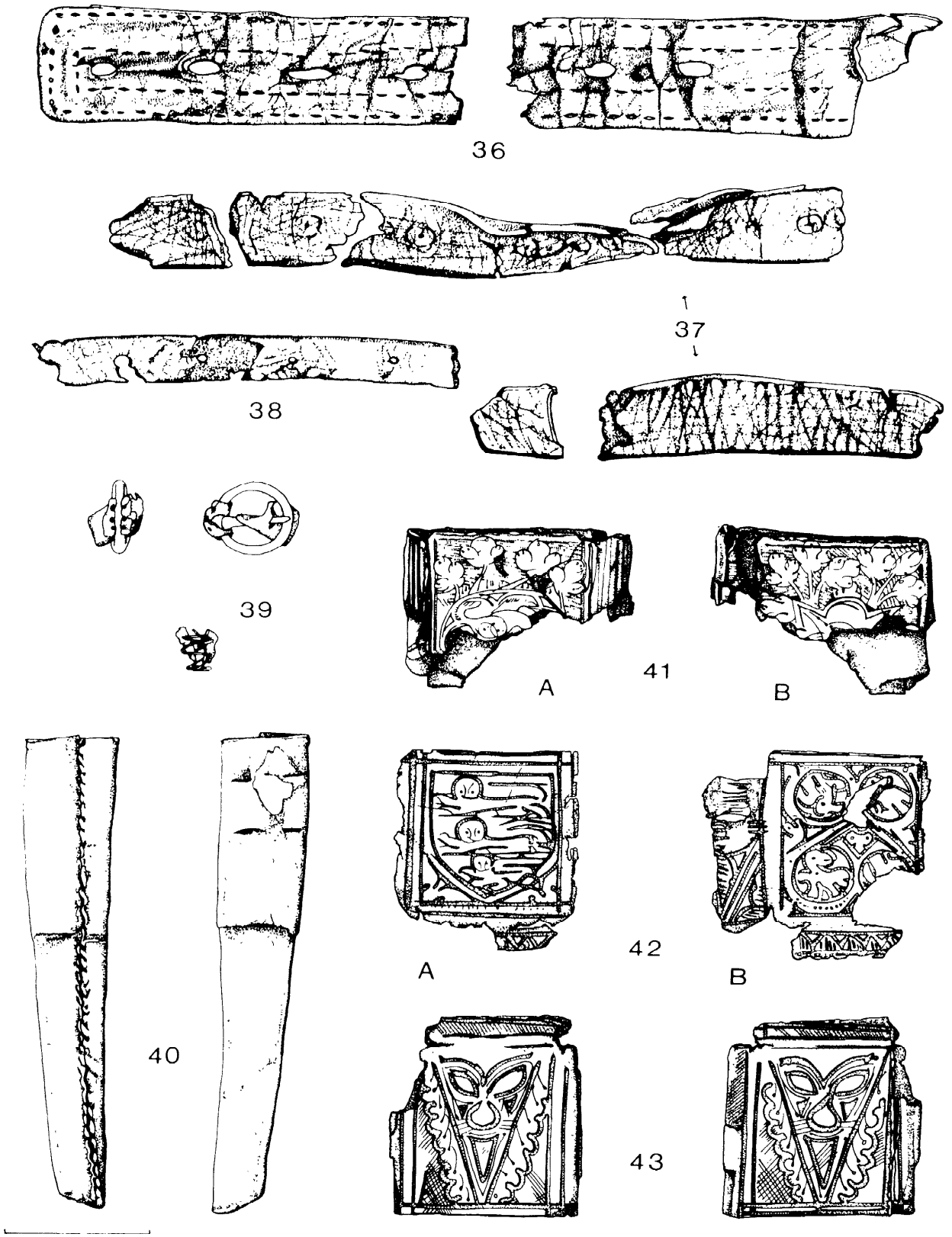

Fig 61 Leather: belts 36-39, knife sheaths 40 43. Scale 1:2

consists of two fragments which do not fit together exactly but are probably part of the same belt which was cut up for scrap as the knife-cuts show. Four buckleholes survive with evidence for three more. Two-parallel rows of slashing flank both sides and again there are slits between some of the buckleholes. the belt is made from deerskin. The small fragment of belt end from II 61 has a circular bucklehole and a narrower slip above it. The two parallel rows of slashing run along the intact edge and around the end of the belt and again the outer row must represent stitching as the leather has pulled. There are two knife-cuts across the belt end and the estimated width is 42mnm.

Similar decoration has been found on a belt fragment from Sewer Lane, Hull (Armstrong 1977, 58,59). These belts, therefore, form a distinctive type because of their decoration and also be because of their width-38 to 50mm-although there have been no buckles found on the site to match this. However, some of the grave buckles implied a belt width of 20mm+. It is also interesting that two of the belts were identified as deerskin and the evidence of knife-cutting shows that they were being up for scrap.

Belt with stud impressiom

Phase 3F-II 33. Fig 61.37

A length of cattlehide belt now in six pieces with four pieces still retaining the impression of circular leather or metal studs in the leather. Knife-cuts on the leather imply that it, too, was being cut up as scrap. The stud impressions are seemingly irregularly spaced, and only occur on four of the pieces.

Other examples of studded belts and straps (London Museum 1940, 195, 197, fig 63) include one associated with a buckle like that from Grave 7, which is dated to early-mid 14th century. Sewer Lane, Hull produced a similar belt in a later context, *c* 1500 50 (Armstrong 1977, 58, *59).*

Narrow belt

Phase 7A II 60. Fig 61.38

A narrow belt length with five circular buckleholes punched along the centre at irregular intervals. The leather is worn and delaminated and the ends broken through wear rather than through knife trimming. This narrow belt corresponds in width to that threaded through the annular buckle in Grave 6 which is probably that of a female (see p 133). Another buckle which is not illustrated here (see p 133) from Grave 7 (a male) still retains some leather in the belt plate and also fastened through the buckle measuring 18mm wide. Grave 12 (also female) produced evidence for a narrow belt from the buckle. It is therefore possible to equate this type of belt with a type of buckle and to say that they were worn by both men and women. They come from an early-mid 14th century context (3E) and a mid 15th century context (7A).

Annular buckle with leather and bronze wire joint

Phase 3E-VI 159 Grave 6. Fig 61.39
(drawn after conservation)

This is illustrated to show how the leather belt was actually attached to the buckle. The leather has a knife-cut slit to take the hinge of the buckle pin and is sewn together at the back by three pairs of opposing seamholes. These seamholes may have taken a bronze wire rather than a waxed thread as from the same grave came two pieces of belt leather joined together by a single twisted bronze wire. Thus the section of leather around the buckle would be joined to the belt proper by the bronze wire-possibly a repair.

The leather inside the buckle plates in Graves 7 and 14 shows a different method of joining buckles to belts. Similarly the belt ends may also have characterized belts at the friary. The way in which the belts were actually worn is discussed in the section on buckles (p 133).

The knife sheaths and spectacle/pen case

the group of complete and fragmentary decorated knife sheaths exhibits a high level of craftsmanship and artistic skill characteristic of the medieval word. All the remains come from Area II phases 2D a 3F; 7A and 9A in the south ditch and main drain and include two complete sheaths, a complete sheath lining, and parts of five sheaths especially the hilt ends. some of them are knife-cut implying that they were being cut up as scrap and certainly the hilt fragments, if they are such, may have been intended for further use as cases or puches. Certainly Fig 61.43 has been interpreted as either part of a spectacle case of part of a pen case (cf a puch, British Museum 1924, 57) Unique among them are the remains of two small decorative panels from a hilt which still retain the red vegetable dye or iron oxide colouring matter used as part of the design. Although probably used a great deal in medieval leatherwork such decoration rarely seems to survive to the present day. However, the decoration of incised, sharp cuts probably made with a sharp knife, combined with the blunded tooling made when the leather was dampened, does survive as will be described in further detail for each individual sheath. these sheaths may be the result of a friary workshop which produced goods not only for the friars themselves (in which case a domestic purpose for the knife sheaths seems likely) but also for their richer lay patrons.

Phase 2D

Area II 34. Fig 61.40-43

Complete lining to knife sheath **II 34 (Fig 61.40)**

A complete leather lining with a single, whipped seam running down one side and across the point. The point is sloping not straight and the hilt is noticeably wider than the blade. A raised 'rib' also distinguishes the hilt from the blade.

Method of manufacture

Made from a single piece of leather joined together by the whipped seam. The seam is not central and still bears the thread impressions. On one side of-the hilt are two pairs of' two small slits cut one above the other to thread a thong.

Comments

The surface leather was so badly worn that it was impossible to discover the leather type from the grain. The lining would have been to a small knife or dagger which was worn with civilian dress and may have served either a protective or a domestic purpose or possibly both. Usually a thong was passed through four slits at the back of the sheath, near the top, to attach it to the belt (London Museum 1940, 189).

This latter fact links up well with the evidence for a thong attachment on at least one of the belts (p 158).

Decorated hilt fragment **II 34 (Fig 61.41)**

(drawn after conservation)

A calfskin sheath hilt fragment with red and possibly blue 'painted' decoration as well as the usual incised designs. About half of the hilt survives.

Method of manufacure

The hilt is made from two separate pieces of leather joined together by two side seams and containing a lining made from a single, plain piece of leather with one side seam. It also has traces of a seam along the top, possibly where the decorated panels were attached to the lining or for a decorative top-band. The grain surface forms the inside of' the lining and below the top are three blunt tooled grooves forming a band. The purpose of this is not clear unless they represent the impression of the handle where it pressed on the leather or it may simply be a reused piece of leather.

The two decorated panels combine a main and a side panel on each and as on the lining there is a top seam. Each panel has two overstitched side seams.

Decorative technique

Although the designs differ slightly on the main panels the same decorative techniques apply to both. At least three different tools have been used-a blunt tool for the grooves which act as a framework, a sharp knife for the more intricate designs, and a single point punch for the pricked background.

The use of a red dye and possibly even blue is very evident as this survives on the plain unworked surf-aces.

Side A

Set within a rectangular framework are four trefoil leaves with long, narrow stems which branch off' from the top curves of a rondel. The leaves have small decorative cuts and are alternately coloured red and plain/blue. At the base of each of the stems are short, sharp, incised strokes which could be interpreted as grass. The space devoid of the pricked background to the left of the rondel is red. The rondel encloses a geometrical design with cusps divided by small red triangular insets. Only half of this central design survives and it seems to be the hindquarters and rounded belly of some fantastic or zoomorphic creature. The red background accentuates the flowing curvilinear lines of the body as do the small decorative cuts used on the actual animal.

Side B

Similar to Side A in design and technique but there are basic differences. The trefoil leaves are arranged in two sets of three all branching from the same stem and between each stem is a single red trefoil leaf. The clusters of three are alternately red and blue/plain. In place of the rondel is a curved edge between two star-like points. The border is plain but the background to what could be another creature is red.

The side panels

Only the top halves survive but the design, of-long shallow grooves and red stripes alternating with the plain leather, is similar on both of them.

Comments

The use of red dye (and possibly blue) in the design is interesting and its survival on a knife sheath rare. Red paint was used in medieval leatherwork and its survival is probably due not only to the conditions in which it was preserved but also to good conservation in the laboratory after excavation.

. . . Probably most leatherwork was originally painted and sometime guilded . . . Traces of a red background are described on an allegedly 14th century box in York Museum, and similar remains of red are observable on a late medieval sheath in the Guildhall Museum.' (Russell 1939, 133).

The colouring may represent a red vegetable dye or an iron oxide.

The incised decoration uses techniques typical of this group ofsheaths. The small single point punches were used from the 14th century onwards and the use of sharp knives or pointed tools is a characteristically late medieval development often used to outline lettering. The enclosed animal motif is also of this period *(ibid,* 133, 137). Date-14th century.

Decorated hilt fragment II 34 (Fig 61.42)

Hilt end of a calfskin knife sheath, now in two separate halves. The two main panels are a coat of arms and birds and animals in rondels. There is also a decorated side panel with part of the slit fastening surviving.

Method of manufacture

Originally one piece of leather joined by a side seam. The top is knife-cut but there is a seam along the bottom edge presumably to join the next piece to it.

Decorative technique

Mainly blunt-tooling on a plain background, made when the leather was damp, although it may have been embossed. There are some small cuts in the design made with a sharp knife.

Side A-coat of arms panel

The coat of arms is of three lions/'leopards' set one above the other in a shield with a plain border. The shield itself lies within a rectangular framework with a plain border on all four sides. The triangular spaces at the bottom of the rectangle are each filled with a fleur-de-lys. The border below these has some short, decorative strokes along it.

The three lions/'leopards' diminish in size and artistic skill towards the apex. They are looking full-faced out of the shield and are in a walking pose. The lions have cheeky, grinning faces and their tails are raised high over their backs. The smallest lion is the least distinct, his limbs becoming absorbed in the lines of the shield as if it was not possible to fit him into the space available. In fact the hindquarters of all the lions tend to flow into, and get entangled with one another.

Below the rectangular panel is a plain border separating it from a panel of chevrons which also occurs on the other side.

Side B-birds in rondels

Now in three fragments which join together to form an incomplete panel. The left side panel is still attached and is fairly intact. Four rondels containing birds are arranged in each of-the four corners of a rectangular frame set within a plain border. The rondels also have a plain border which is used as a link in the overall design. Stylized foliage fills the remaining areas enclosed by the rectangle. There is some slight dotted decoration within the plain borders.

The top left rondel contains an upside down, stylized bird, with wings, legs, a beak, and an eye. It is joined to the incomplete top right rondel which contains a similar design only it is the right way up. In the bottom left rondel is another bird with beak, eye, wings, legs, and a tail, also the right way up. Although most of the lower right rondel is missing it would appear on the surviving evidence to be the same as the diagonally opposite design.

The band of chevrons is decorated with grooves and a seam runs along the bottom of this.

The side panel and side fastening

Only the lower slit survives for the leather thong which attached it to the wearer's belt. The design of tooled lines made in the leather is set inside a narrow panel. The main pattern is a plain, diagonal band with a groove along the centre with a triangle on either side. The rest of the panel is covered in short, horizontal grooves producing a striped effect.

Comments

The coat of arms panel can be interpreted in one of two ways:

1. It could represent Edward I's youngest son, Edmund of Woodstock, 1st Earl of Kent, who was born in 1301 and executed in 1330. The arms were also borne by his two sons and passed down through the family. The coat of arms is that of England but with a plain border which denotes it as belonging to a member of the Royal family. In 1329 the Earl of Kent visited Leicester with Mortirner and it would be tempting to link this with his visit.

2 It could be the English coat of arms before 1340 as the border is not wideenough to be definitely the former (J Cherry, pers comm).

However, what does emerge is that it must date from the first half of the 14th century.

A good parallel to the coat of arms panel comes from a late 13th century scabbard from London (London Museum 1940, pl XLIII, 192) and there is also a parallel of the combination of-engraved armorial bearings and the design with an acanthus scroll filled with monstrous birds or animals *(ibid,* 187). This latter design has a late 12th century origin, continuing into the 13th and 14th centuries. The combination of this with the heraldic shield probably dates from the 13th century, reflecting the growing fashion for engraved armorial bearings. It seems likely that the bearings were often those of the owner, but this assumption is difficult to verify (Russell 1939, 136).

The chevron ornament is a feature of medieval leatherwork from the 13th to the 15th century.

Decorated part of a spectacle or pen case II34 (Fig 61.43)

This calfskin fragment has eventually been interpreted as part of a spectacle case (Groenman-van Waateringe, pers comm). It could also be interpreted as a pen case or some form of-pouch.

Method of manufacture

Made from a substantial, single piece of leather joined by one side seam and with another seam across the tapered end. The top is knife-cut, the leather being lmm thick. There are two slits cut one above the other in each of the side panels to take a thong which would pass underneath the case. The side seam does not overlap but forms a butted/closed seam.

The decorative technique

A blunt tool was used to outline the face, mane, and rectangular frame and a sharp knife point for the finer, secondary details.

Design

This is basically identical on both of the main panels. A rectangle forms the framework for the triangular face. The main facial features are the eyebrows, two slanting, elliptical eyes, a snub nose, high cheek bones, and the open, grinning, triangular mouth. These are accentuated by the sharper, finer lines which are also used for the whiskers. The triangular shape of the face is complemented by the flowing curves of the mane complete with short, sharp strokes portraying the hair. The entire face is set against a cross-hatched background which must have been done with a fine tool. This type of decoration is also found on a knife sheath from Hull. Cross-hatching also occurs in the band next to the bottom seam.

It has been suggested that the design was originally a trefoil (ie the two eyes and the nose) set in a triangle and that the lion's face was an afterthought. However, it can be seen as a complete design with the main lines engraved first of all and the sharp incised lines secondary to this.

Side panels

Below the top edge on each side is a slot made by two slits cut one above the other for the leather thong. Both panels are bounded by the borders of the main panels and the only surviving decoration is small lines similar to the cross-hatching and some shallow grooves.

Comments

This particular fragment has always posed a problem as to whether it could be interpreted as part of a knife sheath. Against this theory was the seam across the bottom of-the fragment and the fact that, when worn as a knife sheath, the face would appear the wrong way up to the wearer. The leather also seems stronger and thicker than the other fragment.

The fragment does bear close similarities in shape to a pouch for surgeon's instruments of 16th century date (British Museum 1924, fig 37, 59). It may well have served as a pen case which was attached to the belt with a cord *(ibid,* 211) although these were commonly made of 'cuir bouillé' (waxed leather) and this is soft.

However, the most likely interpretation is that it is the bottom half of a spectacle case, similar to examples found in Amsterdam (Groenman-van Waateringe 1972, 25, 26). These measure 60mm wide by 70mm long and 80mm square respectively, which compares well with the 54mm wide by 64mm long of-the friary example. The spectacles would have been metal-framed and would have folded over double to fit into the case. Date- 14th century.

Phase 3D

Area II 33. Fig 62.44-45

Complete, decorated knife sheath II 33 (Fig 62.44)

Knife sheath which IS complete apart from the broken point and a cut in the leather below the hilt. The incised pattern of criss-cross and diagonal lines is markedly different from the stylized animals and foliage found on the other sheaths.

Method of manufacture

Made from a single piece of-sheepskin joined together her by a single, overstitched seam which runs down the centre back The projecting fold, which forms the handle, has a hole pierced through the top to take a thong for attachment to a belt. Not only is there a conventional break in the design between the hilt and the blade but also a distinct narrowing in the width.

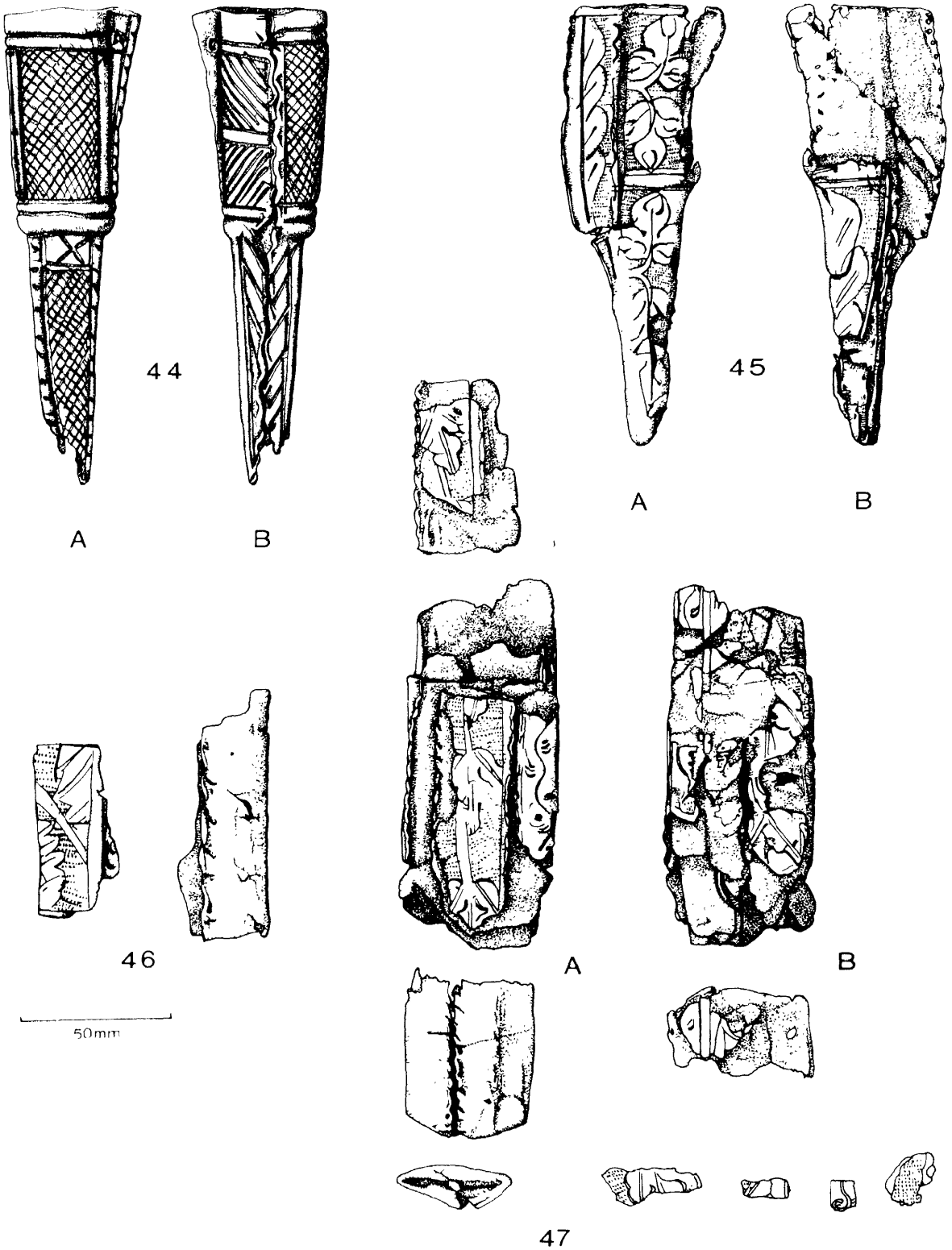

Fig 62 Leather: knife sheaths, 44 47. Scale 1:2

Side A- the front

This has two decorative panels of criss-crossing, one on the hilt and the other on the blade. That on the hilt has been made with a sharp knife making diagonal cuts from right to left followed by shorter, elliptical cuts between them from left to right. The cuts follow the curve of the handle.

The top and bottom of the hilt have a plain band divided by a blunt-tooled groove. The panel on the blade lies below a small rectangle containing a cross cut in the leather. The criss-crossed panel narrows following the taper of the blade. On both sides are narrow, notched panels.

Side B - the back

This is divided in two by the back scam which runs down its length. On one side of the hilt is a narrow rectangular panel of criss-crossing. and on the opposite side are two panels of-diagonal line decoration. The former is divided from the front panel by a plain narrow band containing an incised line cut by three small notches. The panel of diagonal lines is divided into two halves by a plain band which produces a herringbone effect.

This diagonal line design is repeated on the blade on both sides of the back seam. The lines slope downwards to the seam and are bordered by grooves. The back and front of the blade are divided from each other by an undecorated area.

The fold fastening

Apparently this type of fastening is characteristic of sheath dating to the 13th-14th centuries (London Museaum 1940, 187). The fold projects from the hilt at the top, gradually tapering into the hilt and ending on a line with the bottom of the criss-crossed panel. It has ten notches cut in the fold and tooled grooves on the front face.

Decorative technique

A blunt tool has been used to produce the shallow grooves, notches, and diagonal lines, presumably when the leather was damp, and a sharp knife has made the criss-cross lattice decoration.

Comments

The persistence of-old design long after new styles have come into fashion is typical of the minor arts, and the frilled scroll is not the only Anglo-Saxon motif-to last into the Middle Ages. A sheath of supposed English workmanship found at Lund in an early 14th century level is decorated with an engraved interlace pattern. The sheath is designed for a wide, straight-backed knife, and a fold bored with two holes to receive a thong projects from the upper part where a panel in the design indicates a handle. It corresponds closely to a considerably larger sheath (British Museum 1924, pl V No 1) which would seem to be a distinctive 13th-14th century type (Russell 1939, 136).

Another pre-Conquest decorative motif, which appears also on medieval leatherwork, is the interlace. In a modified form it is found as late as the 13th-14th century on sheaths (London Museum 1940, 187, pl XL No 1 and pl XLIV No 1) which are characterized by a fold pierced for thongs projecting from the handle panel. An example of this distinctive type, presumably of English origin, is recorded from Lund *(ibid, 187).*

The best parallel for the friary knife sheath is of 14th century date from Westminster, London, which has criss-crossing and interlace *(ibid,* pl XLIV). There is also a knife sheath from York with diagonal hatching which is dated on the design to the 13th-14th century (Richardson 1959, 103 and fig 29.3). They also feature on a medieval knife sheath from Hull.

A date in the 14th century on design and context seems likely.

Complete decorated knife sheath (Fig 62.45) **II 33**

A virtually complete, decorared knife sheath with foliage against a pricked background. There are also possible traces of a red dye used in the design. The transition from hilt to blade is marked by a change both in the decoration and in the width.

Method of manufacture

The outer, decorated surface is made from a single piece of' calfskin sewn together by a side seam. Inside the blade is a lining with a similar side seam. Other lining fragments from the blade and hilt suggest a third layer, possibly a second lining.

There is little evidence remaining for the means of attachment but it may have been a small fold on the surviving evidence.

Side A - the front

The decoration on the blade and hilt is separated by a plain 10mm wide hand. The rectangular panel contains two trefoil leaves sprouting from a common stem which itself branches from a groove down the side of the panel. these are set against a pricked/punched background. The same design is repeated on the blade but because of the tapered point the lower leaf is elongated to fill the available space. Each leaf is picked out with meised lines denoting the ribs and veins.

The folded 'handle' is plain a rew of seamholes running along a line between the decoration and the fold proper and with traces of a seam down the edge

Side panel of hilt

The design on the hilt side panel is separated from the front by a shallow groove made with a blunt tool. Close to this are the traces of a thin, wavy line. The main decoration, though, is a panel of four overlapping leaves each with a single rib and branching from a shallow groove. They, too, are outlined by a pricked background. Possible traces of a red dye remain on these leaves. A plain border separates this panel from the side seam. This design continues below the conventional break which occurs on the front and back of the sheath.

Side B - the back

Only the blade survives and even then this has worn away at the point. The design is obviously the same as that on the side panel: two and a half out of a possible four overlapping leaves survive on a pricked background, each with two medial ribs.

Decorative technique

At least three different tools have been used. These were a blunt tool to produce the shallow grooves, a sharp knife to cut the foliage, and presumably a single point punch to produce the pricked background. This type of decoration is paralleled in a mid 14th century knife sheath from Hull.

Comments

The design is similar to the knife sheaths from phase 9A (II 32) and a pricked background is also used in sheaths from phases 2D and 7A (Fig 61.41 and 62.47). There is a

parallel to the single leaves on a punched background from London (London Museum 1940, 194, fig 61.1). Incised foliage scrolls, vine or ivy, against a punched background were popular from the 14th century onwards (Russell 1939, 139). Date-14th century.

Phase 7A

Fragments of two knife sheaths came from this level, one of which is illustrated.

Fragments of a decorated knife sheath II 60 (Fig 62.46)

These literally are fragments of the sheath and its lining. The lining has a single side seam. The decoration which survives is a pricked background with two incised, pointed, and ribbed leaves divided one from another by a plain diagonal band. A plain band also occurs below one of the leaves (see Fig 62.45 and 47). Part of the side panel survives with a shallow groove and two curved lines.

It comes from a 15th century context but it could be 14th century. Not illustrated are some very small decorated leather fragments with incised and grooved lines and a pricked background.

Phase 9A

Decorated scabbard/sheath II 32 (Fig 62.47)

There is one large piece surviving and several smaller, sheepskin fragments.

Method of manufacture

It comprises several overlapping pieces of leather-probably four thicknesses-sewn together by whipped seams running lengthways. The thick 'epidermis is decorated, with the side seam running between two decorated panels. Underneath this is a plain, thicker layer with an overstitched side seam and below this is an intact, though delaminated, folded-over piece of leather also with a side seam. Yet another seamed lining remains under this. In all there is one decorated outside 'skin' and three folded linings to this. Separate from the main fragment is the I.'-shaped point with its grain surface inside. Forming the end of one of the linings, it has a back seam and, to make it secure, the open end of the leather was first folded upwards and inwards and then the sides folded over in line with the back seam.

Decorative technique

A sharp, pointed tool was used to cut the vine leaf scroll and a single point punch used for the punched background which is characteristic of several of-the knife sheaths. The decoration is unfortunately badly worn and has deteriorated.

Side A

This side retains the most decoration. The main panel has a plain horder edging the side seam and a design of foliage on a pricked background. The trefoil leaves have long stems and wavy edges and the central ribs are picked out by two thin incised grooves. It is difficult to say if they are meant to represent a particular type of leaf-but I shall refer to them as vine leaves.

The side panel also has a plain border edging the side seam and also dividing it from the other side of the scabbard. Its engraved wavy line design flanked on both sides by short, curved lines could be interpreted as stylized leaves and buds.

Side B

This face is badly worn and there is no surviving evidence for a seam. However, the same basic pattern of-foliage on a pricked background is discernible. There is also a repetition of the design on the side panel, separated by a plain band from the main face.

There are several other decorated fragments which can be joined to the front and back of the large fragment. Not all of the fragments are illustrated.

It was impossible to discover the leather type as the gram surface had worn away.

Comments

A similar design has already been noted on the other sheaths and scabbards in the collection (see Fig 62.45). A suggested parallel is in the London Museum (1940, 194, fig 61.4). Although it comes from the late 15th century 1538 destruction level it could date from the 14th century on design alone.

It will be seen from this study that the knife sheaths from the friary show definite distinctive characteristics which can be paralleled in medieval leatherworking.

These are:

1 The use of a punched/pricked dotted background which apparently was popular in medieval leatherwork from the 14th century onwards (four examples).

2 Incised foliage scrolls, vine or ivy, on a pricked background which were a late medieval form of decoration (three examples).

3 The use of armorial bearings and animals/birds in conjunction as decoration from the 13th century onwards (one example).

4 The use of-an abstract linear design (two examples).

5 The use of colour in the design which does not often survive but was probably a characteristic of medieval leatherwork.

Costume

Several fragments ofcostume leather other than belts and knife sheaths survived but these were sometimes too small and fragmentary to provide much information as to their type and function.

Again all the remains are from the south ditch and drain in Area II phases 2D, 7A, and 9A, apart from the 'washer', 'button' from Phase 10E in Area IV.

Phase 2D

Parts of a jacket II 34 (Fig 63.48)

(drawn after conservation)

Remains of a leather jacket of cattlehide. The front has one complete buttonhole and the remains ofanother one. The stitching along the slit shows how the leather was turned under and stitched in place on the inside flesh surface to give the buttonhole a smooth finish. The lower side of the other buttonhole survives. Down the opposite edge, below the arm, is a hammered leather seam, which curves inwards to allow for a triangular 'patch' and then runs along the bottom forming the waist seam of the jacket. Apparently it was a common practice in the Tudor period to patch below the arms where such patching would not be visible to an onlooker. In this case there are three such pieces: one fitting inside the curved front seam, thus

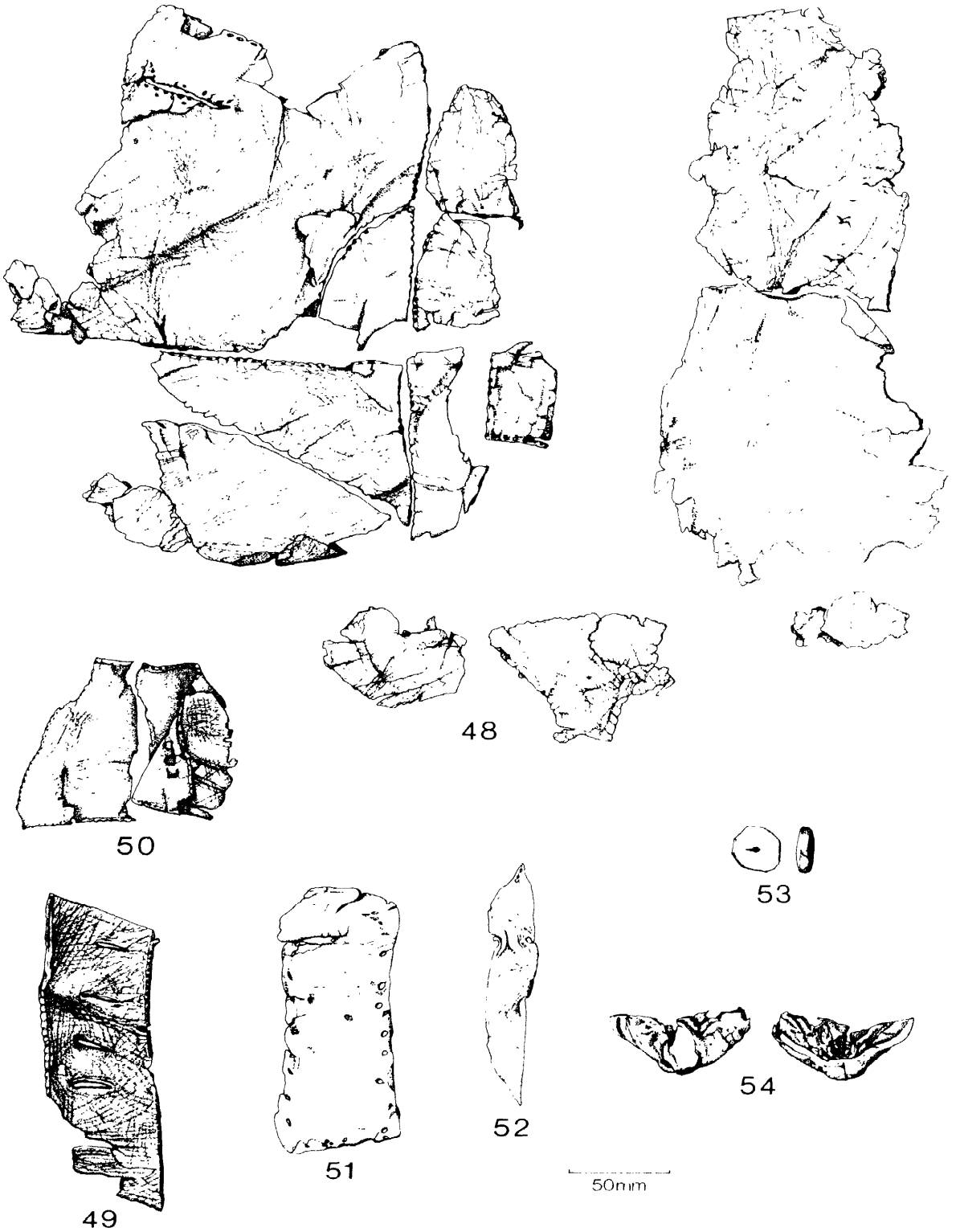

Fig 63 Leather: costume 48-54. Scale 1:3

producing a straight side seam, and two other patches which form the other half to this side seam and which also join together in a line with the point of-the small triangular inset.

Below the waist line would be a short skirt/gusset of' which at least three pieces survive. The main piece lines up with the front of the jacket and continues the line of the side seam. A small fragment joins this seam below the waist.

There is also a small rectangular tab with one edge worn away. It was probably purely decorative, sewn on along its top edge as the seam implies, and then perhaps the other edges were bound, on the surviving evidence of a whipped seam down one side. However, it could also have acted as a loop for a belt. There is also another fragment with the remains of another buttonhole slit.

Two large pieces of leather are all that remain of-the back, and there are slight traces of a seam at both ends.

There are cuts in the leather made with a knife which indicates that it was being cut up for scrap. On the absence of deliberate slashing it can be identified as a jacket rather than a jerkin which are usually post *c* 1500 (J Arnold, pers comm).

Phase 7A

A leather facing with buttonholes II 61
(Fig 63.49)

A leather f-acing with seven buttonhole slits down its length. The facing could have been sewn to a woollen/cloth garment as well as to a leather garment. There is a hammered edge/flesh seam along one side and a whipped scam along the top and down the front edge, probably for a binding. The other edge is knife-cut. The button holes are knife-cut and smaller towards the bottom.

There is no way of telling where it is from or from what type of garment it is. The term 'hammered seam refers to a technique described by Garsault *c* 1770, of attaching a separate strip ofleather seam to the garment. A hammered scam possibly occurs on the jacket.

Buttonholes and lace fastening II 60 (Fig 63.50)

A complete triangular fragment of leather with three edge/flesh seams. Near the one corner is a slit with a square end identified as a buttonhole. Below are the traces of another slit and possibly a third below this. Finally there are three pairs of diagonal cuts with a lace still threaded through the top one. There are some other cuts in the leather near the edge but these may not be associated with the fastening. These three pairs of slits were obviously intended to t thread the ends of laces through. This could also be part of a fastening to a boot rather than part of a jacket.

Phase 9A

Pocket flap II 32 ext (Fig 63.51)

(drawn after conservation)

A rectangular piece of leather with stitching along all four sides, identified as a pocket flap; it could be 18th century in date but since this layer is connected with the Dissolution of the friary in 1538 it therefore dates from a late 15th mid 16th century context (J Arnold, pers comm). Leather-probably cattlehide, grain side outwards.

'Point' from jacket II 32 (Fig 63.52)

(drawn after conservation)

Narrow length of leather, pointed at both ends, with two tie holes near one end. Along one side is an edge/flesh seam, while the other edge appears to be knife-cut. It could represent either part of a shoe upper or a piece of costume cut up to form a decorative 'point' to a jacket/jerkin. The grain surface is outside, and some of the leather has delaminated on the inside.

Phase 10E

'Washer'/'button' IV 14 (Fig 63.53)

Small, circular, leather 'washer'/'button' with knife trimmed edges and a central slit. There are thirteen facets to the edge. There is a parallel to this from St Neots (Thornton 1972, 102, 103) and from Sewer Lane, Hull in a 16th century context. Again the purpose is unknown (Armstrong 1977, 59, 60). If this was a button it would have needed a metal loop with a bobble on top to prevent it from slipping through. It could also just be an offcut.

Phase 7A

Nose and upper lip of dog II 61 (Fig 63.54)

(drawn after conservation)

Finally an unusual item which is worthy of mention even if as the original 'Hush Puppy'. It is the preserved nose and upper lip of a dog (Jewell, pers comm). The muzzle survives in very good condition complete with the original hair. The holes for the whiskers also survive along the upper lip as well as the nose. It has been cut off from the rest of the animal with a knife. It raises an interesting question as to whether the friars/cobblers made use of what we-could consider pets for items of clothing. Dogskin was used on occasions but would be of poorer quality than the traditional cattlehide.

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The human bones

Ann Stirland

A detailed description of the human skeletal material is included on microfiche 1 of 2. A summary of the information and the conclusions drawn from it is set out below. The burials were divided into four groups according to where they were found:

Group 1. The chapter-house. Phase 7C. Graves l-5, 16
Group 2. The east cloister alley. Phase 3E. Graves 6-15
Group 3. The cloister garth. Phase 3C. Graves 17,18
Group 4. South of the church. Phase 7C. Graves A-C, E-J

Discussion

Altogether 26 skeletons were recorded from the site of which 25 are described below As the total is relatively small the information to be gained is limited. Nevertheless some inferences may be made.

Group 4 is a small group of eight individuals all of whom are both male and adult, with the exception of one late adolescent, burial H. Of the rest, the ages range from 17-25 (burial C) at the lower end, to 35-45 (burial J) at the upper.

Of the measurable skulls, three are Dolichocephalic (long headed), and their values are very close. These three are also close in height, all being 6ft or thereabouts. They are all in their twenties. The other two skulls are medium and round headed, an interesting variation in so small a group. All the skulls had a moderate or heavy amount of 'bunning' of the occiput (back), and fairly heavy brow ridges. Stature varied from 5ft 6½in to 6ft. Their physical type would seem to fall within the range of variation for medieval populations.

Their physique varied, but would appear to have been on the robust side and in some cases, especially Grave B, was very strong.

There are squatting facets, indicating the habitual adoption of a squatting posture, on the lower articular surfaces of the only two surviving tibia (shin bones). Those on the shins of Grave A are quite large.

The outstanding pathological condition of these bones was reaction to chronic strains or trauma. Osteoarthritis, reflecting the 'wear and tear' of joints, was present in many of these men, even the younger ones. Schmorl's nodes were present in at least one case. These are deformities of the spinal column, due to straining, from humping heavy loads, etc. In a lot of cases, there seems to have been straining or trauma of the left side of the neck or upper girdle, and there is damage and collapse of many lumbar vertebrae, suggesting heavy manual work.

The presence of wormian bones in many of the skulls could indicate a related population, drawing on a fairly restricted gene pool, a suggestion perhaps born out by the close cranial indices and stature of the three skeletons referred to.

The two burials in group 3 were too fragmentary for any conclusions to be drawn but groups 1 and 2 had some interesting characteristics. Of the total of seventeen individuals represented in both groups at least nine are children, adolescents, or very young adults. This is particularly the case with group 1, all of whom are young, and none of whom, with the exception of burial 2, shows any kind of-disease or pathology. They appear to be a separate group and the fact that they come from a different burial area, namely the chapter-ho&e, comes as no real surprise.

It is very difficult to make positive statements about genetic relationships, especially in so small a total sample, but there are some interesting Features which give rise to reasonable speculation in group 2. There is a similarity in head shape between burials 6, 9, and 11, all falling fairly closely in the Brachy-and Mesocephalic ranges. Roth 6 and 11 are markedly shorter than the rest, although burial 6 at 5ft 2in may well be a woman. Equally, these two skeletons both show the same anomaly in molar development and both fall within the age range 30-45 years. A genetic relationship would seem to be indicated in the case of at least these two burials, 6 and 11. It must be added here that there are insufficient measurable skulls to indicate whether a majority of this group were Brachycephalic, but certainly the majority of the teeth do not have these molar anomalies. It is of-interest that burial 9 contains the postulated coffin nails.

The outstanding pathological condition of group 2 as well as group 4 seems to have been reaction to continual strains or trauma. This is reflected in the amount of osteoarthritis, occurring with the 'wear and tear' of-joints, and in the tibia1 exostoses shown by burials 7 and 14 and probably caused by chronic or persistent muscle damage or wear.

The presence of wormian bones in the cranial sutures of six of the burials in groups 1 and 2 could indicate a related population drawing on a restricted gene pool, and it is Interesting to note that five of-these skulls are in the first group of six.

If the presence of extra, wormian bones in the sutures of the skull does represent a related population, then there are some relationships so expressed here. Six of the eight burials in group 4 have these bones, as do five of the six burials from group 1. It is not possible to determine the head shapes of group 1 to see whether they fall within the same range as those of group 4. Only one skeleton in group 2, number 8, has these wormian bones. Of the three burials from groups 1 and 2 who have the bony exostoses at the top of the tibia, one of them, number 5, is also from the group with the wormian bones, although he has light muscle markings.

There are twelve definite, measureable males in the whole group, whose stature varies from 5ft 6½m to 6ft lin. Those at the lower end of the range are also more gracile

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Group 4 is a small group of eight individuals all of whom are both male and adult, with the exception of one late adolescent, burial H. Of the rest, the ages range from 17-25 (burial C) at the lower end, to 35-45 (burial J) at the upper.

Of the measurable skulls, three are Dolichocephalic (long headed), and their values are very close. These three are also close in height, all being 6ft or thereabouts. They are all in their twenties. The other two skulls are medium and round headed, an interesting variation in so small a group. All the skulls had a moderate or heavy amount of 'bunning' of the occiput (back), and fairly heavy brow ridges. Stature varied from 5ft 6½in to 6ft. Their physical type would seem to fall within the range of variation for medieval populations.

Their physique varied, but would appear to have been on the robust side and in some cases, especially Grave B, was very strong.

There are squatting facets, indicating the habitual adoption of a squatting posture, on the lower articular surfaces of the only two surviving tibia (shin bones). Those on the shins of Grave A are quite large.

The outstanding pathological condition of these bones was reaction to chronic strains or trauma. Osteoarthritis, reflecting the 'wear and tear' of joints, was present in many of these men, even the younger ones. Schmorl's nodes were present in at least one case. These are deformities of the spinal column, due to straining, from humping heavy loads, etc. In a lot of cases, there seems to have been straining or trauma of the left side of the neck or upper girdle, and there is damage and collapse of many lumbar vertebrae, suggesting heavy manual work.

The presence of wormian bones in many of the skulls could indicate a related population, drawing on a fairly restricted gene pool, a suggestion perhaps born out by the close cranial indices and stature of the three skeletons referred to.

The two burials in group 3 were too fragmentary for any conclusions to be drawn but groups 1 and 2 had some interesting characteristics. Of the total of seventeen individuals represented in both groups at least nine are children, adolescents, or very young adults. This is particularly the case with group 1, all of whom are young, and none of whom, with the exception of burial 2, shows any kind of-disease or pathology. They appear to be a separate group and the fact that they come from a different burial area, namely the chapter-ho&e, comes as no real surprise.

It is very difficult to make positive statements about genetic relationships, especially in so small a total sample, but there are some interesting Features which give rise to reasonable speculation in group 2. There is a similarity in head shape between burials 6, 9, and 11, all falling fairly closely in the Brachy-and Mesocephalic ranges. Roth 6 and 11 are markedly shorter than the rest, although burial 6 at 5ft 2in may well be a woman. Equally, these two skeletons both show the same anomaly in molar development and both fall within the age range 30-45 years. A genetic relationship would seem to be indicated in the case of at least these two burials, 6 and 11. It must be added here that there are insufficient measurable skulls to indicate whether a majority of this group were Brachycephalic, but certainly the majority of the teeth do not have these molar anomalies. It is of-interest that burial 9 contains the postulated coffin nails.

The outstanding pathological condition of group 2 as well as group 4 seems to have been reaction to continual strains or trauma. This is reflected in the amount of osteoarthritis, occurring with the 'wear and tear' of-joints, and in the tibia1 exostoses shown by burials 7 and 14 and probably caused by chronic or persistent muscle damage or wear.

The presence of wormian bones in the cranial sutures of six of the burials in groups 1 and 2 could indicate a related population drawing on a restricted gene pool, and it is Interesting to note that five of-these skulls are in the first group of six.

If the presence of extra, wormian bones in the sutures of the skull does represent a related population, then there are some relationships so expressed here. Six of the eight burials in group 4 have these bones, as do five of the six burials from group 1. It is not possible to determine the head shapes of group 1 to see whether they fall within the same range as those of group 4. Only one skeleton in group 2, number 8, has these wormian bones. Of the three burials from groups 1 and 2 who have the bony exostoses at the top of the tibia, one of them, number 5, is also from the group with the wormian bones, although he has light muscle markings.

There are twelve definite, measureable males in the whole group, whose stature varies from 5ft 6½m to 6ft lin. Those at the lower end of the range are also more gracile

than the others, without the heavy bone growths and pathologies resulting from continual heavy manual work.

The condition of the teeth is generally good, although indicating a fairly coarse diet.

It would appear, on the osteological evidence, that there are indeed three distinct groups of people buried here (excluding group 3) although two of these groups (1 and 4) may be related to each other, as may at least two individuals in the third (2).

To the south of the church is a group of eight strong, hardworking males, engaged in continual hard manual labour for the most part. In the chapter-house is a group of young people who may well be related to the first group (4). Group 4 also appears to be composed of predominantly Dolichocephalic or long headed people, while group 2 contains at least two individuals who are Brachycephalic or round headed, and who have similar tooth anomalies. These two would seem to be related genetically.

I understand that group 2 is earlier than group 1 at least, and the suggested relationships between groups 1 and 4 may indicate a similarity of date between them. It is, therefore, at least arguable that there is one early group buried in the cloister alley under a tiled floor, some of whose individuals are related. There is then a later different population, the manual workers of which were buried outside the church and the rest inside.

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The environmental evidence

Maureen Grling

At the site of the excavation of the medieval friary at Austin Friars, Leicester, macroscopic plant and animal remains have been recovered from two series of samples from the infills of ditches II and IV. The resulting plant, insect, and mollusc assemblages have provided overlapping information about the environment of the friary and the surrounding area. The limited occurrence within the samples of important indicator species suggests environmental changes which are supported by overall faunal and floral variations.

Recovery methods

Samples for environmental analysis were collected by Mr T Pearce. The stratigraphy of the waterlogged deposits was recorded and samples of approximately 2 kgs were taken vertically through the sections. These were placed in labelled polythene bags and stored in a deep freeze. The generally good preservation of all biological material subsequently recovered from the samples indicated that freezing did not damage the remains and it prevented drying out of the samples, a particularly damaging process for insect remains.

All samples were subjected to the paraffin flotation technique (Coope & Osborne 1967). The samples were disaggregated in warm water, washed through 300 micron sieves, and the retained fraction was drained and mixed thoroughly with paraffin, then cold water was added. After allowing the sample to settle, the flotant was poured into the sieve, washed in detergent followed by alcohol, and finally sorted under a binocular microscope. Shells, insect sclerites, and plant remains were recovered in this fashion. The technique did not, however, successfully recover heavier plant remains such as nuts and dense seeds or robust or sediment filled shells; therefore, after the samples had been subjected to several cycles of the treatment, the non-floating residues were washed through a graded series of sieves and the remaining fractions were sorted for these heavier biological remains.

The botanical remains were identified by Miss P Paradine, Mollusca jointly by Mr T O'Connor and the author, and Insecta by the author. All identified material has been stored in 100% alcohol.

The list of species from each of the Austin Friars samples is given in the appendix, microfiche 1 of 2. The nomenclature for the flora follows Clapham *et al* 1962, that of the Mollusca Ellis 1969 and McMillan 1968, and Coleoptera follow Pope's 1977 revision of Kloet and Hincks. The numbers given for each of the samples represent a minimum total based upon common identified parts.

Identifications of special interest

Generally the good state of preservation of most of the biological remains permitted precise identification except in the case of damaged specimens. Several of the taxa identified from this site are worthy of attention; notes on these are given below.

Thuja plicata A single, well preserved fruit recovered from sample 4 of ditch II has been identified as *Thuja,* probably *T. plicata,* the Western Red Cedar. This is a North American species introduced to Britain in 1853 (Mitchell 1974) and the fruit recorded from the sample is likely to be of modern origin.

Trichotropis borealis From sample 6, ditch II, in which a concentration of marine shells was recorded, a small fragment was recovered of a thick-walled shell in which the periostracum (outer horny layer) was produced into short projections on the ribs. This has been matched with a specimen of *Trichotropis borealis,* a marine species which today extends as far south as the Dogger Bank and which is collected by dredging.

Theodoxus fluviatilis Amongst the gastropods which are confined to hard water are several examples of this characteristically shaped species, which is also known as the slipper limpet.

Gyrinus strigulosus Two well preserved elytra (wing-cases) of a species of *Gyrinus,* the 'whirly-gig' beetles, exhibited a pattern of oblique strigulation over the whole surface which clearly separated them from any British species. They were eventually matched at the British Museum of Natural History with Central European representatives of *G.strigulosus.* As the name suggests, *strigulosus* is characterized by fine *strigulation,* the feature displayed in the Austin Friars specimen. The related species, *G. colymbus,* occurs today in Britain, although it is exceedingly rare (Balfour-Browne 1950), but no record has ever been made of *strigulosus.* As this species is sufficiently

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different from all British representatives not to escape attention, its absence is likely to be a true feature, in which case the beetle has become extinct in Britain during the last four hundred years. Studies of a number of sites have provided a list of about twenty species of beetles which no longer live in Britain. Their disappearance has been attributed to two main factors: climatic change and forest clearance (Osborne 1965; 1976). The Austin Friars record is of particular significance as it represents the only post-Roman extinction so far known. The most probable explanation for the disappearance of this species is a climatic deterioration which wiped out the British population, and elsewhere the 'Little Ice Age' is suggested as the likely time at which this occurred (Girling 1978). Within the limitations of arguing from a single species, the presence of *G. strigulosus* in medieval Leicester suggests that the climate is unlikely to have been colder than that of the area today, an inference supported by other beetles which live wholly or predominantly in the southern half of the country.

Aglenus brunneus A large proportion of the beetles from the site display varying degrees of synanthropy. Many of these are species which occur naturally in Britain but which are favoured by man's activities in providing alternative, widespread habitats such as *Mycetaea hirta* (P1 12). Other species are more directly dependent upon man, and among these are beetles imported into this country in foodstuffs and other materials. One such species is *Aglenus brunneus,* a small blind beetle found in rotting vegetation and other materials which has been recorded in several Roman and later archaeological deposits. Its spread into this country has been documented from archaeological evidence by Kenward (1975; 1976) who has demonstrated that the theory that the species is a recent import from the New World is untenable, but rather that British populations of the beetle have resulted from infested cargoes from Europe. Two other imported pest species at Austin Friars, *Sitophilus granarius,* the grain weevil, and *Oryzaephilus surinamensis,* the saw-toothed grain beetle, are both commonly encountered in most urban archaeological deposits from the Roman period onwards. These species are illustrated in Plates 13 and 14.

The environment and environmental changes

The seed, insect, and mollusc assemblages provide a mosaic of evidence from in and around the site. The strongest indications are of the nature of the receiving deposit, in this case the ditches, and remains of ditch-living and aquatic plants, snails, and insects are present in most samples. The remainder of these assemblages have been derived from the surrounding area, notably from buildings or other structures, as evidenced by the presence of household pests which are flightless and which therefore are likely to have been living in the immediate area, and from the surrounding fields.

The assemblages from the two ditches indicate a similar environment for each. The freshwater molluscs which have precise pH requirements favour hard to neutral water and include *Bythnia tentaculata, B. leachi Lymnaea auricularia,* and *Acroloxus lacustris.* The species are divided between those preferring flowing water, such as B. *leachi* and *Valvata piscinalis,* and others which live in still and often vegetated water. The latter group includes *Planorbis contortus* and *P. planorbis.* Another species commonly found in marshy situations is Lymnaea *palustris.* Seeds have been recovered from a number of typical pond or stream bank plants including *Brassica nigra* (black mustard), *Mentha aquatica* (water mint), *Alisma plantago-aquatica* (water-plantain), and reeds and sedges. Several water-beetles are present including *Colymetes fuscus* and species of *Gyrinus,* both of which swim in stretches of open water, and there are also numbers of pondside species which live in damp mud and vegetation at the water's edge. *Helophorus* spp. and other species of Hydrophilidae provide examples of these. The environmental remains support the conclusion from archaeological evidence that the ditches originally formed a moat around the site.

Plants and weeds indicate that the land bordering the ditches was made up of both wet meadows and drier areas, some of which were cultivated. *Agrostemma githago* (corncockle) is notable as a cornfield pest. Whether or not cereals were grown in the area, there is insect evidence of their storage. Other weeds of cultivated land include *Torilis nodosa* (knotted hedge-parsley), *Lithospernum arvense* (corn Gromwell), and *Plantago major* (plantain). Legume cultivation is indicated by the occurrence of *Bruchus rufimanus,* the bean beetle. Other beetles which are found on cultivated soils include *Pterostichus madidus, Agonum muelleri,* and *Amara familiaris.*

Various indicators of wet meadow and other grassland may be correlated with the evidence from animal-associated insects to indicate grazing in the area. Typical damp meadow plants include *Lychnis flos-cuculi* (ragged robin), whereas *Rununculus bulbosus* (bulbosus buttercup) is usually found in drier pastures. The terrestrial gastropod *Vallonia excentrica* is often taken in dry fields where it lives under stones or at grass roots. The presence of grazing animals is suggested by about fifty individuals of *Aphodius* spp., dung beetles. Other species which are often found in dung include numbers of *Anotylus* species, *Coprophilus striatulus,* and *Platystethus arenarius.* Dung also provides a suitable habitat for *Sphaeridium scaraboides* and *Cercyon* spp. Records have also been made of two other animal-associated species, carrion feeders; *Trox scaber* which feeds on bones and skins and *Catops* or *Choleva* sp.

The pattern of agricultural and pastoral land use is completed by suggestions of limited areas of hedgerow or small copses. The bark beetle *Leperisinus varius* feeds on various trees including oak and the mollusc *Zonitoides excavatus* is often found in dead wood or leaves in woods. The ground beetle *Bembidion harpaloides* is also a typical inhabitant of woods where it is frequently found in trees or under bark. It is relevant to note that as well as the independent lines of evidence supporting similar conclusions for land use, there are indications of interdependence between the plant and animal groups, and a number of plants represented by seeds or other remains are host species to the phytophagous element of the beetle fauna.

An important source of information about activities in the habitation site is provided by the beetle fauna and several aspects of life are evidenced by components of this fauna. The cereal pests *S. granarius* and *O. surinamenis* indicate that cereals were stored on the site, the former feeding on whole grains while the latter is restricted to damaged or insect and fungus-infested stores or to flour and other cereal products.

Records of such infestations are common from archaeological deposits from urban areas and it is possible that, since the introduction of the pests in Roman times and before the advent of modern insecticides, most grain stores supported populations of these beetles. Both species regularly overwinter in buildings in Britain and *S. granarius* is capable of overwintering in unheated buildings (Solomon & Adamson 1955). As well as grain storage areas, most habitation sites would provide a variety of buildings,

stables, and even bird cotes which would supply suitable habitats where the species could survive during periods of-cleaning or rebuilding of storage areas, and these surviving populations provide centres from which infestation of new grain stores can take place. In this way, continuous infestation is maintained.

Some significance may be attached to the absence of other insect pests, particularly those whose attacks follow infestation by such species as *S. granarius.* These include species of Tenbrionidae which feed on moulds or fungi growing on insect-damaged cereal, and which are especially common in food stores, granaries, and maltings. It is possible that the absence of this type of insect indicates that the grain storage areas were well planned and/or frequently swept out to prevent any build-up of-these pests.

The orderliness apparent in grain storage appears to extend over much of the habitation site. Household pests are present; in addition to the imported insects other records include *Niptus unicolor,* a common inhabitant of houses and larders, and *Mycetaea hirta,* a species usually found in haystacks, flooring, stables, and other buildings. Such records in the Austin Friars, however, are much scarcer than are usually found in urban archaeological deposits. A possible explanation for this is that the receiving deposit was removed from the actual buildings whereas in other sites, such as the Viking excavations at Lloyds Bank, York, the sample material consisted of waterlogged layers of actual flooring (Buckland *et al* 1974); elsewhere, rubbish pits often provide a likely source of environmental material. In these cases, the indigenous rotten vegetation/ dung/household pest element of the fauna is always abundantly represented. The presence in the Austin Friars ditches of *S. granarus, O. surinamensis* and *A. brunneus,* beetles which are flightless, indicates, however, that a proportion of the fauna from the buildings was reaching the deposit and hence the assemblage may provide a valid basis from which inferences may be made on the general site conditions. If the fauna is representative of-the whole site it indicates that as well as a well planned drainage system and good storage conditions, the friary's occupants enjoyed a higher standard of cleanliness within and around the buildings than is usually encountered in urban sites of similar age.

There is no direct evidence from the insect fauna as to whether animals were stalled in or around the friary, although hay, bedding, and stable sweepings may have provided a habitat for numbers of the insects, especially the Staphylinidae. The significance of the animal bones recovered from the site is discussed elsewhere in this report by Mrs C R Thawley. In addition to the stores of-cereals and other plants, another source of-food is indicated by the remains of marine molluscs imported to the site. Three species, *Ostrea dulls,* the oyster, *Mytilus edulis,* the mussel, and *Cerastoderma edule,* the cockle, may have been Important. In addition the freshwater swan mussels which probably lived in nearby rivers may also have been gathered for food.

Records in the samples of numbers of wood-boring insects which can cause serious damage to dry timber indicate its use as building material. The most serious pest is *Xesrtobium rufovillosum,* the death watch beetle (P1 15). The two tree species most commonly attacked by this beetle in the wild are oak and willow, although a variety of other species, including beech, are also affected. Indoors, the most frequently infested timber is oak (Hickin 1968). Huckland (1975), discussing the role of synanthropy in the spread of the beetle, has suggested that records of the species in the northern half-of-the country have resulted from the transport of-already infested timber.

The related species, *Anobium punctatum,* the woodworm or furniture beetle, is a very widespread pest of dry timber, attacking both hardwood and softwood. It is represented by 21 individuals from both ditches. Another timber pest, *Lyctus linearis,* the powder post beetle, attacks hardwoods, oak and ash being particularly susceptible. Also present is *Grynobius planus,* a species often found in dry trunks and stumps and in fence posts but which is not a serious indoor pest in Britain.

Environmental change

The most notable feature from both ditches is the evidence of-flooding which is followed by, a reduction in numbers of synanthropic species. Indications of-this are particularly obvious in ditch II. Here the greatest number of synanthropes occurs at the base of the deposit. Accompanying these species are wood-borers, a strong waterside element probably derived from the banks of the river supplying the drainage water, and low numbers of dung beetles. A similar fauna which also includes several synanthropic ground beetles has been recorded from the next samples. Higher in the section, open water aquatics are recorded. At the level of phase 9A there is an appearance of a running water element, typical running water animals including *Oulimnius troglodytes* and the mollusc *Ancylastrum fluviatale* which is usually found on stones and wood in running water. This species is one of a number of molluscs confined to phase 9A which yielded a much greater concentration of shell remains than any other sample. The records of terrestrial snails and the inclusion in the sample of edible marine species suggest that the surrounding land and possibly part of the site were inundated. After the flooding phase, two main elements remain in the beetle fauna; aquatic species which include those living in open water and dung feeding and associated species. There is an absence of Shousehold pests, food-storage species, and other synanthropic species. Even those plants which can indicate the activities of man are almost absent.

In ditch IV, numbers of synanthropic beetles are lower than in ditch II, and the maximum coincides with the samples which indicate the flooding phase. This suggests that ditch IV was further removed from the building, a factor borne out by excavations, and that most of the synanthropes were introduced by flooding of the site. As in ditch II the flooding is marked by running water species such as *Potamonectes depressus elegans* and *Stictorarsus duedecimpunctatus,* accompanied by other aquatics such as *Gyrimus marinus.* The productivity of the samples of ditch IV is highest at this flooding level. After this phase, a few aquatics and numbers of dung feeding, dung-associated beetles and a carrion feeder are present in the two upper samples, together with a single death watch beetle, but as in ditch II there are no food or household pest insects. the environmental changes indicated by the seeds, molluscs, and beetles are summarized in Table 26.

Conclusion

Seeds, molluscs, and insects recovered from samples of the infill of two ditches at the Austin Friars provide overlapping evidence of pastoral and agricultural activities around the site and of a variety of activities at the friary which include grain storage and the importation of marine shellfish. the insect evidence suggests that a higher standard of cleanliness than is usual for urban sites of this age was enjoyed by the inhabitants. A major phase of flooding is apparent from both ditches and the absence of synanthropic species after this phase suggests little, if any, subsequent occupation of the site although the surrounding fields continued to be grazed.

Table 26

Sample no		Food stuff	Food pests	Other synanthropes	Dung beetles	Wood borers	Vegetation	Aquatic species	Running water indicators	Overall environment
Ditch II										
Phase 10C	9						1 nettle weeds			
	8	oysters			low numbers		weeds	low numbers of snails and beetles		Open pasture and meadow species predominate and there are few signs of the formerly important habitation site element.
Phase 9B	7			low numbers	low numbers		weeds	fewer snails and beetles		
Phase 9A	6	oysters swan mussels cockles			low numbers	structural timber and tree feeders	nettles weeds reeds	large numbers of snails and beetles	running water	Flooding horizon
Phase 3F	5						nettles weeds	water snails		Indicators of the habitation site are important, particularly in lowest levels where grain pests are numerous
	4		1 grain beetle	low numbers		structural timber	nettles weeds	water snails		
Phase 2D	3		1 grain beetle	low numbers	low numbers	structural timber	nettles weeds reeds	water snails		
	2		lower numbers of grain beetles	low numbers	low numbers	structural timber	nettles weeds reeds cereal	water snails		
	1		large numbers of grain and 1 bean beetle		low numbers	structural timber and tree feeders	nettles weeds			
Ditch IV										
Phase 10F	6						nettles weeds	water snails and beetles		Flora and fauna derived from surrounding pasture land
	5				higher numbers plus carrion feeder	present	nettles weeds reeds	water snails and beetles		
Phase 9A	4			low numbers	low numbers plus carrion feeder	present	nettles weeds	water snails and beetles	lower number of species	Flooding horizon
	3			low numbers	low numbers	present	nettles weeds reeds	water snails and beetles	numbers of species	
Phase 5A	2	mussels	low numbers	low numbers			nettles weeds	water snails		Fewer indicators than in Ditch II of habitation site, possibly because this ditch is further removed from this area.
	1	cockles mussels	1 grain beetle				weeds	water snails and beetles		

Oysters, ostracods, and leeches

Jean E Mellor

In addition to the samples submitted to the Ancient Monuments Laboratory all the marine molluscs were recovered from two sample sections in phase 9A of the north ditch and the south drain and were examined by Professor H P Moon. The following numbers (and minimum numbers of individuals represented) were recovered:

	9A south drain	9A north ditch
Oysters	900 (582)	245 (176)
Mussels	842	172
Cockles	194	6
Whelks	87	5

Professor Moon also examined marine mollusca from occasional samples from other deposits on the site. The oysters from the whole site were apparently of a uniform size (between 40 and 60mm with a few of 20 and 80–90mm) and had the appearance of oysters originating from good beds except some of those from the phase 9A south drain which had been rather cramped in life. The mussels were between 40 and 65mm long and the whelks between 50 and 70mm high.

Professor Moon and Mrs Thawley found cocoons of the freshwater leech *Erpobdella* sp. adhering to both the animal bones and shells. They occurred on the bones stuck firmly to clean surfaces from phase 5A onwards on the following proportions of mammal bones from the drains: 5A (0.6%), 9A south (6.6%), 9A north (3.1%), 9A (1.4%), and 10E and F (8.6%). The number of cocoons present on any bone fragment varied from 1 to 15, usually on

just one side of the bone (presumably the underside of the bone in its position in the drain).

Ostracods were also recovered by Mrs Thawley from the sediment infilling or adhering to the animal bones and were identified by Dr J Athersuch, Leicester University. The ostracods belonged to three genera: *Iicypris, Candona,* and *Herpetocypris.* Their valves and carapaces were in good condition and some still retained the remnants of body appendages. They occurred in the following phases:

Phase (Drain)	*Candona* sp.	*Iliocypris* sp.	*Herpetocypris* sp.
5A	+		
7A	+	+	+
9A south	+	+	+
9A north	+		
9B			
10B		+	

A total of 84 ostracod fragments was identified and a further two fragments from phase 2D may have been *Herpetocypris* sp. However, the ostracods were all recovered from sediments inside the animal bones, and since their quantity and diversity are directly proportional to the numbers of-animal bones per phase, their numbers arc omitted from the above table. Greater numbers of ostracods appear in phases 9A and 10, particularly from the south drain.

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The mammal, bird, and fish bones

Clare R Thawley

During the excavation of this site, 11,759 bones were recovered, of which 8,063 mammal, bird, and fish bones were identified. Of these 8,063 bones, 7,648 are discussed in this report, the remainder originating from the Romano-British layers predating the friary. The full text of the report on the animal bones is included on microfiche 2 of 2, together with Figures 64-69 and Plates 17-22. A brief summary, indicating the aspects covered and the conclusions, is presented-here.

Mammals	*Total bones or fragments per species*
Ox *(Bos taurus)*	3,888
Sheep *(Ovis aries)*	1,925
Goat *(Capra hircus)*	
Pig *(Sus scrofa)*	717
Horse *(Equus caballus)*	278
Fallow deer *(Dama dama)*	115
Red deer *(Cervus elephus)*	2
Dog *(Canis familiaris)*	38
Cat *(Felis domesticus)*	26
Hare *(Lepus europaeus)*	5
Rabbit *(Oryctolagus cuniculus)*	3
Woodmouse *(Apodemus sylvaticus)*	1
Polecat *(Putorius putorrus)*	1
Birds	
Domestic fowl *(Gallus gallus)*	246
Domestic goose *(,4nser anser)*	232
Mallard *(Anas platyrhynchus)*	17
Cormorant *(Phalacrocorax carbo)*	1
Heron *(Adrea cinerea)*	1
Smew *(Mergus albellus)*	1
Buzzard *(Buteo bureo)*	2
Red kite *(Milvus milvus)*	2
Partridge *(Perdix perdix)*	4
Crane *(Grus* sp.)	1
Dove *(Columba livia)*	4
Barn owl *(Tyto alba)*	1
Raven *(Corvus corax)*	2
Carrion crow *(Corvus corone)*	2
Rook *(Corvus frugilegus)*	1
Jackdaw *(Corvus monedula)*	1
Thrush *(Turdus* sp.)	3
Fish	
Elasmobranch (shark/skate/ray)	1
Ray *(Raja* sp.)	1
Sturgeon *(Acipenser sturio)*	1
Salmon *(Salmo* sp.)	1
Conger eel *(Conger conger)*	1
Cod *(Gadus morhua)*	65
Haddock *(Melanogrammus aeglefinus)*	19
Ling *(Molva molva)*	22
Turbot *(Scophthalmus maximus)*	1
Plaice/flounder *(Pleuronectes/platichys)*	15
Halibut *(Hippoglossus hippoglossus)*	1

The bones were identified from the following collections:
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The mammal, bird, and fish bones

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The bones were identified from the following collections:
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Most of-the animal bone was recovered from the various ditch fillings and the cloister midden, and the relative importance of these features in the receipt of bone waste varied over the occupation period. A small percentage of the animal bone was recovered from various building deposits in which it had been accidentally incorporated from earlier layers on the site.

Of the bone fragments, 98% came from the ten domestic species represented, the twenty wild species accounting for the remaining 2%. This ratio is typical of an organized agricultural community relying almost entirely on its domestic breeds for food. However, bone material was only partially recovered from some areas of-the site, a practice which can affect the diversity of both the species and the bones submitted for analysis. Also the bones of-the larger animals will necessarily become more fragmented during butchery than will those of-the smaller species, and the fact that no sieving was carried out also tends to produce a bias in favour of the larger species.

Two methods were used to calculate the minimum number of individuals per species, in addition to counting the number of-fragments. The results varied with the method used, but the ranking of the four most common domestic mammals remained the same: 1st: cattle, 2nd: sheep, 3rd: pig, 4th: horse.

Not all the domestic species appear to have been used for food. The bones of cattle, sheep, pigs, chickens, geese, and ducks bear cut marks indicative of butchery. Of the wild species, only the fallow deer appear to have been butchered, though others may well have been eaten. As well as meat, the various species could have supplied other farm produce during their lives, and also fulfilled a variety of other functions, eg draught, scavenging. After death the animals would have provided the raw material for various trades, eg tanning, horning, bone-working.

In most species the greater the number of fragments per phase, the greater their diversity. In both cattle and sheep there are no bones which are especially abundant, which might reflect the purchase of meat in joints, while the presence of bones from both the feet and the head suggests that the animals were either killed on the site or were imported as whole carcasses. Pig bones were less abundant than those of cattle or sheep, and accordingly showed a lower diversity. However, bones from most parts of the body were present and pigs may have been killed or butchered on site. The majority of the pig bones were of a delicate nature and would have been more vulnerable to decay and crushing during burial than the denser bones of the other large mammals. Pigs may have been more important in the local economy than their surviving physical remains suggest.

In the desertion and destruction layers horses appear to have been brought whole to the site, but there is little to suggest that they were butchered for their meat. Horse bones occur in earlier phases but in low numbers and with a correspondingly low diversity per phase.

Fallow deer bones occurred from most parts of the body. Most of the bones were butchered and some antler fragments had been worked. Deer may have been presented as gifts to the friary, possibly as quartered carcasses rather than whole as more hindquarter fragments occurred.

Bones from most parts of the body came from the three domestic species of bird, possibly indicating that they were killed and butchered on the site, rather than being bought dressed from the market.

Only about a quarter of the fish bone fragments were identified, and these were mainly from large fish. Had the site sediments been sieved, diagnostic bones of smaller marine and freshwater species might have been recovered. However, several points of interest arose from the fish bones:

1. Nine out of the eleven species identified are marine; sturgeon and salmon spend part of their lives in freshwaters. The absence of true freshwater fish from a site adjacent to the river seems to indicate a taste among the friars for marine fish, and raises the question of transport from the coast. Whereas shellfish could have been transported alive in salt water kegs, the fish would have required some means ofpreservation. Salted or dried fish formed a major part of' the medieval lenten menu when meat was forbidden; salted white herring, salted and smoked red herring, and salted or dried cod were apparently the most common.

2. Many of-the fragments recovered were from fish considerably larger than most fish caught today. This presumably is an indication of less fishing pressure in the coastal waters in the medieval period. The largest fish from the site were cod, ling, halibut, haddock, and sturgeon; the friary halibut could have weighed between 100 and 150lbs.

3. The *Salmo* sp. vertebra could have been from either a trout or a salmon, but its large size suggests the latter. This bone had been cut transversely between it and the adjoining vertebra, suggesting that the fish had been cut into steaks. Four cod bones bore cuts, and one vertebra had been cut longitudinally, suggesting filleting.

4. The presence of two skin bones suggests that the skin was finally removed by the consumer.

The mammal bones have been divided into three age groups:

juvenile	(0- 1 years)
prime	(1-5 years ox, 1-3½years sheep, 1-4 years pig)
old	(older than 'prime' for each species)

Problems arise in attempting to demarcate age groups, since most bones can be given only a minimum age based on modern data derived from animals bred to mature earlier than ancient stock. The three age categories used in this report include all the bones. Juvenile bones are easily distinguished on account of their size and texture. Old age bones are more difficult to differentiate; vertebral fusion and toothwear were the characters mainly used. The 'prime' bones fell between the two limits, comprising jaws with erupting teeth and long bones whose epiphyses were still fusing, in addition to all the other fragments which were neither obviously juvenile or old. The title 'prime' denotes that the meat should have been at its best.

Juvenile bones formed quite a high proportion of the total pig bones present; lamb bones were few. The higher proportion of piglets may be related to their higher natality. Calves and lambs were probably allowed to live longer in order to provide service to the community, and were killed only if they were weak or sickly.

Dog remains from the site were few, but their activities are represented in the form of-gnawed bones. The activities of dogs apparently declined over the occupation period, as did their physical remains. The friary may have supported a small but fluctuating dog population and not been subject to appreciable scavenging by town dogs, though the small increase in gnawed bones after the Dissolution may reflect extra-mural scavenging.

Only 0.5% of the total mammal bone fragments had been burnt, indicating that incineration of-kitchen waste was not regularly practised. However, 29.4% of all calf frontals and 17.5% of all the adult cattle diastema fragments were

charred, though the latter were recovered only from the earlier phases of occupation (2D-4B). Perhaps the carcass was hoisted, head downwards, in order to bleed. The removal of the snout was necessary once bleeding and draining had been completed, and the flesh and bone round the cut may then have been singed for sterilization. This speculation assumes that the head was left on during the draining process and that some degree of hygiene was practised. 'The apparent decline ofcharred diastema fragments over the occupation period may indicate a change in the procedure, such as the removal of the head prior to hoisting.

The breeds of domestic animals of the period are not exactly known. However, measurement of-the bones can give some indication of the size and stature of the animals. The size range of the cattle bones is compatible with those from other medieval sites. No polled cattle were found.

No distinction was made during identification between the long bones of sheep and goats. However, only one goat skull was found while most of the other skull fragments were clearly those of sheep. Two distinct types of sheep occurred, horned and hornless. The measurements of the sheep bones show that the animals were quite small, but largely compatible with other medieval sheep measurements.

Most of the pig bones were of similar size and stature to the wild pig, but the absence of very large teeth from the friary could indicate that predominantly domestic pigs were eaten. An almost entire pig's skull is shown in Plate 16. The length of its upper M3 suggests that this was a domestic pig. Compared with modern pigs this skull is long and narrow, conforming to the description of the medieval pig as 'a high-legged, long snouted form'. For the whole site male pig teeth outnumber females by a ratio of 48: 30; possibly castration was practised, not only as a population control, but also to aid fattening for the table.

The bird bones showed a variety of size in the domestic species. Compared with modern specimens the friary wild species were virtually identical in size, though the crane bone is of-some interest, since it is larger than a common crane.

Sixty-seven mammal and eight bird bones bore signs of disease or injury; a selection of-diseased material is shown in Figure 68 and Plate 22 (microfiche 2 of 2).

Butchery techniques

This aspect of the animal bones is discussed in considerable detail in the full report (microfiche 2 of 2, pp 24ff); here only a brief summary of the conclusions is presented.

1. Mammal carcasses were probably hoisted to drain and cool before being split longitudinally. Contemporary illustrations show carcasses hoisted on bars passed between the ankles and achilles tendons.

2. The heads of mammals were apparently removed prior to longitudinal splitting.

3. Butchery at the friary appears to have been an organized and skilled affair.

4. Whole animals were either killed or butchered at the site.

5. If the animals were killed on site, the method of disposal of the skins is of interest; they could have been tanned on site, tanned elsewhere in the vicinity for the friars, or just sold as a means of-revenue.

6. Of the domestic animals, cattle were the most important for the friary meat supply.

7. The principal tool used for butchery was the axe, which often splintered the bone (from spiral fracturing following impact). Shaft splitting may have been carried out after flesh removal, for the extraction of the marrow. Knives were used for filleting and skinning. Cleavers were possibly used for splitting the backbone. Some bones, particularly the scapulae of cattle and sheep, bore holes which may have been made by a spit for roasting. Worked bones were generally sawn.

8. Small joints of meat were generally cut; even the geese were cut up. Small cuts of meat would cook more quickly and may have been determined by the size of the cooking vessels.

9. The sheaths from the horns and feet of cattle and sheep were probably utilized by horners, since the bones bore cuts.

10. In this type of community, nothing was likely to have been wasted. Although there is no osteological evidence for it, the offals were no doubt used as well as the meat. All grades of meat appear to have been eaten.

Butchery marks occurred on six domestic species (ox, sheep, pig, fowl, goose, and duck) and on three wild species (fallow deer, cod, and salmon). However, some twenty or more species were probably eaten, including the marine molluscs which appeared in the drain deposits after about 1350.

Despite the regulations excluding meat from the diet during lent and on fast days, both meat and fish were eaten at all stages of occupation of the friary.

The presence of fields to the north of the friary buildings and the occurrence of dung beetles (described in the environmental report) suggests that the domestic ungulates may have grazed there, and the mammal bone evidence indicates that they were killed and/or butchered on the site. However, presentations of meat to the friary appear to have been made and both fish and shellfish were imported to the friary.

Acknowledgements

I would like to acknowledge the tollowing for their invaluable assistance during the gestation period of this report: Leicestershire Museums, Biology Department for the use of their osteological collections; Graham Cowles of the British Museum (Natural History) at Tring for allowing me to use the bird bone collections; Jennie Coy of Southampton DoE Faunal Remains Project and Dr A C Wheeler of the British Museum, Natural History, London, for allowing me to use the fish bone collections and for their helpful advice.

Plate 1 Area II partly excavated from the west. Shows post-bases of building 2D, part of north range of main cloister with slype in foreground, and two phases of the south ditch/main drain

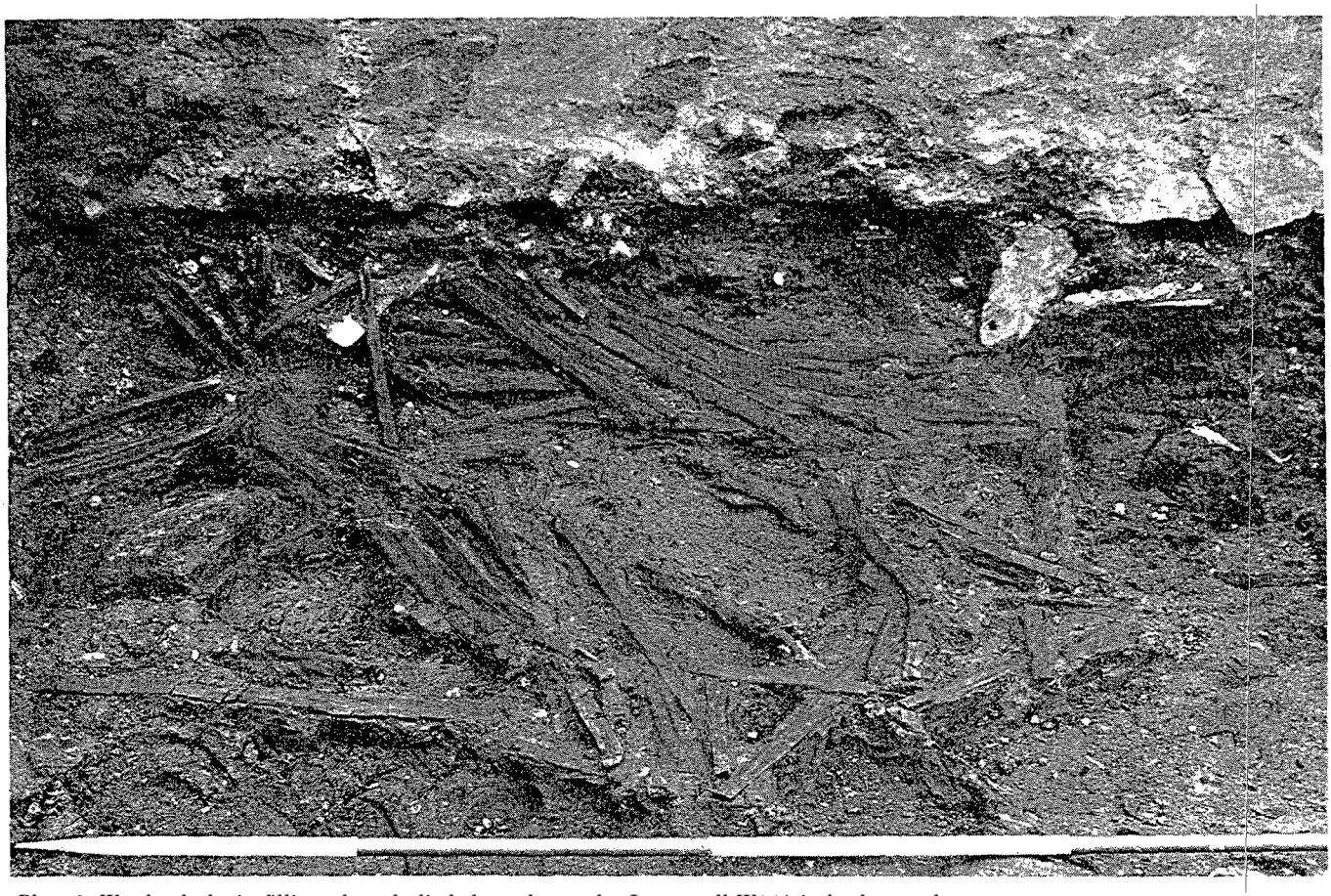


Plate 2 Wooden laths in filling of south ditch from the north. Later wall W14A in background

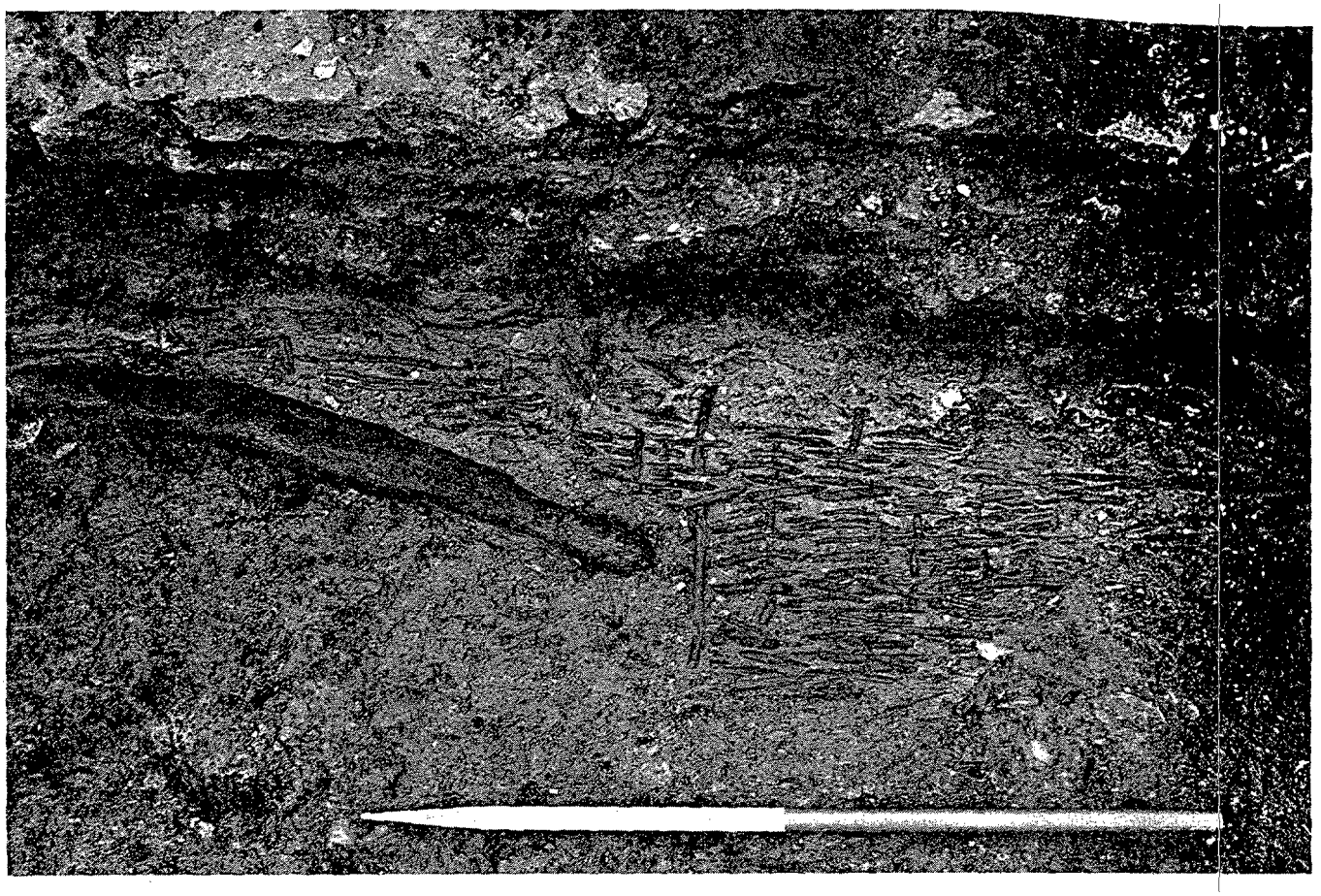


Plate 3 Wattlefencing collapsed in ditch filling from the north

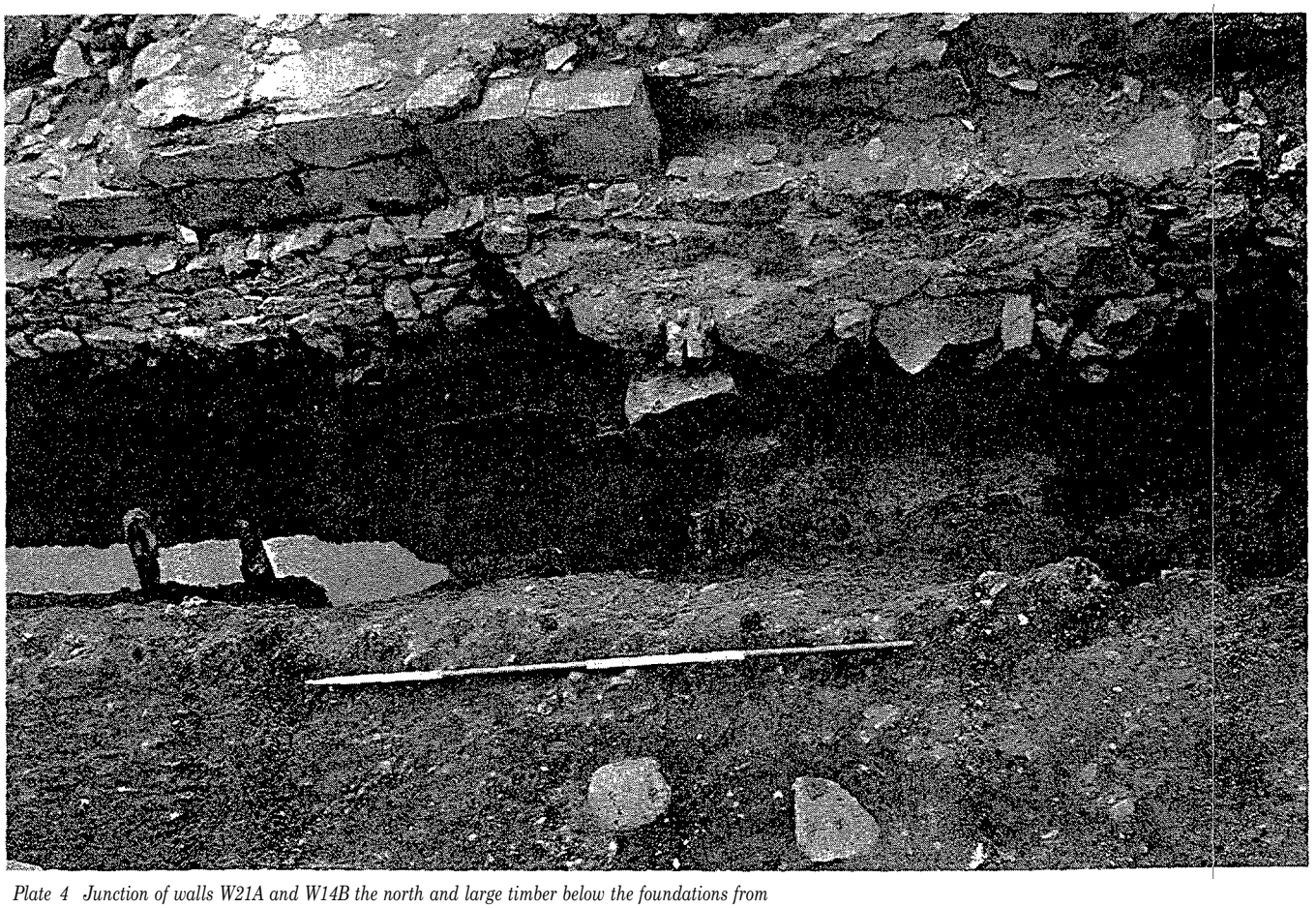


Plate 4 Junction of walls W21A and W14B the north and large timber below the foundations from

Plate 5 North end of Area I from the west. Spread of charcoal IV 15, forming a straight edge between the corners of walls W1 and W17

Plate 6 Collapsed wall, W18, and fragments of window tracery in north ditch, from the west

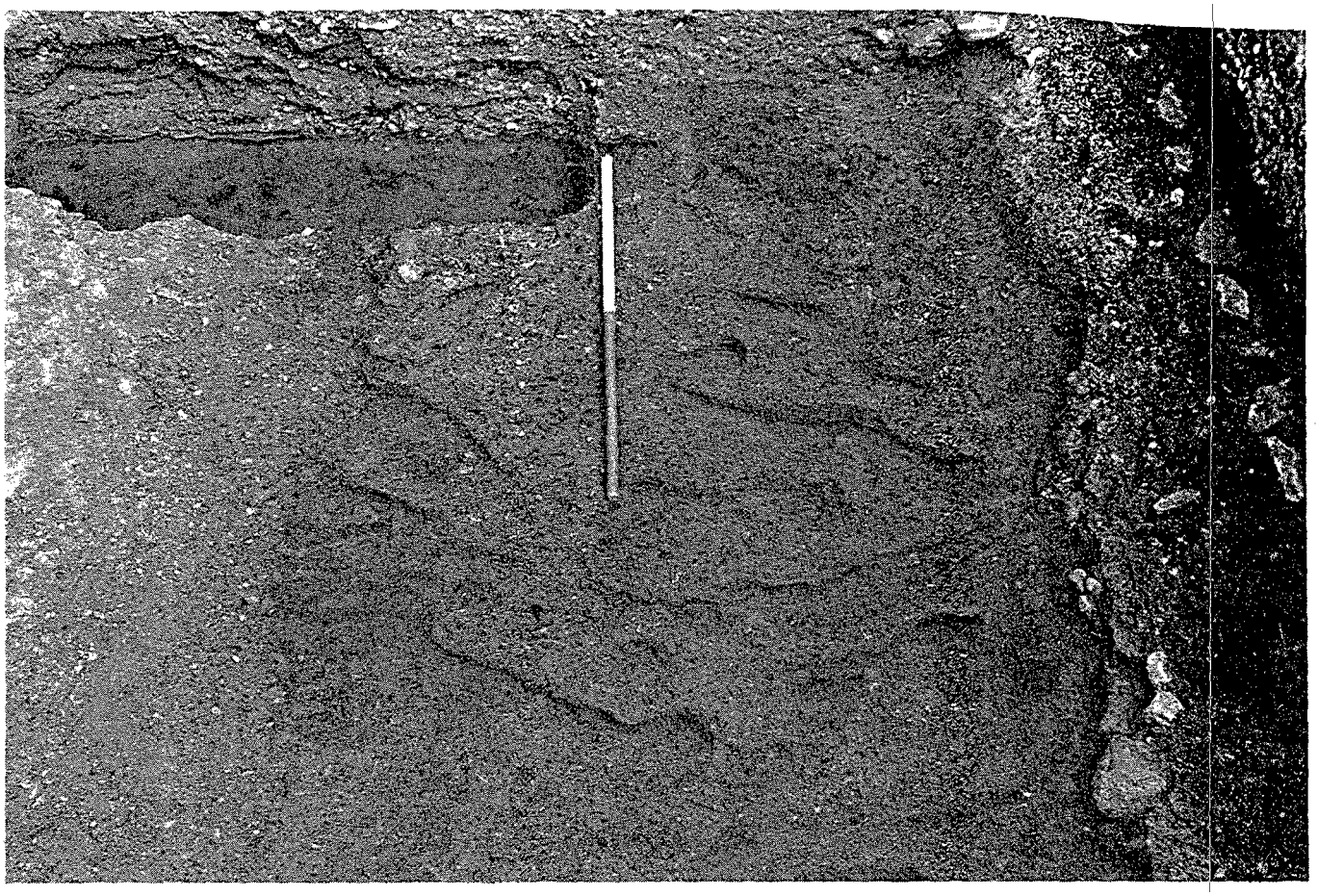


Plate 7 Ripple marks in north ditch, from the west

Plate 8 Impressions of floor tiles in mortar bedding in east cloister alley, from the north

Plate 9 Floor tiles in situ *in east cloister alley*

Plate 10 Area I from the west. Foundations of wall W2 in foreground with ?tank base behind. Wall W1 in background

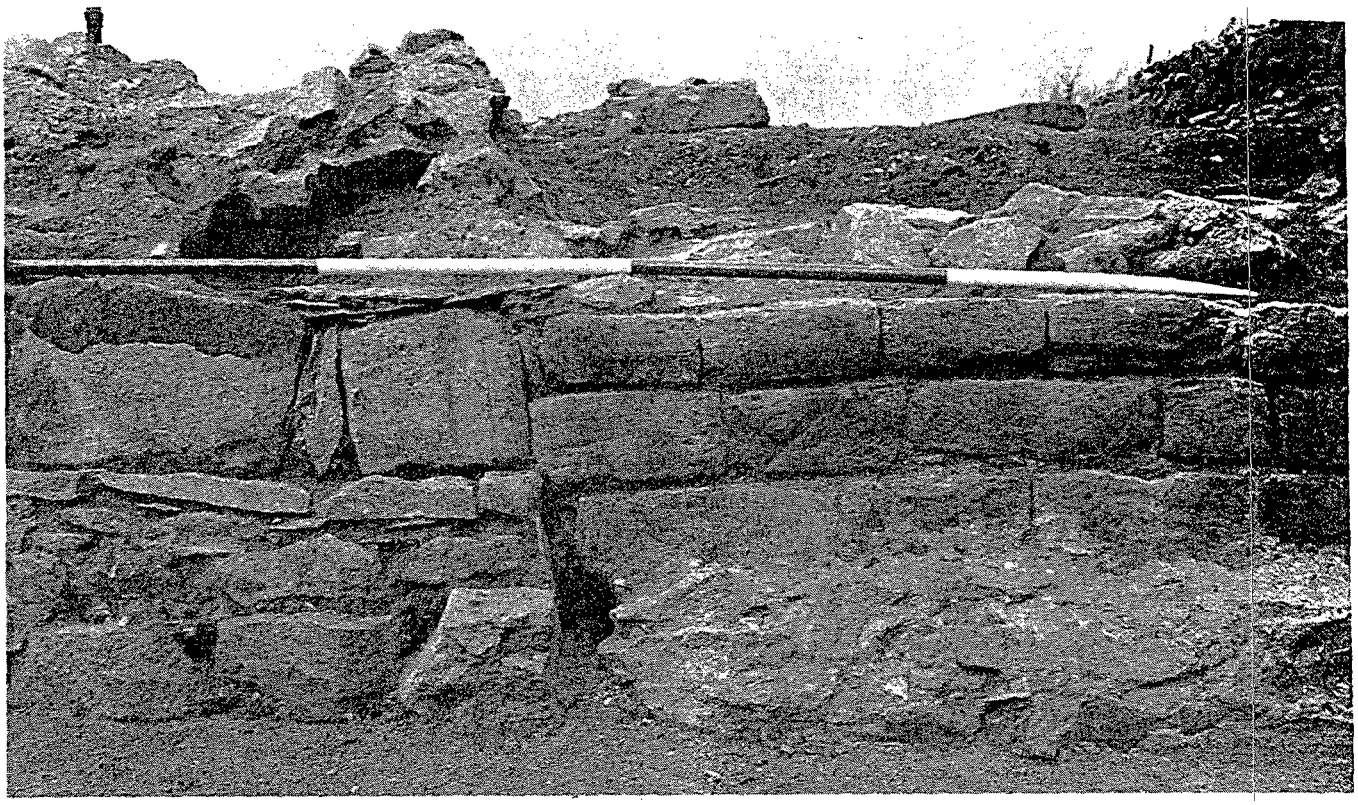


Plate 11 Junction of walls W13B and W13C showing fragment of reused moulding in W13B

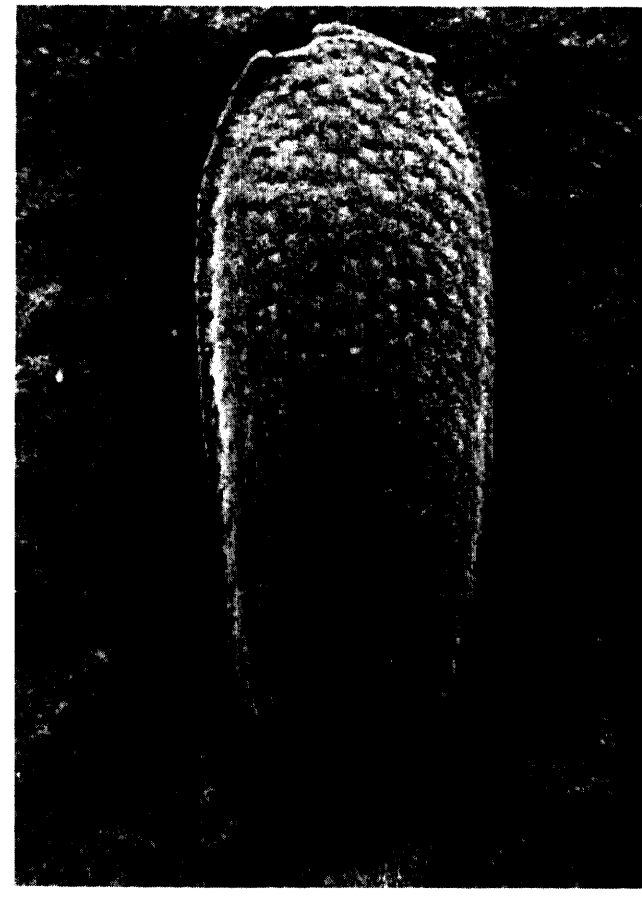
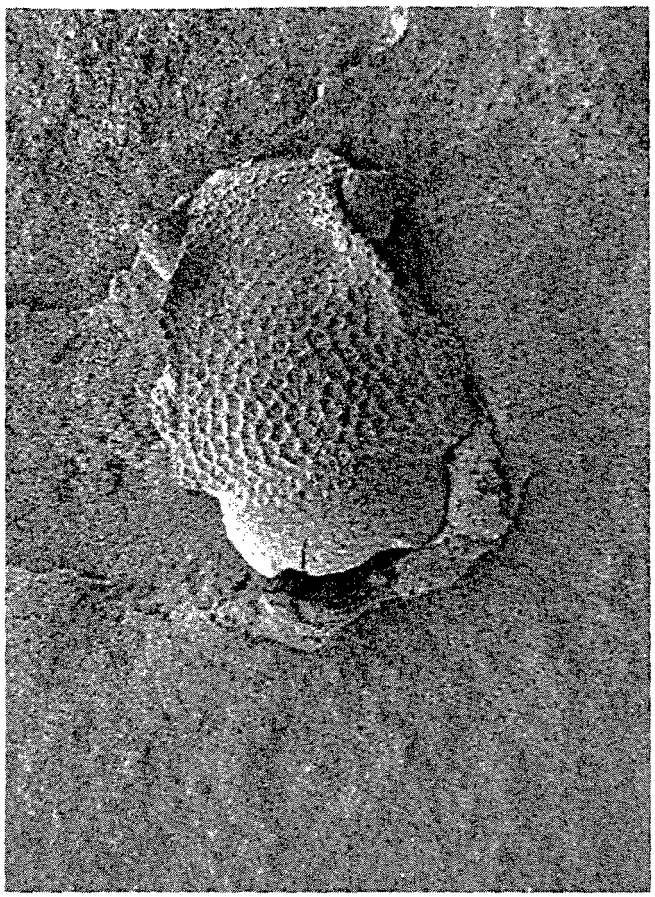
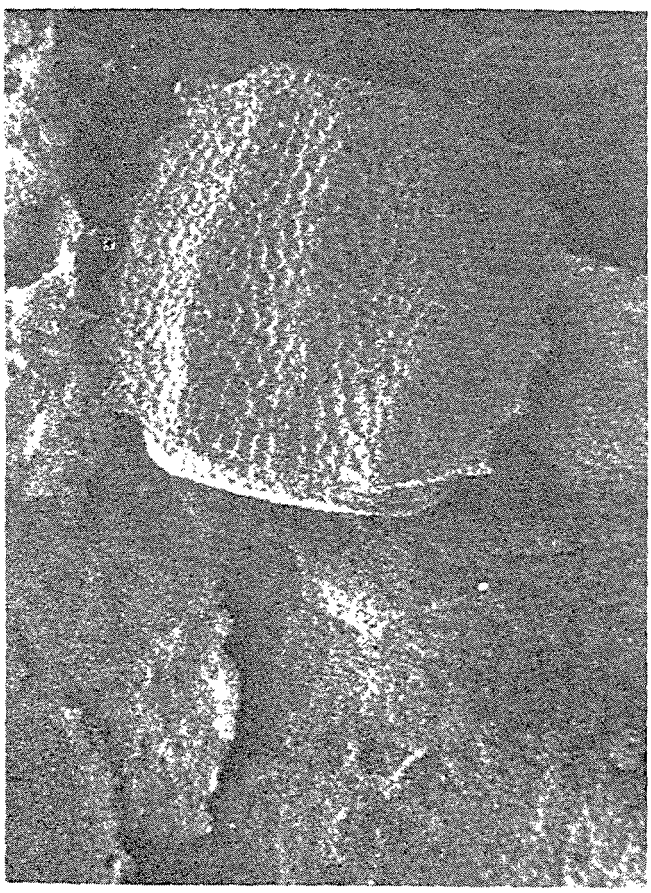


Plate 12 Mycetaea hirta, left elytron. Scanning electron micrograph, × 100

Plate 13 Sitophilus granarius, head. Scanning electron micrograph, × 100



a



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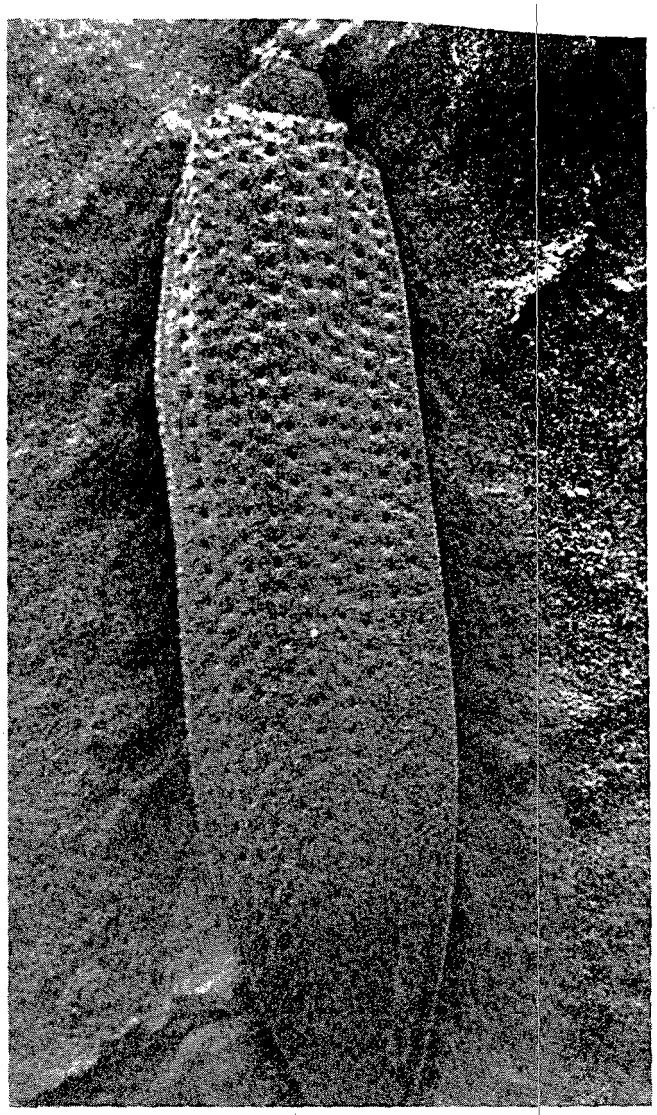
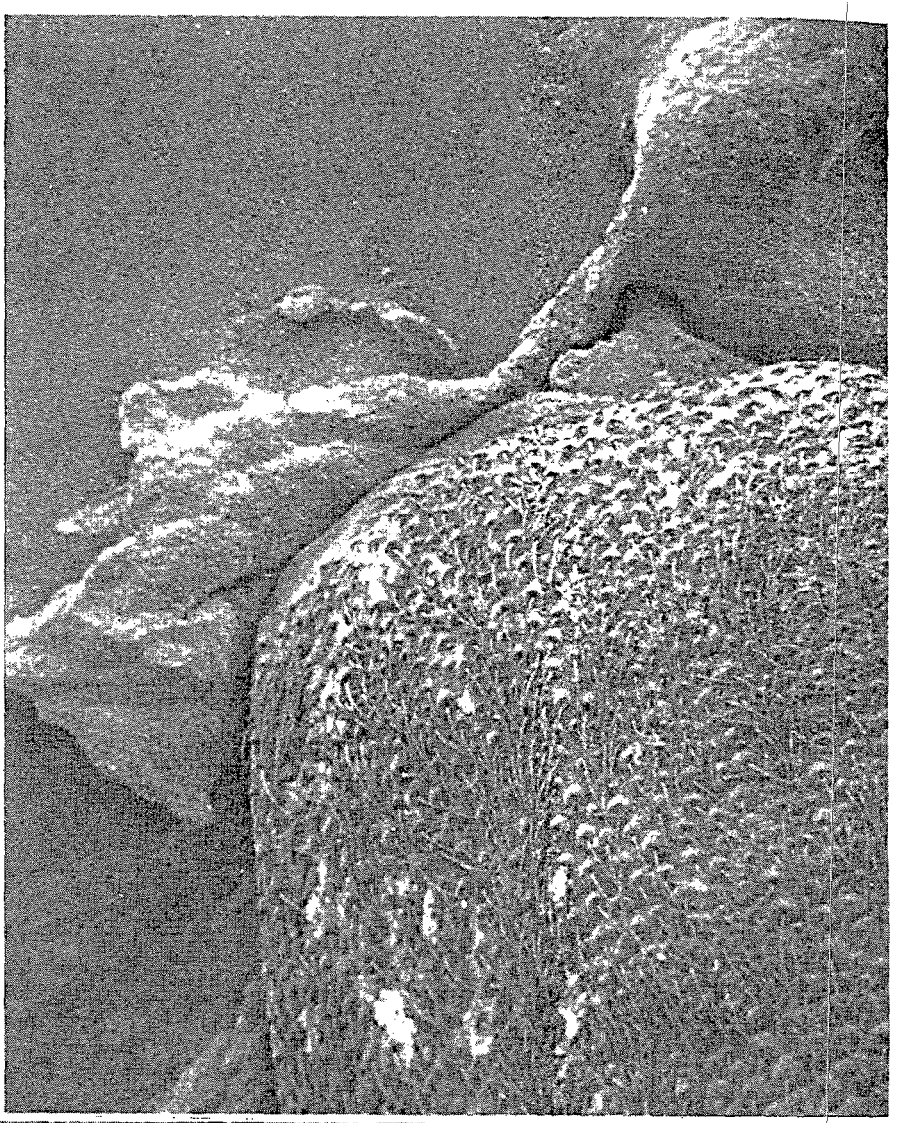
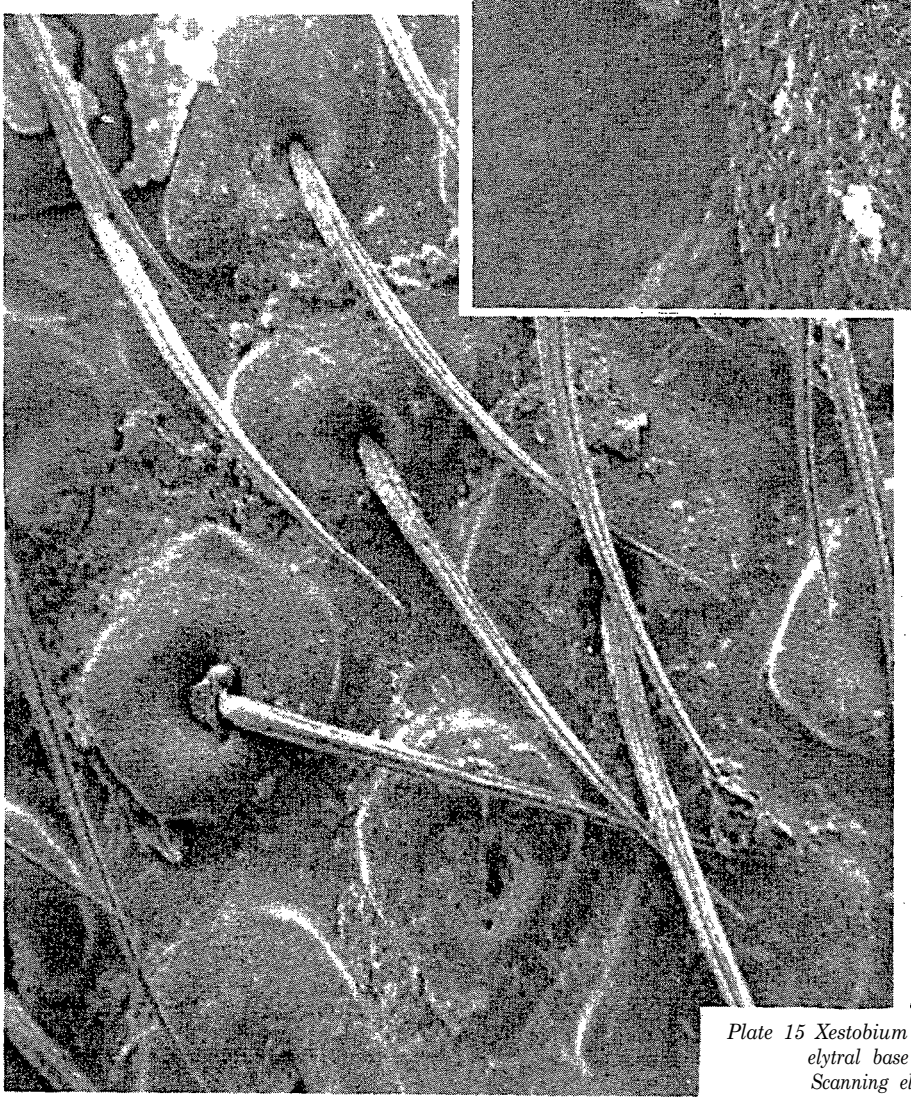


c

Plate 14 Oryzeaphilus surinamensis: a) head b) pronotum c) left elytron. Scanning electron micrograph, × 100



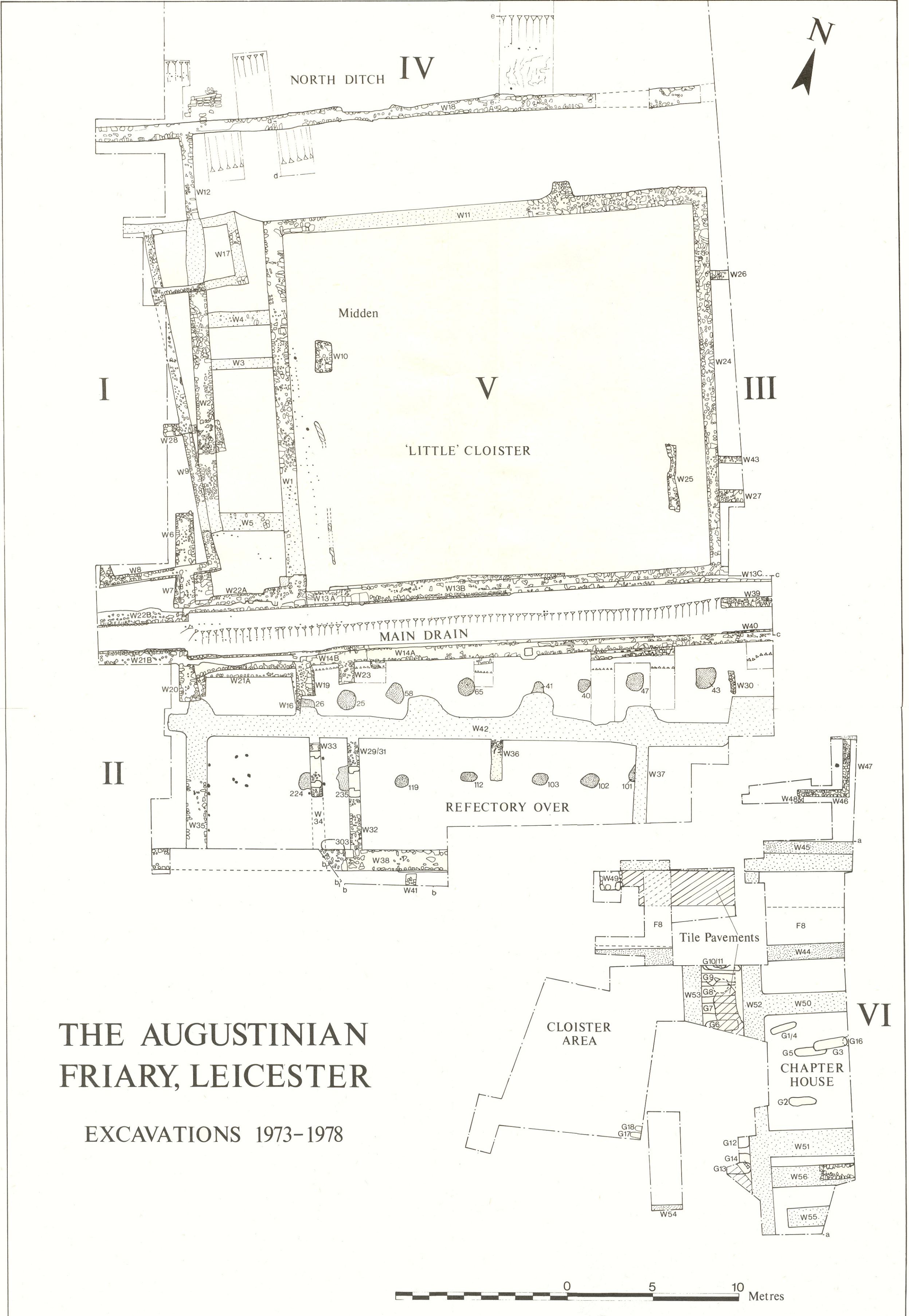
a



b

Plate 15 Xestobium rufovillosum: a) elytral base (× 100), b) detail of elytral base showing mammilate punctures with setae (× 1000). Scanning electron micrographs

Plate 16 Pig skull



THE AUGUSTINIAN FRIARY, LEICESTER

EXCAVATIONS 1973–1978