

**EXCAVATIONS AT THE JARROLD'S PRINTING WORKS,
WHITEFRIARS, NORWICH, 1992**

by Phil Emery and Brian Ayers

SUMMARY

Archaeological work in advance of construction of new loading bay facilities for Jarrold's Printing Works, Whitefriars, Norwich, provided evidence of reclamation of low-lying floodplain to the north of the River Wensum and the subsequent laying out of Cowgate (now Whitefriars). Development of the west frontage of this medieval road is traced in tandem with the use and repair of Cowgate itself until the ultimate diversion of the road in c. 1970.

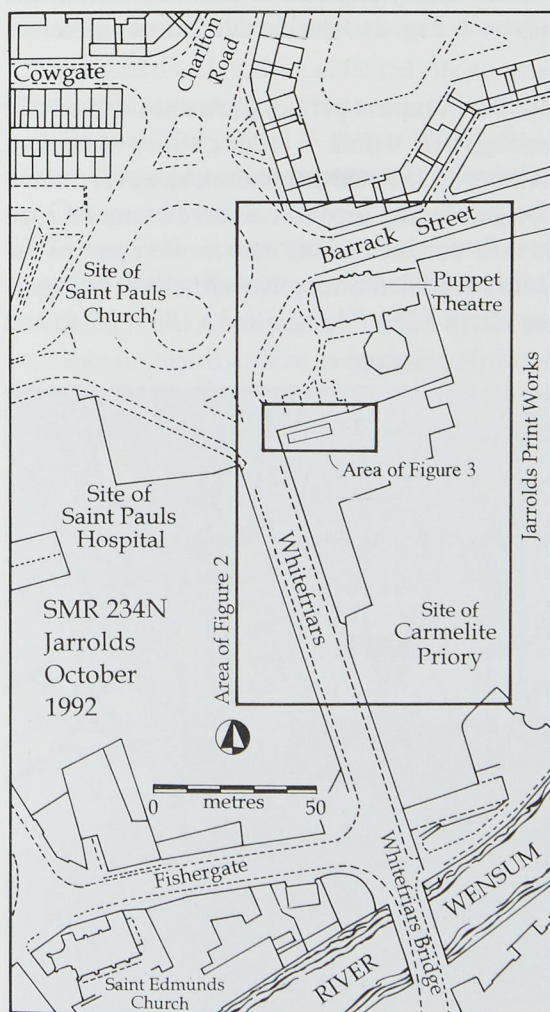


Fig. 1 Modern plan showing location of 1992 excavation trench, based on Ordnance Survey 1:1250 map with the permission of the Controller of Her Majesty's Stationery Office
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Fig. 2. Ordnance Survey plan (published 1884-5) showing old course of Cowgate with overlay of modern course of the road (stippled), indicating location of 1992 excavation trench.

The Site

(Fig. 1)

Excavation was undertaken in late 1992 at the site of Jarrold's Goods Inward Yard, Whitefriars, Norwich (County Site No 234N; TG 2339 0931). The work was necessitated by proposals for the installation of underground chemical tanks associated with the printing works. The excavation was carried out within the terms of an archaeological brief issued by the Norfolk Landscape Archaeology Section and a research design drawn up by the Norfolk Archaeological Unit. Phil Emery directed the excavation.

Background

The excavation site lies immediately east of the present alignment of Whitefriars, the medieval Cowgate. The extant road links the Inner Ring Road and Barrack Street with the River Wensum at Whitefriars Bridge. The road, however, has been realigned in the recent past. Formerly it ran further to the east, terminating at its northern end immediately adjacent to the west wall of the church of St James, now used as a puppet theatre (Plate 1; Fig. 2). The excavation site therefore straddled the course of the earlier alignment.

Whitefriars or Cowgate may have originated in the pre-Conquest period. Carter has argued that the street could have formed an intramural thoroughfare within a 10th-century defensive earthwork and ditch on the north bank of the river (Carter 1978). Other opinion, however, would place such an earthwork further to the west with Cowgate acting therefore as an extramural road (Ayers 1994, 27-8). The streetname of Cowgate is now confined to the east-to-west part of the street which connects the modern Charlton Road with Magdalen Street. Nevertheless its origins are ancient, Kirkpatrick suggesting usage as *Kugate* about 1250 (Hudson (ed.) 1889, 85-6) and



Plate 1. St James' church (now the Puppet Theatre) from the south showing west end fronting directly on to Cowgate (now Whitefriars), April 1938. *Photo: 2266 (7 April 1938) by G.F. Plunkett*

Cugate being recorded from 1289 (Sandred and Lindström 1989, 100). The streetname is derived from the Old English 'cu' meaning 'cow' and the Old Norse 'gata' meaning 'street' or 'way'.

It is probable that the street was in existence by the time of the Conquest as part of it lies within the parish of St Martin-at-Palace, a church mentioned by name in Domesday Book although one situated on the south bank of the river (Brown (ed.) 1984, 116). The fact that the parish boundary crosses the river implies that the river crossing, and thereby Cowgate, are both early. A bridge was certainly in existence by 1106 when it is mentioned in a land grant to the Bishop (Johnson and Cronne 1956, 55).

The excavated site, however, lay within the parish of St James, also an ancient church although probably of post-Conquest foundation. An extensive watching brief conducted within the church by the Norwich Survey in 1979 revealed evidence for a 12th-century structure (Atkin 1982). This complemented the earliest documentary reference to the parish, which dates from 1180. Both the church and the excavation were close to the Hospital of St Paul (the Norman Hospital); this was founded in the first half of the 12th century, possibly by Bishop Herbert de Losinga, and certainly continued by his successor Eborard (Blomefield IV 1806, 429ff; Rawcliffe 1995, 61ff).

The eastern end of the excavated site encroached marginally upon land of the Carmelite Friary. This large institution was founded in the mid 13th century and occupied a site between the river and Barrack Street and between Cowgate and the City Wall. It was suppressed in the 16th century but elements of the structure survive, notably an arch near the river and an undercroft on the Cowgate frontage. This last was surveyed and partially excavated in 1977 (Atkin *et al.* 1978, 20-24) and other structural remains and burials (including a rare wooden coffin) have been recorded during watching briefs before and after the Second World War (Ayers 1994, 74).

Although it was only able to reach deposits of 12th- to 13th-century date, the 1977 excavation was able to identify these as probable build-up material above the river marsh. This observation was repeated in 1989, when the Norfolk Archaeological Unit undertook a watching brief on the construction of a drainage sewer from the line of the City Wall at Bull Close Road southward to the river (Bown 1989, privately circulated). The work recorded a considerable depth of made ground in the southern part of the street (over 4m near the river) as well as structural timbers, wall footings and wells. Finds included sherds of Thetford-type ware and Early Medieval ware, implying that archaeological deposits dated from the 11th century.

The importance of the Jarrolds site, therefore, was considerable. The project would provide an opportunity for controlled, if limited, excavation within part of the city where there has been little previous archaeological work, with the potential of enhancing understanding of the chronological sequence. It would enable study of the early topographical development of the eastern part of the north bank of the river. It would also permit a section to be cut through part of the Norman Hospital and a watching brief on the western precinct of the Carmelite Friary in order to study the establishment of precinct boundaries and the subsequent early post-medieval development of the area.

The Excavation

(Fig. 3)

Method

The installation of buried spirit and fuel tanks in the north-west corner of the 'Goods Inward' yard entailed a three-week excavation. The trench, which was aligned east to west, was some 13 metres long, 3 metres wide and 2.4 metres deep, with stepped sides and partial shoring to conform with safety requirements. Detailed excavation was applied selectively to significant

sequences of deposits but the bulk of the stratigraphic information was recorded on comprehensive section drawings. Construction of the new 'Goods inward' bay and associated services, which comprised relatively minor ground works, was subject to an archaeological watching brief.

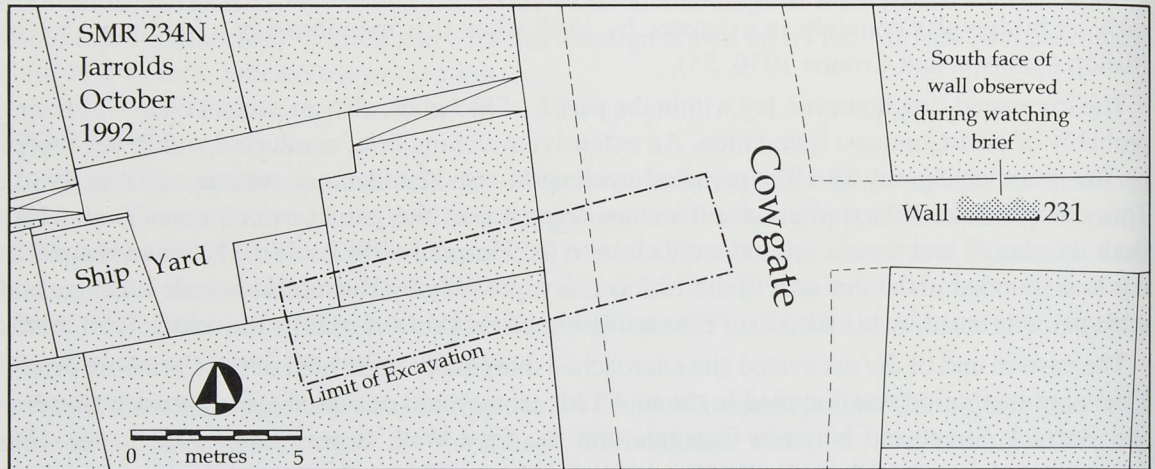


Fig. 3. Plan showing 1992 excavation trench and location of watching brief in relation to detail of Fig. 2



Plate 2. Excavation in progress, view looking west. Section through road surfaces in right foreground; remains of Norman Hospital precinct wall centre left.

Photo: 234N/131 by P.A. Emery.

The site was recorded using the NAU's standard proforma record sheets. These, together with drawings, photographs and analytical reports, have been archived in the Field Archaeology Division archives store at Gressenhall. This report presents a summary of the findings together with interpretation, a short catalogue of the most significant artefacts, and a concluding discussion. Full details of individual features and deposits may be found in the Project Archive, along with listings of artefacts and reports dealing with environmental evidence, pottery, animal bone and other finds.

Natural Deposits

The natural horizon consisted of river gravels, part of a terrace of such material known to exist along the north bank of the River Wensum in this area and varying between 5m and 8m thick. The top of the deposit was recorded at 0.85m above Ordnance Datum. The occurrence of the gravel at this site suggests that the river floodplain broadened to the north at this point.

Phase 1: reclamation of the floodplain (13th–14th century)

(Fig. 4)

No deposits or features of Saxon or early medieval date were recorded during the excavation. The earliest observed evidence of human activity consisted of two homogeneous deposits that each extended throughout the trench and beyond. The lower of these (228) was a layer of dark brown sandy silt between 0.2m and 0.3m thick while the upper (154) was a dark grey sandy silt between 0.5m and 0.65m thick. This latter deposit was sampled for environmental analysis and revealed similarities in structure and organic content to deposits recorded at Whitefriars Street on the south bank of the river in 1979 (Ayers and Murphy 1983, 46). Both seem to constitute a wet 'dark earth', the sparseness of macrofossils of wetland plants and ruderals in layer 154 suggesting that the deposit 'accumulated rapidly through the deposition of refuse and sewage', possibly as part of 'intentional reclamation of the floodplain' (Fryer and Murphy 1993). The significant thickness of the combined layers (some 0.85m) and their horizontal conformity supports this interpretation.

This is the more plausible with a study of the artefact assemblages. Relatively large quantities of pottery, animal bone and leather offcuts within the small hand-excavated sample indicate the dumping of considerable amounts of household rubbish and production waste. The pottery consisted largely of Local Medieval Unglazed, Grimston glazed and Scarborough glazed wares, all indicative of deposition and thereby land reclamation in the 14th century. In addition a variety of objects of intrinsic interest were recovered from the upper level (154) including a rare bone comb (p. 00) of 12th- to 14th-century date, a ceramic spindle whorl (p. 00), two structural timbers and a clenched nail.

An interesting assemblage of animal bone was collected. Cattle bones were both juvenile and adult, and the mature specimens were largely butchered; sheep and goat remains represented a wide age-range and also included clearly butchered bones. A juvenile sheep/goat metapodial from an individual with an estimated age of two months or less may indicate that these animals were reared nearby during this period. A single goat horn-core bore no obvious cut-marks. The butchering evidence and the age-range of the animals themselves suggest that the sheep/goats were kept for several purposes: milk, meat, wool and possibly breeding. Several horse bones probably represented one individual; this had teeth in full wear and some evidence of periodontal disease on the mandible, indicating a mature animal. Bird bone was largely of goose, although a few domestic fowl bones were retrieved, while small amounts of fish bone were collected too. The assemblage as a whole represents the dumping of domestic food remains, butchery waste and industrial refuse during reclamation of this marshy area.

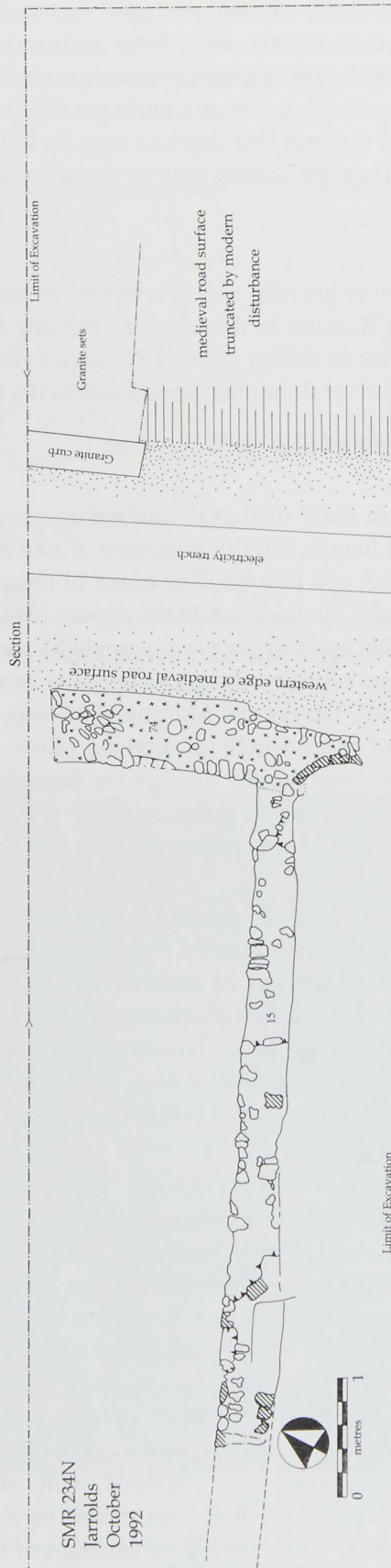


Fig. 4. Plan of 1992 excavation trench showing extent of medieval road surfaces representing Cowgate, position of contemporary walls on west side of the road and location of section (Fig. 5)

Phase 2: laying-out of Cowgate and adjacent development (13th–14th century)

(Fig. 4)

At the east end of the trench the 'dark earth' deposits were sealed by successive layers of coarse gravelly material (Plate 2; Fig. 4), the earliest of these being context 211. These are interpreted as primary foundations for a road laid out on a north-to-south alignment. This interpretation is supported by the manner in which the position of the gravelly deposits corresponds closely to the line of 'Cowgate' indicated on the 1883 Ordnance Survey of Norwich (Fig. 2). Only the western part of the gravelled feature was visible (the eastern side lying beyond the eastern limits of the excavation).

West of this presumed road, deposition of chalk (137 and 150 – not shown on Fig. 4), followed by that of yellow-brown clay (123), sealed earlier levels and provided a firm platform some 0.35m thick for the erection of structures, and the provision of space for yards fronting the road. Occupation within the area excavated was represented by three oven-type features (not illustrated) cutting into the clay and lying between 1.5m and 6.1m west of the road. No finds were recovered to indicate their use. However, some suggestion of a southern boundary was recorded: two of the ovens and various cut features were aligned, implying a common limit to activity. Artefacts were notably absent from these features, although the associated activity is assumed to have been of approximate 14th-century date given the datable material sealed in the lower deposits.

Phase 3: construction of flint walls (14th century)

(Fig. 5)

Gravel continued to be deposited at the eastern edge of the excavated trench, implying that a road was maintained on the same alignment. West of this, the ground surface was established at general level of 2.1m OD, partly by truncation of accumulated material. Two flint walls were then constructed at right-angles one to the other. The north-to-south wall (74) was some 0.6m thick and survived to a maximum height of 0.8m. It lay alongside the western edge of the gravelled surface, with an east face that was slightly battered and of knapped flint. The other wall (15) varied between 0.35m and 0.45m in width and extended at least 6.6m to the west, running beneath the west excavation section. With wall 74 it formed the northern part of a building, the internal deposits of which could only be recorded in section. Immediately to the north of this structure, and bounded to the east by the northward extension of wall 74, was an external surface of gravel.

Another wall of knapped flint was observed during a watching brief to the east of the excavated trench. An east-to-west aligned length of 2m was recorded; although the base was not exposed, it must have lain below 1.9m OD. The structure stood to a height of at least 1m in places, its top being recorded at 2.9m OD. It lay east of the gravel deposits interpreted as a road. It is likely that this substantial wall was part of the Carmelite Friary, an institution established here in 1256.

Phase 4: continuing build-up of road deposits and adjacent ground (15th–19th century)

(Fig. 5)

Deposition of gravel continued until sealed by 19th-century granite setts at a height of 2.9m OD. The total depth of road surfaces was some 1.4m, attesting to the gradual building-up of a road through use and repair. West of this alignment and west of wall 74, further gravel deposits totalling 0.7m in thickness accumulated above the earliest such level. Continuity of use is therefore also implied here, the deposits representing successive levellings of an exterior yard

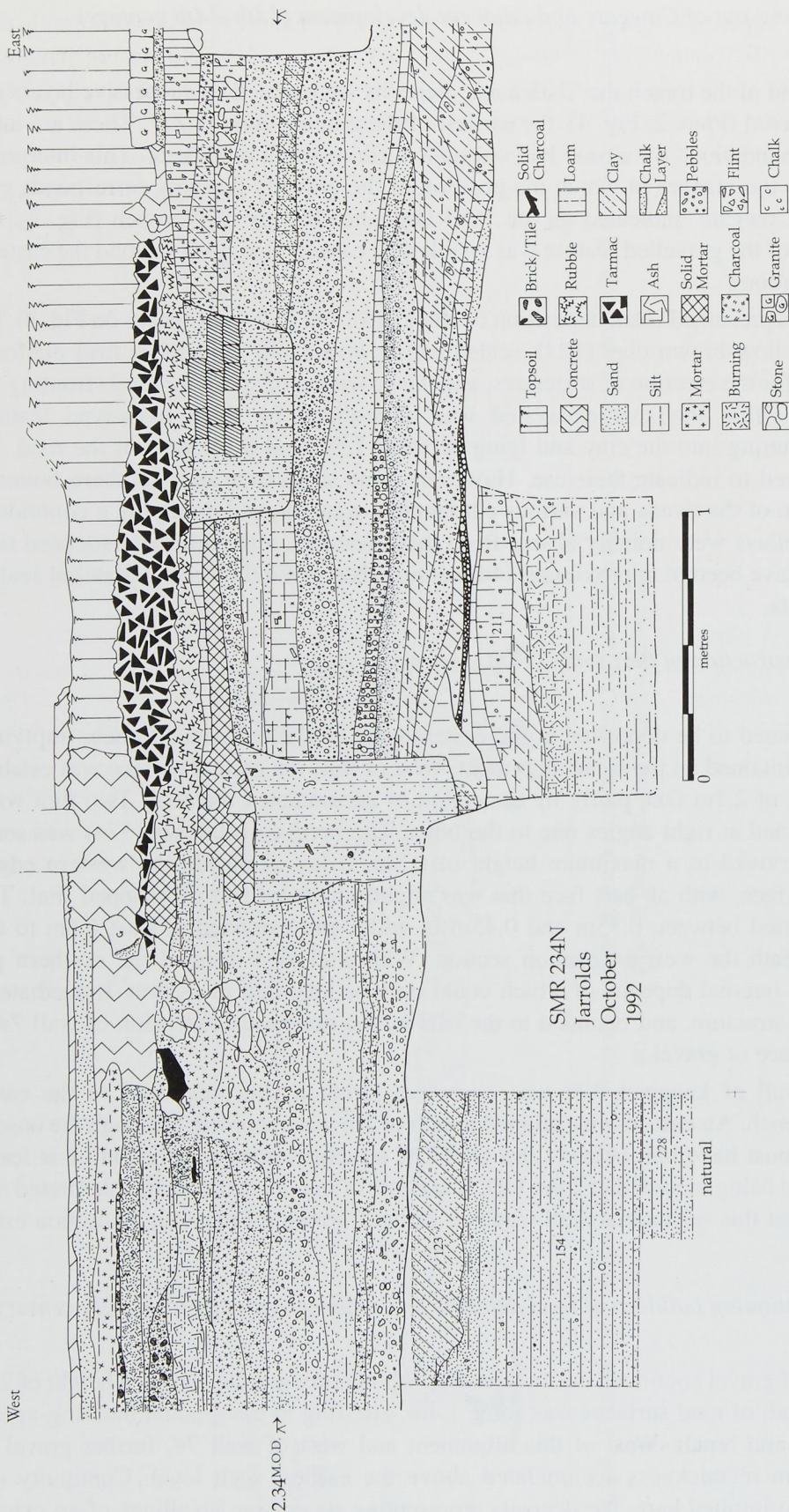


Fig. 5. South facing section through succession of surfaces of Cowgate and yard surfaces to the west of the road

surface. The uppermost gravel layers in the sequence dated to the 16th or 17th centuries, containing an Elizabethan lead weight (p.00) and four sherds of a Cologne-Frechen vessel.

The building to the south of the yard continued in existence, and was subdivided in the 15th century or later by the insertion of a north-to-south wall, 0.35m thick, some 4m west of the frontage. Successive brick floor surfaces at 2.65m OD and 2.85m OD were recorded.

Wall 74, dividing the yard deposits from those of the road, was demolished when the road deposits had reached a height of 2.6m OD, probably in the early post-medieval period.

The Finds

Three objects of intrinsic significance were recovered in the course of the investigation. These are described below and illustrated in Fig. 6. Details regarding all other artefacts may be found in the Project Archive.

1. Medieval Long-tooth Comb

by Julia Huddle (Fig. 6)

An incomplete long-tooth comb, of a type that is rarely found in Britain, was recovered from the dumped reclamation deposits of Phase 1. The comb was probably made from a cattle metapodial. The bone has been cut laterally and both sides have been further flattened. File marks are visible on both sides of the comb around the 'handle' end and towards the top of the teeth. At the top of the 'handle', on one side, is a shallow depression which leads to the foramen (now broken off) and, on the other side, some of the trabecular tissue is present. There are seven incomplete teeth, all irregular in thickness and sawn fairly unevenly. All the teeth are polished, particularly those at each end of the comb. The maximum surviving length of a tooth is 59mm and the maximum width of the handle is 20mm.

Apart from a series of long tooth combs from London (Pitt and Riddler forthcoming) the Jarrolds comb is the only other example known from Britain. These medieval combs (Langzinkenkämmen), are regarded as cheap, utilitarian items and could be produced simply from the metapodials of cattle. Stratified examples found on the continent have been recovered chiefly from 12th- to 14th-century contexts. The presence of the foramen and trabecular tissue on the handle of the Jarrold's comb is a characteristic of many examples from mainland Europe.

Various functions have been suggested for this type of comb, such as carding wool, weaving, hair combing or hair adornment. More recently scholars have tended to argue that these combs would not be suitable as textile implements. Ingrid Ulbricht finds it unlikely that such plain, rather coarsely made, combs were used as decorative pieces for the hair and, with Ingvild Øye, believes they are most likely to have been used simply for combing hair (MacGregor 1985, 190; Ulbricht 1984, 42-3; Øye 1988, 25-7; Westhusen 1957, 198-202).

The relative rarity of these combs in Britain, together with their exclusive occurrence near the east coast of the country, suggests that these examples should be seen as evidence of trade or contact with Europe, being brought over as personal possessions by visitors or trades people.

2. Spindle Whorl

by Alice Lyons (Fig. 6)

The reclamation deposit of Phase 1 also produced a spindle whorl that had been formed from the base of a late Roman pot. The base derived from a 4th-century Nene Valley colour-coated ware type 63 flagon or jar (Howe *et al.* 1980, 23) and had been cut down and drilled with a central hole. A very similar spindle whorl, made from exactly the same type of Roman pot, has been found in Thetford (Rogerson and Dallas 1984, 117, fig 2).

3. Elizabethan Lead Weight

by Julia Huddle (Fig. 6)

An Elizabethan merchant's official lead weight was found in the upper levels of Cowgate. The weight is stamped with two circles to represent 2 ounces; crowned 'ER' for Elizabeth I; 'A' for avoirdupois and the castle and lion (*passant guardant*) of the Norwich Arms. Three other weights of this type, bearing both the Norwich Arms and 'A', are known: another Elizabeth I example from a garden in Wymondham, Norfolk (Le Cheminant 1979), a James I weight from the Castle Mall excavation in Norwich (Shepherd forthcoming) and one of Charles II from Oak Street, Norwich (Margeson 1993, 205-6, fig. 157).

Discussion and Conclusions

The limited size of the excavation clearly restricted the data recovered and constrains conclusions. Nevertheless, sufficient information was recorded to allow a number of

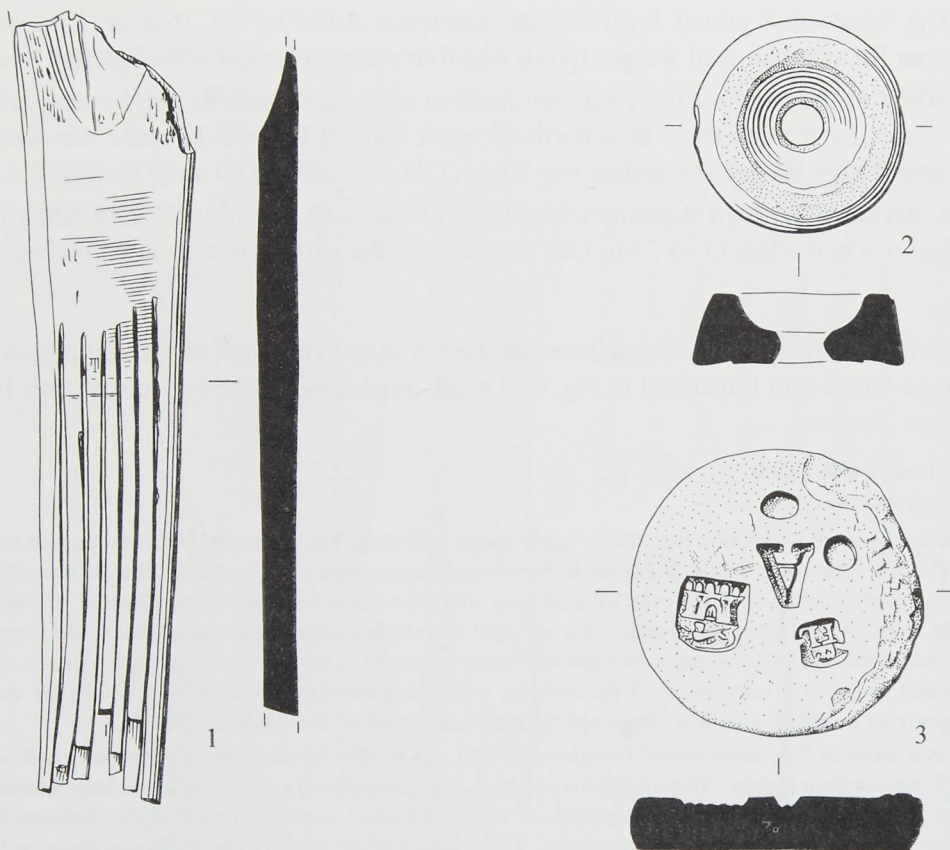


Fig. 6 Illustrated finds. 1: Medieval long-tooth comb. Scale 1:1. 2: Spindle whorl fashioned from the base of a Roman pot. Scale 1:2. 3: Elizabethan lead weight. Scale 1:1

observations, concerning both the development of the urban area in general and the immediate environment in particular.

One of the most intriguing aspects of the site was the lack of pre-Conquest and Norman material recovered. Indeed, the earliest deposits to be excavated were of 14th-century date. This was most surprising, considering nearby institutions such as the Norman Hospital are known to date from the first half of the 12th century (Rawcliffe 1995) and the Carmelite Friary, occupying a very similar riverside location, lay immediately to the east and dates from the mid-13th century (Ayers 1994). The absence of earlier material implies an absence of occupation, presumably due to a previously-unsuspected embayment of the river or a more extensive floodplain than hitherto thought hereabouts. Such a consideration is difficult to reconcile with known topographical development, is at odds with material recovered from both the Whitefriars drainage trench and the 1977 excavation (above, p.00), and is drawn from very restricted data. Clearly more extensive excavation is required to clarify the problem.

The earliest activity recorded on the site was the deliberate reclamation of the floodplain by the dumping of organic deposits. This was followed by deposition of gravel at the eastern side of the trench, an activity interpreted as providing an early alignment of Cowgate. This interpretation is correlated by the map evidence but, if this alignment of Cowgate only dates from the 14th century, an even earlier alignment must exist elsewhere. The exact location of the bridge mentioned in 1106 (above, p.00) is not known and it may have existed either upstream or downstream of the current bridge structure. Again, further and more extensive excavation is

required but these observations imply that the road alignment was moved, perhaps because of rebuilding of the bridge or (given that realignment seems to have been drastic) as a result of flooding. Disastrous floods in Norwich are known from the 13th century, particularly one of 1290 when it was recorded by Bartholomew Cotton that the floodwaters 'overturned some houses and bore them along' (Ayers 1994, 69).

A further implication of the discoveries at Jarrolds Printing Works is that incorporation of this area within a Late Saxon defensive enclosure is inherently unlikely. The land must have been marginal at best and would afford a large expanse of essentially waste space within the enclosure. While the excavation has not disproved the possibility that pre-Conquest defences extended this far eastward, it has rendered a more westerly alignment for such features, perhaps on the line of Peacock Street, more probable.

The results of the excavation have therefore raised several questions concerning the general topographic development of this part of the north bank area of the city. Fortunately, the data provides less equivocal information concerning the local environment. The interpretation of the gravel deposits as the line of Cowgate from the 14th century assists the interpretation of the north-to-south flint wall uncovered in the excavation to the west of the succession of gravel surfaces. This wall, which was well constructed with a batter and a 'public' face of knapped flint, almost certainly formed the precinct wall of the Norman Hospital. Kirkpatrick states that the Hospital was bounded by Cowgate to the east (Hudson (ed.) 1889, 89). It is probable, therefore, that the other wall uncovered by the excavation, to the west and running at right-angles, formed the north wall of a building immediately within the precinct (albeit one of unknown function).

A gravelled yard existed to the north of the excavated building, probably into the late 16th or 17th century. The structure itself was apparently subdivided, perhaps before the Reformation. It is probable that this building and others formed the basis for tenemental development along the west side of Cowgate following the Dissolution, and elements of the Hospital could be expected therefore to survive into the present century. It is likely that some parts of the (admittedly dilapidated) structures illustrated in the celebrated view of Cowgate dated 1867 by Henry Ninham (now in the Castle Museum, Norwich) were thus of Hospital-build.

The wall observed to the east of the site during the watching brief has been interpreted as part of a structure within the precinct of the Carmelite Friary. The Friary too bounded Cowgate, land being acquired piecemeal but eventually occupying most of the area between Cowgate and the city walls. The Enrolled Deeds of 1285-1311 suggest that the Friary was initially separated from the cemetery of the church of St James, still extant to the north of the excavated area. Eventually, however, its landholding adjoined the churchyard, either through the Friary 'having obtained by gift or purchase all the messuages and grounds adjacent' or through encroachment on the cemetery (Kirkpatrick 1845, 153-4). The observed wall was located less than 5m to the south of the current churchyard, and may therefore have represented a fragment of the linking precinct wall between the Friary and St James in its final state.

While the topographical and structural data from the site is predominantly of interest for the information which it generates for discussion of the local urban landscape, the artefacts recovered reflect the wider commercial interests of the city. The pottery assemblage was small and restricted in scope but, nevertheless, known medieval trade contacts both regionally and internationally are illustrated by vessels from west Norfolk and the Rhineland. The discovery of a bone comb of a type rare in Britain although more common on the continent emphasises the trade contacts of Norwich in the Middle Ages. The rare merchant's weight of Elizabethan date is of particular interest given that it bears the arms of the city.

Although small, the Jarrolds Printing Works site is an example of an archaeological excavation where relatively simple research aims can be complicated by unexpected discoveries. The development of an urban entity such as Norwich was not straightforward, and an understanding of the processes involved advances through a combination of questioning, observation and deduction. The most important result of this small project has been to provide a context for future research in a hitherto little-explored area of the city.

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The excavation team comprised David Adams, Kevin Forrest, Ben Hobbs and Neil Moss. Julia Huddle carried out the finds processing as well as analysis of the small finds. Gordon Turner-Walker (formerly of Norwich Castle Museum) carried out conservation on the finds. Environmental analysis was undertaken by Val Fryer and Peter Murphy (Centre of East Anglian Studies, University of East Anglia). Irena Lentowicz identified the medieval and later pottery and Julie Curl reported on the animal bone. Alice Lyons, Ian Riddler and the late Sue Margeson are also thanked for their specialist input. The illustrations were drawn by Piers Wallace (plans and sections) and Steven Ashley (artefacts). The writers are grateful to Liz Shepherd for her valuable comments on the report.

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