THE DEFENCES OF THE LOWER CITY

EXCAVATIONS AT THE PARK AND WEST PARADE 1970–2
AND A DISCUSSION OF OTHER SITES EXCAVATED UP TO 1994

by CHRISTINA COLYER, BRIAN J J GILMOUR and MICHAEL J JONES
Edited by MICHAEL J JONES
The Archaeology of Lincoln Vol VII–2

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The Park and West Parade 1970–2
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by Christina Colyer, Brian J J Gilmour and Michael J Jones

Edited by Michael J Jones

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D F Williams and Jane Young

Council for British Archaeology
for the City of Lincoln Archaeology Unit
1999
# Contents

List of illustrations ......................................................... viii  
List of plates ................................................................. x  
List of tables ................................................................. xii  
Acknowledgements .......................................................... xiv  
Summaries: English, French, German ................................... xv  
Preface by M J Jones ......................................................... xvii  

## I The Park: Excavations 1968–72 ........................................ 1  

### Introduction by M J Jones ........................................... 3  
Work in 1948–50 ............................................................. 3  
Work in 1968 ................................................................. 5  

### Excavations 1970–2 by M J Jones and Christina Colyer .......... 6  

1. Background and methods ............................................. 6  
2. The gate towers ........................................................ 8  
   1970 season: north tower ........................................... 9  
   1970 season: south tower .......................................... 13  
   1971 season ........................................................... 15  
   1972 season ........................................................... 19  
3. The road ................................................................. 20  
4. The metalled berm ...................................................... 22  
5. The ditch system ...................................................... 23  
6. The rampart trenches: Areas II/III 1971. ....................... 25  
   Area II: upper levels ............................................... 26  
   Area III: introduction ............................................. 26  
   Area II: early structures and rampart dumps (Period 1) .... 26  
   Area III: sequence of deposits ................................. 32  
7. Areas II/V and V 1971: the wall and rampart to the south of the gate ............................................. 37  
8. The rampart to the rear of the gate 1972 ......................... 39  
9. The wall and rampart to the north of the gate 1972 .......... 40  
10. Aftercare .............................................................. 42  

### The finds .............................................................. 44  

1. Architectural stonework by T F C Blagg ......................... 44  
2. Mortar samples by G Morgan and M J Jones ................. 50  
3. Roman coins by J E Mann ......................................... 51
II West Parade 1971–2

Excavations by B Gilmour

Introduction

Methods and constraints

Discoveries:

Period 1: Deposits and features predating the earliest defences
Period 2: Construction and first period of use of earliest defences
Period 3: Construction and use of the interval tower
Period 4: Late Roman modifications to the defences
Internal features
Period 5: Construction and use of a late Roman building
Period 6: Late Saxon and medieval occupation
Period 7: Collapse/robbing of city wall and dereliction of site

The finds

(1) Mortar samples by G C Morgan and M J Jones
(2) Roman coins by J E Mann
(3) Medieval coins, jetons, and tokens by Marion Archibald
(4) Roman pottery by Margaret J Darling, with Joanna Bird and Brenda Dickinson
(5) Medieval and later pottery by Jane Young
(6) Roman glass by H E M Cool and Jennifer Price
(7) Medieval and later glass by Julian Henderson
(8) Other artefacts by J E Mann

Summary of the sequence at The Park by M J Jones

Post-Roman pottery by Sarah Jennings and Christine Jones

Roman glass by H E M Cool and Jennifer Price

Post-medieval glass by Julian Henderson

Other artefacts by J E Mann

Animal bones by Sally Scott
(9) Lead waste from the late 4th century oven flue: XRF analysis by Brian Gilmour. 236
(10) Animal bones by Sally Scott. 236
Summary and conclusions: the Roman Period by Brian Gilmour and M J Jones 247

III Other sites on the lower defences by M J Jones 251

IV General discussion 257
The Roman Period by M J Jones 259
Medieval and later occupation of the south-western part of the lower city
by Brian Gilmour and David Roffe. 262
Bibliography 268
Index by Peter Gunn 276
# List of Illustrations

## A. Line Drawings

### Part I: The Park

<table>
<thead>
<tr>
<th>Fig No</th>
<th>Caption</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Location map of excavated areas at The Park and West Parade in relation to western wall of lower city, modern features, and (inset) Roman walled city</td>
</tr>
<tr>
<td>2</td>
<td>Section drawing of 1948–50 excavations at The Park (drawn by N Booth, reproduced from F T Baker, <em>Ten Seasons’ Digging</em> (1955))</td>
</tr>
<tr>
<td>3</td>
<td>Areas excavated at The Park 1970–2 (see Table 1 for details)</td>
</tr>
<tr>
<td>4</td>
<td>Plan of wall and gate towers as uncovered (cf Fig 5)</td>
</tr>
<tr>
<td>5</td>
<td>Schematic plan of masonry uncovered (Fig 4), with different periods distinguished</td>
</tr>
<tr>
<td>6</td>
<td>Plan and elevation of oven (Feature 1) adjacent to north tower</td>
</tr>
<tr>
<td>7</td>
<td>N–S elevation through south tower</td>
</tr>
<tr>
<td>8</td>
<td>W–E elevations through north (top) and south towers</td>
</tr>
<tr>
<td>9</td>
<td>N–S elevation through north tower, looking east</td>
</tr>
<tr>
<td>10</td>
<td>N–S section through roads showing relationship to construction levels of gate towers</td>
</tr>
<tr>
<td>11</td>
<td>E–W composite section through ditch system and berm adjacent to <em>colonia</em> wall south of south gate tower</td>
</tr>
<tr>
<td>12a</td>
<td>E–W section across Area II 1971, showing wall, rampart and underlying structures</td>
</tr>
<tr>
<td>12b</td>
<td>Interpretative version of Fig 12a</td>
</tr>
<tr>
<td>13</td>
<td>W–E section across Area III 1971, showing latest rampart deposits over underlying structures</td>
</tr>
<tr>
<td>14</td>
<td>Phase-plans of features beneath rampart in Area II 1971: cremation (NF) is the feature immediately to the north of PS in Period II</td>
</tr>
<tr>
<td>15</td>
<td>Phase-plans of features beneath extended rampart in Area III 1971</td>
</tr>
<tr>
<td>16</td>
<td>Section at southern end of Area V 1971</td>
</tr>
<tr>
<td>17</td>
<td>W–E section through berm and wall north of gate</td>
</tr>
<tr>
<td>18</td>
<td>Medieval and later features found overlying the rampart</td>
</tr>
<tr>
<td>19</td>
<td>Plan of north tower showing location of moulded and decorated fragments</td>
</tr>
<tr>
<td>20</td>
<td>Decorated cornice no 1 (cf Plate 24)</td>
</tr>
<tr>
<td>21</td>
<td>Decorated cornice no 2 (cf Plate 25)</td>
</tr>
<tr>
<td>22</td>
<td>Decorated cornice no 3 (cf Plate 26)</td>
</tr>
<tr>
<td>23</td>
<td>Moulded stonework: profiles</td>
</tr>
<tr>
<td>24</td>
<td>Diagram illustrating the various mortar types in the Roman defences at The Park based on particle size distribution analysis</td>
</tr>
<tr>
<td>25</td>
<td>Decorated samian</td>
</tr>
<tr>
<td>26</td>
<td>Decorated samian</td>
</tr>
<tr>
<td>27</td>
<td>Coarse pottery, nos 1–57</td>
</tr>
<tr>
<td>28</td>
<td>Coarse pottery, nos 59–69</td>
</tr>
<tr>
<td>29</td>
<td>Coarse pottery, nos 70–117</td>
</tr>
<tr>
<td>30</td>
<td>Coarse pottery, nos 118–137</td>
</tr>
<tr>
<td>31</td>
<td>Coarse pottery, nos 138–176</td>
</tr>
<tr>
<td>32</td>
<td>Coarse pottery, nos 177–214</td>
</tr>
<tr>
<td>33</td>
<td>Coarse pottery, nos 215–251</td>
</tr>
<tr>
<td>34</td>
<td>Coarse pottery, nos 252–301</td>
</tr>
<tr>
<td>35</td>
<td>Coarse pottery, nos 302–335</td>
</tr>
<tr>
<td>36</td>
<td>Coarse pottery, nos 336–371</td>
</tr>
<tr>
<td>37</td>
<td>Coarse pottery, nos 372–408</td>
</tr>
<tr>
<td>38</td>
<td>Coarse pottery, nos 409–431</td>
</tr>
<tr>
<td>39</td>
<td>Coarse pottery, nos 432–475</td>
</tr>
<tr>
<td>40</td>
<td>Coarse pottery, nos 476–517</td>
</tr>
<tr>
<td>41</td>
<td>Coarse pottery, nos 518–548</td>
</tr>
<tr>
<td>42</td>
<td>Coarse pottery, (mortaria) nos 549–566</td>
</tr>
</tbody>
</table>
Coarse pottery, (mortaria) nos 567–593
Mortarium stamp no 1 (Victor)
Mortarium stamp no 2 (Gratinus)
Mortarium stamp no 3 (Maurius?)
Mortarium stamp no 4 (Sarrius)
Mortarium stamp no 5 (Vikiunus/Adkianus?)
Coarse pottery (amphorae) nos 594–611
Amphora stamps
Painted sherd (no 612)
Stamped and rouletted sherd (no 613)
Medieval and post-medieval pottery, nos 1–21
Medieval and post-medieval pottery, nos 22–35
Roman glass (selected) nos 3–52
Roman glass (selected) nos 54–104
Roman glass (selected) nos 107–27
Post-Roman glass nos 1, 2, 5, 6, 11
Post-Roman glass nos 16, 17
Roman: personal ornaments and toilet implements, (copper alloy)
Roman needles (copper alloy) 10–11
Roman tacks, studs and mounts (copper alloy) 12–23
Roman military fittings (copper alloy) 24–7
Roman seal-boxes (copper alloy) 28–9
Roman miscellaneous (copper alloy) 30–4
Roman spear-head object (copper alloy) 35
Early medieval pendant/mount (copper alloy) 36
Medieval and later: personal ornaments and costume fittings (copper alloy) 37–41
Medieval and later: miscellaneous copper alloy 42–5
Medieval and later: horse furniture copper alloy 46–9
Roman brooch (iron) 50
Roman mounts and structural fittings (iron) 51–8
Roman horse furniture (iron) 59–61
Medieval and later ironwork 62–4
Lead objects 65–7
Roman personal ornaments and toilet implement (bone) 68–86
Roman pins/pegs (bone) 83–4
Roman miscellaneous bone 87–96
Roman gaming counters (bone) 97–100
Miscellaneous bone and antler 101–5
Roman: personal ornaments (jet and shale) 106–12
Roman shale 113–14
Flint; Roman stone 115–18
Roman pipe clay figurine; misc. ceramic discs 119–22
Roman painted wall plaster 123–136
Reconstruction drawing by David Vale of the Roman gate, looking SE

Part II: West Parade

Plan of the West Parade site showing the excavated areas
North-facing section through rampart and rear of colonia wall (cf Plate 31)
Plan of interval tower, adjacent colonia wall and early features cut into lower rampart
South facing section through interval tower, showing deposits predating, contemporary with, and postdating use of tower
Plan of masonry platform, and adjacent colonia wall
SW corner of site, showing internal and external thickening to colonia wall, adjacent to gate.
Area II, Periods 3–4 (late 3rd–4th century). Pits and gullies predating Roman stone building of Period 5
Area II: selected Period 5 features, including oven, with flue later narrowed
Areas I–II: features probably belonging to structures fronting Old Hungate (Beaumont Fee) to the east. Period 6a: late 11th century to mid-12th century
Areas I–II: timber building, boundary and other features of Period 6b: mid to late 12th century
Areas I–II: stone building and contemporary features of Period 6c: late 12th/early 13th century to late 13th century

Plan of masonry associated with postern gate

Diagram illustrating groups identified by analysis of mortar from various periods of the defensive structures

Roman pottery: decorated samian no 20

Roman pottery

Medieval and later pottery nos 1–18

Medieval and later pottery nos 19–37

Medieval and later pottery nos 38–56

Medieval and later pottery nos 57–72

Louver (no 73)

Medieval and later glass

Roman objects of copper alloy, nos 1–3

Early medieval objects of copper alloy nos 4–8

Later medieval and post-medieval objects of copper alloy, nos 9–19

Roman iron objects, nos 20–1

Early medieval iron objects, nos 22–6

Later medieval and post-medieval iron objects, nos 27–36

Roman antler and bone objects, nos 37 and 40

Early medieval antler comb, no 38

Early medieval antler handle, no 39

Medieval bone objects, nos 41–2

Post-medieval bone objects, nos 43–5

Roman and medieval stone hones and medieval chalk disc, nos 46–9

Medieval ceramic objects, nos 50–2

Post-medieval ceramic objects, no 53

Plans of the defensive sequence at West Parade (Periods 2–4)

Part III: Other Sites

Sites on the lower defences discussed in Part III; sites at Flaxengate (F), Grantham Place (GP) and Grantham Street (GS) also indicated

Part IV: Discussion

Reconstruction drawings of the Roman defensive sequence

Topography of the SW part of the lower city in the Middle Ages

B. Plates

The Park

General view of excavations in progress early in 1971 showing the fronts of both gate towers exposed; looking south

The site at the commencement of work in June 1970, looking north

Junction of north gate tower with wall to north, showing straight joint: looking east

Metalled surface west of north tower, and E lip of ditch; looking NE

Oven (Feature 1), looking west

NW corner of north gate tower, looking south, showing moulded and fluted stones

General view of gate towers looking south and showing the line of the colonia wall incorporated into the towers

As 7, but looking north

SE corner of south tower and (foreground) adjacent wall thickening looking NW. Note the excellent preservation, the stepped foundation of the tower, and the structural relationship of the wall thickening

Detail of north tower showing guardchamber and coursed construction, looking east

Rear of north tower at its junction with the wall to the north, looking SW and showing robbing of SE corner of tower
12 Roads through gateway under excavation 1971; earliest complete surface visible. Note also
gatestop (central) and later roads in section (cf Pl 13 and Fig 10). Looking east
13 Roadway with road surfaces excavated apart from gatestop and adjacent stones;
foundations of *colonia* wall survive. Looking E (cf Pl 12)
14 Three periods of the metallized berm surfaces exposed at the southern end of Area V, 1971:
*Colonia* wall and foundation centre. Looking NE
15 Rampart under excavation in Area II, 1971, immediately to rear (east) of south gate tower
and thickened wall, showing their construction trenches cut through top of later rampart
(behind rh ranging pole). Early rampart not yet excavated, defined by gully in which lh
ranging pole stands. Looking south
16 Area II, 1971, showing earliest features beneath rampart (cf Fig 14), and rear face of south
gate tower and, to its left, thickened wall. Looking west
17 Area II, 1971, showing features of Phase II including the clay floor QN and the adjacent
row of stakeholes
18 Area III, 1971, showing features of Phase III running N–S across the trench (cf Figs 15, Pl
19); looking NE
19 Area III, 1971: Features of Phase IV; looking E (cf Fig 15); note 1948–50 trench on right.
20 Area III, 1971: sill wall and postholes of Phase V (cf Fig 15, Pl 19)
21 Area II/V, 1971: wall JM in relation to the rear of the thickened wall and adjacent rampart;
living SW
22 South part of S tower and wall to its south, looking east; original *colonia* wall visible to
front of later thickening; gangwork of latter clearly visible
23 View of rear of gateway and wall after consolidation, with City Hall in the background.
Note state of preservation of rear face of wall north of gateway. Looking SSW
24 Decorated cornice no 1 (cf Fig 20)
25 Decorated cornice no 2 (cf Fig 21)
26 Decorated cornice no 3 (cf Fig 22)
27–8 Architectural fragments found c 100 m S of the Park site 1821: see description in text (from
the Willson Collection, folios D 22–3, reproduced by courtesy of the Society of Antiquaries of
London)
29 Lamp Chimney fragments

**West Parade**

30 View of site at commencement of excavation, looking NW across West Parade towards
Motherby Hill
31 Rear of *colonia* wall and foundations (cf Fig 88) and contemporary rampart to left. Looking
WSW
32 View of interval tower built against original *colonia* wall, looking NW, with rear face of
later thickening of *colonia* wall to N (behind ranging pole, rh)
33 Late Roman platform, with, to right, rear face of *colonia* wall, looking WSW
34 Three phases of *colonia* wall foundations visible towards S end of excavation, looking SSW.
Original *colonia* wall centre, poorly preserved internal thickening to left, and large re-used
blocks of external thickening (gatetower?) to right
35 Remains of late Roman building walls and adjacent oven (partially excavated) in Area II,
with pits to right; looking NNE
36 Detail of oven after excavation of flue; looking NNE
37 Area I, showing medieval pits of Period 6; looking NE
38 Malting kiln in Area I after excavation; looking SSW
39 Reused slabs forming postern gate base and adjacent jambs, looking W
<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Categorisation of deposits into stratigraphical periods at The Park</td>
</tr>
<tr>
<td>2</td>
<td>Analysis of the mortar samples from The Park</td>
</tr>
<tr>
<td>3</td>
<td>Analysis of Roman pottery at The Park</td>
</tr>
<tr>
<td>4</td>
<td>Analysis of Roman pottery groups by sherd weight and brokenness</td>
</tr>
<tr>
<td>5</td>
<td>Plot date analysis of selected Roman pottery groups at The Park</td>
</tr>
<tr>
<td>6</td>
<td>Additions to rampart and wall robber trench: analysis of Roman pottery</td>
</tr>
<tr>
<td>7</td>
<td>Comparison between earliest rubbish from Area III 1971 and main Area II dump</td>
</tr>
<tr>
<td>8</td>
<td>Comparison between groups 14 (dump), 16 (wall construction trench), and 20a (upper rampart)</td>
</tr>
<tr>
<td>9</td>
<td>Comparison between groups 15 (robber trench), 19 (rubbish dump), and 20b (upper rampart)</td>
</tr>
<tr>
<td>10</td>
<td>The Park Roman pottery compared with selected other Lincoln sites.</td>
</tr>
<tr>
<td>11</td>
<td>Percentage plot on all pottery from c AD180 from p70 and lin73c</td>
</tr>
<tr>
<td>12</td>
<td>Comparative analysis of pottery from The Park with Lower City as a whole</td>
</tr>
<tr>
<td>13</td>
<td>Analysis by weight percentages of fabric groups at The Park</td>
</tr>
<tr>
<td>14</td>
<td>Analysis of main fabrics in Area II 1971 at The Park</td>
</tr>
<tr>
<td>15</td>
<td>Analysis of beakers from The Park as a percentage of EVEs</td>
</tr>
<tr>
<td>16</td>
<td>Analysis of colour-coated beaker types as a percentage of all colour-coated beakers</td>
</tr>
<tr>
<td>17</td>
<td>Functional analysis of the Roman pottery from The Park</td>
</tr>
<tr>
<td>18</td>
<td>Functional analysis of Roman pottery from the main rampart sequence</td>
</tr>
<tr>
<td>19</td>
<td>Functional analysis of groups 12–15, 18 and 19</td>
</tr>
<tr>
<td>20</td>
<td>Comparative functional analysis of pottery from the rampart sequence, rubbish deposits and group 21 (latest Roman)</td>
</tr>
<tr>
<td>21</td>
<td>Comparative functional analysis of pottery from group 21 and other late groups from Roman Lincoln</td>
</tr>
<tr>
<td>22</td>
<td>Comparative plot date analysis of pottery from group 21 and other late groups</td>
</tr>
<tr>
<td>23</td>
<td>Samian ware from The Park: forms, weight and catalogue</td>
</tr>
<tr>
<td>24</td>
<td>Distribution of samian from different sources by period and group</td>
</tr>
<tr>
<td>25</td>
<td>Value plot analysis of samian stamped and decorated ware</td>
</tr>
<tr>
<td>26</td>
<td>Percentage plot of all samian against stamps and decorated ware</td>
</tr>
<tr>
<td>27</td>
<td>Comparative analyses by date of the samian from groups at The Park</td>
</tr>
<tr>
<td>28</td>
<td>Samian ware as a percentage of each of the groups</td>
</tr>
<tr>
<td>29</td>
<td>Quantitative analysis of samian forms from The Park</td>
</tr>
<tr>
<td>30</td>
<td>Analysis of sources of mortaria from The Park</td>
</tr>
<tr>
<td>31</td>
<td>Analysis of sources of mortaria, including samian mortaria, from The Park</td>
</tr>
<tr>
<td>32</td>
<td>Amphorae from The Park: quantities by source and date</td>
</tr>
<tr>
<td>33</td>
<td>Incidence of amphorae by stratified group</td>
</tr>
<tr>
<td>34</td>
<td>Main amphorae from The Park by group, based on weight percentage</td>
</tr>
<tr>
<td>35</td>
<td>Incidence of Dressel 20 and Gauloise 4 amphorae from The Park</td>
</tr>
<tr>
<td>36</td>
<td>North African amphorae from The Park</td>
</tr>
<tr>
<td>37</td>
<td>Analysis of types of Roman pins from The Park</td>
</tr>
<tr>
<td>38</td>
<td>Animal bones from The Park: (a) abundance, and (b) frequency</td>
</tr>
<tr>
<td>39</td>
<td>Animal bones from The Park: analysis of dentition</td>
</tr>
<tr>
<td>40</td>
<td>Animal bones from The Park: analysis of selected contexts for evidence of epiphyseal fusion</td>
</tr>
<tr>
<td>41</td>
<td>Abundance of skeletal elements in the largest contexts at the Park, grouped by carcass component</td>
</tr>
<tr>
<td>42</td>
<td>Scattergram of length and basal circumference measurements among cattle horncores from The Park</td>
</tr>
<tr>
<td>43</td>
<td>Non-metrical traits in the animal bones from The Park</td>
</tr>
<tr>
<td>44a</td>
<td>Mortar samples from West Parade</td>
</tr>
<tr>
<td>44b</td>
<td>West Parade mortar samples: suggested groups</td>
</tr>
<tr>
<td>45</td>
<td>Animal bones from West Parade: species list</td>
</tr>
<tr>
<td>46</td>
<td>West Parade animal bones: abundance of species in each phase</td>
</tr>
<tr>
<td>47</td>
<td>West Parade animal bones: frequency of species in each phase</td>
</tr>
<tr>
<td>48</td>
<td>West Parade animal bones: carcass components</td>
</tr>
</tbody>
</table>
West Parade animal bones: evidence from dentition of age of cattle, sheep and pig
West Parade animal bones: epiphyseal fusion in the largest contexts
West Parade animal bones: non-metrical traits
West Parade animal bones: analysis of fish bone assemblage by phase
West Parade animal bones: sexing of pig mandibles
West Parade animal bones: species list from context BF
Many helped to make possible the excavations described above, and many others have contributed to the production of this volume. The former Lincoln County Borough Council gave permission for the work at The Park, and the architects, John Roberts Associates, and main contractors, F P A Finnegan Ltd, worked closely with the City Council and the archaeologists to facilitate our researches, and to enable the wall and gate to be preserved and displayed. The work at West Parade was made possible by the Lincolnshire Police Authority. Financial support was provided by the County Borough Council, the contractors, and the former Department of the Environment through its Inspector of Ancient Monuments, Sarnia Butcher.

Sitedirection was in the hands of Christina Colyer, and in her absence M J Jones, B Gilmour and P Holder. Other site supervisors included T F C Blagg, B Constantine, W S Hanson, B Induni, R F J Jones, N J Lincoln, M Otter, T Tatton-Brown, M Vyner, and B Yule. Finds processing was the responsibility of Jenny Mann, Alison Taylor and Josephine West, and Terry Drayman undertook initial conservation treatment. Various members of the Lincoln Archaeological Research Committee assisted on the excavations as well as many other volunteers. Considerable support and practical advice was provided by various members of staff of Lincoln County Borough Council, notably Mr F T Baker, OBE, and Mrs C M Wilson.

English Heritage, having taken over responsibility for rescue archaeology from the Department of the Environment in 1984, made available generous funds through the good offices of Dr G J Wainwright to allow the detailed work on the report to be undertaken. The Calouste Gulbenkian Foundation made a grant towards the study of the Roman pottery, and the Roman Research Trust a more recent contribution to allow us to update the finds reports. The City and County Councils have supported the former Trust and present Unit over many years with accommodation, grants, and help in kind.

Contributors to the report are acknowledged in the appropriate place. Colin Palmer-Brown helped with the sorting of site data and preparation of the stratigraphical matrices. The published site plans and sections are the work of Jayne Peacock and David Watt, apart from Figure 2, drawn by Norman Booth. David Watt and David Taylor drew the finds, apart from the pottery, which was illustrated by the specialist authors. The reconstruction drawing used on the cover is by David Vale. Photographs reproduced in the volume are primarily the work of Christina Colyer, but others were taken by T F C Blagg, B Gilmour, H N Hawley, M J Jones, C V Middleton and Son, B Yule, and by staff of Lincolnshire Museums. Mr Hawley also produced the prints used in the publication. The photographs of the lamp chimney fragments (Plate 29) are the work of Maggi Darling.

The report as a whole was read by Dr J S Johnson and Pamela Irving of English Heritage, and by J B Wood, formerly of the Lancaster University Archaeological Unit. Their valuable suggestions have been incorporated where practicable. Christina Colyer read the whole draft in great detail and made many improvements. Dr S Esmonde-Cleary made several perceptive comments on the Roman period discussion. Keith Dobney, Terry O’Connor and Andrew Jones kindly read the reports on animal bones. Elizabeth Nurser produced the printout of the earlier version, and Angela Moore the version submitted for publication. Christine Pietrowski proved a most diligent copy editor and Archetype IT resourceful typesetters. The index was provided by P Gunn.

MJJ
Summary

This volume is concerned principally with two large scale excavations which took place on the line of the western defences of the lower walled Roman city. The discoveries are set into the context of other evidence that has emerged for the lower circuit.

There were traces of occupation predating the construction of the defences, in the form of timber structures, all set out at right angles to the street grid, from the early 2nd century. The earliest fortifications, consisting of a wall, sand and clay rampart and contemporary ditch, were being built towards the end of the 2nd century, but their construction may have taken several decades. The rampart was subsequently extended, and interval towers added, while a major refurbishment took place during the 4th century. The wall, rampart and ditch were all increased in scale. Again, dating this operation precisely is impossible, since the evidence came mainly from rampart dumps which contained much secondary rubbish, but some works were certainly being undertaken around the middle of that century.

Reoccupation, of an urban nature, of this part of the city did not occur before the 11th century. The remains of yards to the rear of properties further east were encountered, backing on to the city wall. One building at The Park was constructed up against the wall in the late 15th century, but much of this part of the city was scarcely occupied between the 14th and 19th centuries.

Detailed reports are presented on pottery, other artefacts, and animal bones. In particular the Roman pottery from The Park represents an important collection, while the medieval pottery groups from West Parade are useful for understanding the 13th–14th century sequence at Lincoln. The animal bones from The Park help to corroborate the recently published evidence from the Waterside site for late Roman butchery, while the medieval material from West Parade complements that already published from Lincoln.

A critical study is included of both earlier and more recent discoveries of remains of the lower defences (Part III), while the sequence and its significance is discussed in some detail (Part IV). This includes a synthesis of the evidence for the Roman defensive system, to compare with both the upper circuit and with other sites. The medieval evidence is set against the documentary sources for the south western part of the walled city.

Résumé

Cet ouvrage traite principalement des fouilles qui ont été faites sur deux sites de grande étendue le long de la ligne des fortifications de la basse ville romaine sur le côté ouest. Les découvertes sont présentées dans le contexte de l’évidence déjà mise au jour sur l’enceinte inférieure.

Des traces d’habitation prédant la construction des fortifications ont été révélées: il s’agit d’édifices en bois, orientés dans tous les cas perpendiculairement à la grille des rues, datant du début du 2ème siècle. Les premières fortifications, composées d’une muraille, d’un talus de sable et d’argile ainsi que d’un fossé contemporain, étaient en cours de construction vers la fin du 2ème siècle mais il se peut que leur édification ait demandé plusieurs décennies. Le talus fut par la suite prolongé, des tours furent ajoutées à intervalles sur l’enceinte et d’importants travaux de rénovation furent entrepris pendant le 4ème siècle.

La muraille, le talus et le fossé furent tous agrandis. Une fois de plus, il n’est pas possible de déterminer avec précision la date de ces travaux car l’évidence mise au jour provient surtout des amoncellements de déchets accumulés sur le talus qui contiennent beaucoup de détritus secondaires, mais il est certain que des travaux étaient en cours vers le milieu du 4ème siècle.

La réoccupation, de caractère urbain, de cette partie de la ville n’a pas eu lieu avant le 11ème siècle. Les vestiges des arrière-cours d’édifices situés plus loin vers l’est ont été découverts, limités à l’arrière par le mur de la ville. Un édifice sur ‘The Park’ fut construit au 15ème siècle, adossé à la muraille, mais dans l’ensemble cette partie de la ville ne fut guère habitée entre le 14ème et le 19ème siècle.

Des rapports détaillés sont présentés sur les poteries, autres objets et ossements d’animaux. Les
poteries romaines de The Park en particulier représentent une importante collection, tandis que les groupes de poteries médiévales de West Parade sont utiles pour l'étude des types de poterie utilisés à Lincoln aux 13ème et 14ème siècles. Les ossements d'animaux découverts à The Park aident à corroborer l'évidence mise au jour sur le site de Waterside et déjà publiée qui a trait à la boucherie vers la fin de l'époque romaine, tandis que le matériel médiéval provenant de West Parade fournit un complément d'information aux découvertes faites à Lincoln et déjà publiées.

Le présent ouvrage comporte une étude critique des découvertes, anciennes et plus récentes, des vestiges des ouvrages défensifs de la basse ville (IIIe partie), le développement des fortifications et son importance sont examinés en détail (IVe partie). Cette étude comporte une synthèse de l'évidence mise au jour sur le système défensif romain, permettant une comparaison avec l'enceinte supérieure ainsi qu'avec d'autres sites. L'évidence médiévale est examinée à la lumière des sources documentaires ayant trait à la zone sud-ouest de la ville fortifiée.

Zusammenfassung


In contrast to the defences of the upper enclosure, those of the lower or 'extended' circuit at Lincoln were little known before 1968. Antiquarian accounts of the wall of the lower Roman city—most of them collected in Richmond's essay (1946) — indicated its approximate line and its structural nature, but it was 1948 before a formal excavation took place, with only limited results. Great strides were made, however, in the years between 1968 and 1974, during which four large sites were investigated, two on the western side, one on the south, and one on the east.

The present report largely consists of a detailed account of the two excavations on the western side, at The Park (Part I) and at West Parade (Part II), and of the large groups of finds made, particularly at the former site. It forms a companion report to volume VII/1 (Jones 1980) in this series, whose structure and content were favourably received — with the caveat, here remedied, that the finds evidence was being published in separate covers. Accordingly, opportunity has been taken, in Parts III and IVa, to bring together evidence from other sites excavated up to 1994 on the line of the lower enclosure and to discuss the defensive sequence for the whole circuit. Detailed accounts of the other two large excavations on the defensive line will appear in a forthcoming volume devoted to the lower walled city in the series *Lincoln Archaeological Studies*.

Overlying the Roman rampart bank were the remains of medieval properties. The medieval occupation of the south-western part of the walled city is also considered, in its historical context, within the general discussion (Part IVb); it has not been felt necessary to include a section on the documentary sources for the area in the introductory section, since at the time of excavation the priority was investigation of the Roman fortifications. The post-Roman deposits were not destroyed without record, but research perspectives at the time of discovery were such that the later periods were considered to be of secondary importance at this site.

Much of the present volume was prepared in the period 1983–7, under the supervision of the writer, and the rest of the material was initially brought together in 1989–90. The draft report was studied in detail by Christina Colyer, who was originally responsible for the excavations at The Park and West Parade and who made a large number of most useful and perceptive suggestions.

Two factors delayed the report further. One was the 1991–4 excavations on the eastern defences, notably on the site of the Central Library, which might have helped to resolve the apparent discrepancy in dating (discussed in Parts III and IVa) and even have invalidated the principal results from the western defences. These investigations are summarised, together with other fieldwork, some of it also quite recent, in Part III. The other problem was the preoccupation of the Lincoln finds specialists with other commitments, among them corpora of pottery (also funded by English Heritage) which might radically change ideas on dating of some of the phases. Although not yet published, that work is essentially now complete to the extent that radical re-dating of any types now seems most unlikely. A grant from the Roman Research Trust has enabled some of the finds specialists concerned to update their contribution to this volume in 1995–6. The presentation of some of these reports has been rationalised since the original draft: that on the Roman pottery from The Park, covering a substantial amount of material, still appears at its original length in view of its scale and benefits from additional refinements made possible by computer-based analyses. To have computerised the whole database for the two main sites reported on here, so that they could be fully integrated and presented in the format being applied to the forthcoming reports on other sites in Lincoln, was beyond present resources. Even then, the final preparation for publication has had to take its turn at a time of other pressing commitments. The report was delivered to the publishers in the autumn of 1996.
I  THE PARK: EXCAVATIONS 1968–72
Figure 1 Location map of excavated areas at The Park and West Parade in relation to western wall of lower city, modern features, and (inset) Roman walled city
Introduction by M J Jones

The excavations of 1968–72 on the lower western defences along the line of the path known as ‘The Park’ (see Figs 1, 3 for location) not only represented a major step forward in our understanding of the defences of the lower walled city at Lincoln, but also cast considerable light on Romano-British urban defensive systems generally. A complete (albeit composite) section was obtained across the defensive system from the tail of the rampart to the outer lip of the ditch – a distance of c 55 m – and it also proved possible to excavate for a distance of c 56 m along the line of the wall. Neither operation is likely to be repeated within the city, nor is the unexpected discovery of a well preserved Roman gate. When combined with the work at West Parade to the north (Fig 1 and Part II below), the investigations which took place on the remains of a substantial, though buried, stretch of Roman city wall and rampart were on a scale scarcely rivalled. In spite of this, there was no opportunity at The Park to examine the direct relationship of the first colonia wall to the rampart: the wall had been rebuilt or thickened internally almost everywhere. Fortunately, the evidence from the West Parade site compensated for this deficiency. There is, however, some difficulty in reconciling the evidence with that from Silver Street on the east side (see Other Sites, Part III and General Discussion, Part IVa below).

The survival at The Park of the masonry of wall and gate, up to 4.5 m high, was such that both were preserved as a feature within the subsequent redevelopment scheme (the rampart having been little disturbed owing to the recent use of the area for gardens, open spaces, etc.). So much more impressive must the appearance of these fortifications have been in the medieval period – during which time there was no functioning gate here – that it probably served throughout many centuries as a defence without substantial alteration. The corollary of this is that little was learned of the post-Roman period from the excavations, for both the ditch (after recutting) and the rampart appeared to have been reused. The late Roman rampart had sealed a sequence of buildings, the earliest periods of which predated the construction of the earliest defences around the lower city, and in turn medieval properties ran from the wall over the rampart to a street frontage to the east.

The line of the western defences has been known for many years (Richmond 1946, 40–1), its course being the only one reasonable in view of the sharp drop to the west higher up the slope. Apart from a number of antiquarian references and minor chance discoveries, however, no investigation of the lower defences was carried out before the trench of 1948–50 (below) and none between then and the commence-

ment of work at The Park in 1968 (for location, see Fig 3). From a date in the early 18th century the wall was levelled to form a public walkway ‘made upon it lately for the recreation of the citizens: and the ditch, which was many years a common laystall [dung heap], is now much better employed as a garden’ (Sympson 1737, p 580, quoted by Richmond, loc cit, n 74).

By chance, it was possible to re-excavate in 1971 the trench begun in 1948 and to reinterpret it with the benefit of data from area excavation of a greater sample. The contrast between the results and interpretations of the two separate investigations demonstrates the limitations of interpreting and dating defensive sequences from narrow transverses – a lesson generally but not universally absorbed by professional practitioners even now.

Work in 1948–50

Since the report on the ‘1948 trench’ was neither lengthy nor widely disseminated, it is reproduced here (Fig 2; see also Baker 1955, 10–11).

The site which yielded most information for dating was in the grounds of the City Health Department at Beaumont Fee in the south-west quarter of the extended colonia. A section 80 feet in length and six feet wide was cut across a piece of open ground contiguous with the back of the extended Roman west wall under The Park. A complete section of the rampart showed that it had been constructed in two stages. First a compact clay bank was raised on a surface which yielded some evidence of 1st century occupation. The bank contained pottery with a terminal date of about AD 180. It was later increased in height by numerous layers of tipped material. These additions contained pottery extending into the 3rd century AD, though not long after the turn of the century. This rampart was retained at the rear by a compact mass of clean material and later by a low revetment wall 42 feet from the back of the main wall, which stood three feet high, but was overrun by 4th century occupation levels. Since the ground to the east of the wall contained rubbish layers but no buildings, it would seem that the inhabited area enclosed by the walls at this point did not encroach upon them in Roman times. The main conclusion, however, is that the defences of the colonia were extended down the hill in the late 2nd century AD and that the bank was heightened in the first quarter of the 3rd century. Since the junction between the wall and the rampart was inaccessible, the relationship between the wall and the two
Figure 2  Section drawing of 1948–50 excavations at The Park (drawn by N Booth, reproduced from F T Baker, Ten Seasons' Digging (1955))
periods of bank construction could not be ascertained.

This interpretation was shown by later work to be inaccurate in several respects (see section on rampart trenches, pp 25–37 below).

Work in 1968

Further excavations in 1968 were occasioned by the demolition of houses on The Park in preparation for the building of new municipal offices for the then Lincoln County Borough Council. These excavations on the sites of Nos 40 and 42 The Park were carried out by J B Whitwell on behalf of the Lincoln Archaeological Research Committee. He uncovered the front of a tower later shown to be part of an unsuspected gateway with an adjacent road surface to the north, and further south also located the wall and the lip of the ditch 4.7m in front. The gate structure was cleaned but not further excavated, apart from the surrounding features, before being temporarily back-filled.

A substantial find in 1968 from the loose fill of the robber trench of the colonia wall was of two decorated cornice fragments (reported on below p 44, nos 2, 3) whose primary and secondary contexts were both uncertain. Another object of interest, again unstratified, was a late Roman belt-buckle of Type IIa (Hawkes 1974, 387; Leahy 1984, 26–9).
(1) Background and methods

Aided by a grant from the Department of the Environment excavations recommenced in July 1970 under the direction of Miss Christina Colyer, with M J Jones as her assistant. Four months were devoted to the gradual investigation of that part of the gate structure west of The Park, to the berm areas to the west, and a necessarily brief, machine dug, composite trench across the ditch system (Fig 3).

The closure early in 1971 of The Park (Pl 1) allowed work to recommence, initially aimed at investigating the rear part of the gate and the rampart behind the wall. In due course the examination of the rampart – c 25 m in width – and the series of underlying structures developed into a major operation. Further investigation and recording was carried out of the gate, road, and berm, and the opportunity was taken to examine the wall to the south of the gate. The 1971 season, which overlapped

Figure 3 Areas excavated at The Park 1970–2 (see details opposite)
with the start of work at West Parade and in which Messrs B Yule and B Gilmour did much supervision, lasted almost until the developers took possession of the site in September to begin construction of the new City Hall.

The archaeological discoveries were acknowledged, after some vigorous encouragement, to be impressive enough for the planned location of the west wing of the new building to be moved westwards so that it did not damage the remains of wall and gate. Further modifications had to be made in 1972 when a scheme for an east–west road had to be abandoned after the wall to the north of the gate was found to survive to a height of c 4 m (c 13 ft). Investigations between May and October that year, supervised by P Holder and B Gilmour, were mainly concerned with the upper levels to the north of the gate, but the proposed landscaping made detailed examination to the rear of the north gate tower necessary, revealing an interval tower.

An interim report on the excavations was prepared in 1974 by Christina Colyer with the assistance of others, and published in the following year (Colyer 1975). The results set out below reflect that report to some extent, but constitute a fuller and more considered treatment, with the benefit of a full study of the finds. The stratigraphical account is largely based on the sorting of the sequence carried out under Miss Colyer’s direction in 1974, but has been developed in various directions. Those who have contributed in other ways are recognized in the appropriate place or in the acknowledgments.

At the start of the 1970 season it was not expected that archaeological work would last more than a few months, and a further season in 1971 was primarily aimed at investigating only the back of the gate towers and the adjacent rampart. The plan of areas excavated (Fig 3) should be seen principally in the light of these developments, as the objectives evolved. The objectives of each area are explained in more detail in the appropriate section of the excavation report below. The list below shows how each area fitted into the overall sequence. The fact that archaeological deposits and monumental masonry were uncovered close to the modern surface (owing to the history of the site in the post-Roman period) meant that investigation of the earlier Roman levels was necessarily restricted in scope. Since foundations of the masonry structures had mostly been cut into the natural sand and clay, the dilemma of whether to destroy them in order to excavate beneath did not have to be faced. In retrospect, it is regrettable that only fragmentary plans were recovered of the structures beneath the rampart; this resulted from the combination of deep stratigraphy overlying them and the concentration on elucidating the defensive features. The excavation was of a ‘rescue’ nature, and sometimes had to take place under conditions which rather resembled a salvage operation.

The site contexts (layers) were recorded in alphabetical sequence (AA, AB, AC etc) in a series of site notebooks, in which lists of finds of different categories were also made. New Area numbers were allocated for each year of excavation (see Fig 3). At the time of excavation, standardized forms for entering the many properties of each context were not in current use, and in some respects the stratigraphical records are inadequate by today’s standards. The context list, together with dating evidence, has subsequently been entered on to a card index, and the finds data are stored on a computerized retrieval system. A fairly comprehensive matrix of

<table>
<thead>
<tr>
<th>Location of the 1970–2 trenches (see Fig 3)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1970</strong></td>
</tr>
<tr>
<td>I  N tower and adjacent area</td>
</tr>
<tr>
<td>II S tower and adjacent area</td>
</tr>
<tr>
<td>III Area between I + II on line of road outside the gate</td>
</tr>
<tr>
<td>IV Area excavation on eastern lip of ditch</td>
</tr>
<tr>
<td>V  E scarp of ditch (continued westwards)</td>
</tr>
<tr>
<td>VI W scarp of ditch</td>
</tr>
<tr>
<td><strong>1971</strong></td>
</tr>
<tr>
<td>I  road (eastern part)</td>
</tr>
<tr>
<td>II rampart trench to rear of S tower</td>
</tr>
<tr>
<td>III eastern rampart trench (SE of I)</td>
</tr>
<tr>
<td>IV road (western part)</td>
</tr>
<tr>
<td>V  S of south tower, both sides of city wall</td>
</tr>
<tr>
<td>II/V to rear of junction of city wall with S tower</td>
</tr>
<tr>
<td><strong>1972</strong></td>
</tr>
<tr>
<td>I  to N of N tower and in front of city wall</td>
</tr>
<tr>
<td>II to rear of N tower</td>
</tr>
<tr>
<td>III to rear of S tower, north of E part of 1971, II</td>
</tr>
<tr>
<td>IV to rear of city wall, N of N tower</td>
</tr>
</tbody>
</table>
the stratigraphic sequence was also prepared (with help from Colin Palmer-Brown), as an aid both to checking the records and to preparing the report and can be consulted in the archive together with the interpretation and phasing lists of all the contexts.

This was a ‘pre-matrix’ site (cf Clark 1993, on the problems of writing up early excavations), and since not all contexts appear on plans and sections they cannot be securely placed into the stratigraphical sequence. In order to convey something of the emerging discoveries as the excavation proceeded, The Park report is related partly in terms of the development of the excavations and the structural report does not include references to all stratigraphical contexts. It is hoped that this will make for a more readable account: too many excavation reports have now become unreadable, and although this formalisation represents an advance in terms of objective reporting, it is not necessarily in the best long term interests of archaeology (Hodder 1989; Pryor 1996; see the excellent design and presentation of Dixon’s (1994) report on Crickley Hill).

Moreover, although summary dating is noted within the excavation report, details of the dating evidence are left to individual specialist reports – notably those on coins and pottery – and to the sections summarising the sequence following the finds reports. These are cross referenced in the site and discussion texts. Indications from the finds on functional aspects are also incorporated into the discussion sections at the end of each site report and in the general discussion at the end (Part IV).

Period numbers across the whole site have been allocated arabic numerals, and in individual trenches, Roman numerals (see table). Dimensions are given primarily in metric, but imperial equivalents are quoted where they might bear a relationship to the use of standard units. The records, together with a larger number of drawings and photographs than it is possible to publish here, and the many artefacts recovered from the site, are at the time of writing still in the care of the City of Lincoln Archaeology Unit. They are in the process of being moved to permanent storage with Lincolnshire Museums and Lincolnshire Archives (Lincolnshire County Council); a microfilm copy of the site and finds data has already been deposited at the National Monuments Record.

(2) The gate towers

The excavation trench dug by J B Whitwell in 1968 had been backfilled in order to protect the Roman masonry. The new campaign commencing in July 1970 made re-excavation of this backfill and investigation of the area to the north (beneath the site of No 42 The Park) its initial priority (Pls 1, 2). By early August the extent of frontal projections of the towers was clear and an excavation area measuring c 8 m east–west and c 20 m north–south was formally laid out (Fig 3). The north–south measurement included the roadway 4.5 m (15 ft) wide, the south tower 6.3 m (21 ft) including offsets, and 5.8 m (19.5 ft) of the north tower, its northern extremity having been robbed. The east–west measurement extended east–
Figure 4  Plan of wall and gate towers as uncovered (cf Fig 5)

Figure 5  Schematic plan of masonry uncovered (Fig 4), with different periods distinguished
wards as far as The Park footpath (still in use at the
time) and westwards to include the edge of the ditch,
c 1.1 m (3ft 7in) west of the tower front. The south
gate tower projected c 3 m (10 ft) in front of the
incorporated facing stones of the *colonia* wall (Fig 4).

**The 1970 season: the north tower (including
the *colonia* wall)**

The front of the *colonia* wall incorporated into the
north tower was also visible at an early stage in the
work, ie after the cleaning of the level to which the
tower had survived beneath the 19th century cellar
(Pl 1). The robbing on the north side (AH) was of
post-medieval date, the fill containing 17th century
pottery and glass (see reports below). Several other
post-medieval deposits (some connected with stone
robbing) were also found in this area (AE, AF, AG,
AL, AO, AT, AU, AV, AW, AX, AY, AZ), and it became
clear that there was a succession of fills dipping from
The Park footpath westwards into the profile of the
former city ditch (for which, see below p 23, cf Pl 1;
Fig 17). Presumably these had also overlain the gate
structure before construction of the Victorian houses.
Removal of all the post-medieval deposits eventually
revealed the northern limit of the north tower, which
was thereby shown to measure 6.1 m (20 ft)
north–south, and the front edge of the foundations of
the *colonia* wall to the north of the tower (Pl 3). The
wall also showed evidence of having been robbed in,
or later than, the 11th century.

To the front (west) of the tower a layer of gravelly
material (BC) of late Roman date was found in the
area north of the tower (Pl 4). It was possibly a
metalled surface, but more likely represents one of the deposits of building material, including a dump of mortar (BQ) cut by scaffolding postholes. These deposits were overlain by dumps of rubbish which contained some of the latest Roman pottery groups found in the city (for which see Darling, 1977a and later rubbish group 21, below, p 133). There were also coins of the House of Valentinian (AD 364–75) and some of Theodosius I (388–95: see coin report, below, and Mann and Reece, 1983). The pottery group indicated a brief timespan for the deposition of the rubbish, which was presumably brought from inside the walls through the gateway (ibid, 3). Either the berm may have been kept clean up to the deposition of the rubbish or the pottery provides a more accurate date than the coins for the (brief) lifetime of the gateway.

The discovery of rubbish in this location, especially at such a late date, is not remarkable, but it is notable that it was never cleared away. Such a late date for activity within the town, perhaps running into the early 5th century, is also of interest. To the west of the gravel layer (BC) was the edge of the ditch which, having been cut into the loose orange-brown sand ‘natural’ subsoil, was slightly sinuous in line owing to partial collapse (Pls 1, 4).

Along the north wall of the North Tower, an area above and to the west of the front face of the colonia wall consisted of white clay, burnt red. It was sealed by one of the deposits of builders’ waste probably associated with the construction of the tower. Excavation of the overlying clay revealed a small stone and tile structure (Feature 1), with the appearance of an oven (Fig 6, Pl 5). Along the floor of its flue were laid tile flags; others had probably been used to roof it. It measured c 1.5 m (c 5 ft) north–south by c 1 m (3 ft 3 in) east–west. The flue was 330 mm (13 in) high and 190.5 mm (or 7½ in) wide. The loose earth fill contained a complete colour-coated flagon (Darling 1977a, no 25), of early to mid 4th century date, as well as, remarkably, an unshattered egg, abundant fragments of mussel shell, and some small bones, all resting on a ‘ledge’ of white mortar at the south end, which had apparently been closed off. The bones were identified by Mr G S Cowles of the British Museum (Natural History) as being ‘from one young chicken, probably a week to ten days of age’. Some of the stones forming the feature showed evidence of burning or intense heat, as did the tile floor. The fill and contents had clearly been inserted after any fire had expired.

The stratigraphic position of the oven showed that it had only been in use during the construction of the tower. This fact and the nature of its contents suggest that it was used to prepare food for the builders of the gate. The unburnt contents may, however, constitute a votive offering. Mr J R Magilton has contributed the following note on its ritual meaning:

‘Ovens and hearths are frequently found in association with temples in Britain, and at Springhead (Kent) it has been suggested that a hearth beneath temple 1 was a temporary feature relating to a foundation ritual (Lewis 1966, 45). The Lincoln oven, although carefully constructed, could therefore be associated with religious ceremonies to mark the erection of a new gate; any foundation deposit would presumably lie beneath its masonry footings.

There can be little doubt that the food deposit was a ritual rather than an actual meal. The bones of a chicken a week to ten days old which formed part of the deposit cannot represent food for mortals, although they may have constituted part of a symbolic meal for the gods. The chicken may have been devoted to divine purposes because it had died at too early an age to be of any economic use (eg fed to animals) or was perhaps chosen because of its size. Miniaturization, seen in model objects at Romano-Celtic temples, may itself have had a ritual significance, and could have governed the choice of a ‘miniature’ rather than fully grown bird. The combination of chicken bones and eggshells is attested in York (Wenham 1968) and Winchester (Clark 1979) in funerary contexts, where the purpose may have been to strengthen the soul of the deceased through a symbolic portrayal of the life cycle. If the Lincoln meal is related to a foundation deposit for the adjacent tower, the chicken-and-egg combination may have been intended to ensure that it was long lasting.

In the classical world, Janus was responsible for the gates, but he is rarely attested outside Italy and may be discounted as the presiding deity at Lincoln. Cockerels were an attribute of Mercury, a popular
god in the Roman West through his association with Celtic deities with similar spheres of action and, according to Caesar, cockerels, together with geese and hares, were held in awe in Iron Age Britain. Chickens, however, were common components of ritual meals at, for example, Mithraea (Lewis 1966, 104; Richmond & Gillam 1951) and it is impossible to adduce a specific deity from the Lincoln deposit. It may have been no more than a precautionary offering to some vague genius loci inhabiting the cemetery area beyond the gate.

It is possible that the gates of Romano-British towns were thought to possess their own guardian spirits. Romano-Celtic temples frequently lie either just within or just outside gates, but their siting may well have been influenced by the potential prospect of revenue from passers by.'

Miss Colyer has subsequently suggested other possibilities:
‘As noted, the jug, young chicken and egg had been carefully inserted before the whole thing was covered over, and must surely represent a votive offering. To whom? The genius loci is a possibility: Janus too

Plate 3 (right) Junction of north gate tower with wall to north, showing straight joint: looking east

Plate 4 (below) Metalled surface west of north tower, and E lip of ditch; looking NE
Plate 5  Oven (Feature 1), looking west

Plate 6  NW corner of north gate tower, looking south, showing moulded and fluted stones
perhaps should not be dismissed so slightly, since there was a two-headed Celtic deity and syncretism is probable. We do not, as far as I know, yet have evidence for this in Roman Britain, but nor did we for the Italic cult of Faunus and his previously anonymous Celtic parallel until the Thetford treasure appeared. It could well be evidence for the final ritual, an offering for the god of the gate after the builders had their last meal. Despite this, the combination of the egg and the young chicken smack to me of the mystery cults. The egg is an Orphic symbol par excellence and long-since incorporated into the Mithraic cult (e.g. the birth of Mithras from the Orphic egg as a symbol of the ordering of the universe, and the zodiac in the Mithraic sculpture from Housesteads). The chicken and egg symbols are not, I think, usually associated with Mercury, and his cult, I suspect, is not involved, despite his associations with trading and hence gates, outside which there were traders, and which can perhaps help explain the heavy coin loss in the road surfaces here and there were traders, and which can perhaps help explain the heavy coin loss in the road surfaces here and in the vicinity of Roman gates generally.'

Whatever the interpretation, this is an interesting case of late Roman paganism in an apparent centre of official Christianity (Watts 1991, passim; for the possible link with Mithraism, see Stocker, 1997).

At the end of the 1970 season an opportunity was taken to record aspects of the gate structure in detail, to examine the masonry for evidence of different periods of construction, and to look for similarities and differences between the north and south towers.

The northern tower was distinctive in containing several reused moulded and decorated stones in its lower courses (Pl 6; see report by Blagg, below, p 44; see also Colyer 1975, 240 and fn.). The two lowest courses of these monumental stones above the foundations were offset. Later accumulations, including road and berm surfaces, had obscured the lowest course.

There was also a clear distinction between the whitish mortar of the tower and the buff brown mortar of the original colonia wall. At the level at which the tower survived beneath the modern cellar, the colonia wall was partially sealed by the white mortar of the tower, and had therefore apparently been demolished to this level when the tower was built. The profile of the mortar here clearly indicated the presence of a single offset on the front face of the wall. A further offset was visible north of the tower. The wall was 1.45 m (4 ft 10½ in) wide above the offset courses where it had been incorporated into the tower; the eastern part of the tower had been built up against the wall's rear face, which was also offset. At the junction of this wall with the north and south walls of the tower there were clear traces that the wall had been partially rebuilt at the time of the tower's construction, presumably to enable the two to be bonded together above ground level (Pls 3, 7). At a distance of 500 mm (20 in) north of the tower the offset course in the wall came to an end, to be replaced by a huge block 2.2 m (7 ft) long, which appeared to represent a later rebuilding (Fig 4). On top of this stone, the front of which was significantly further west than the front of the colonia wall immediately to the south, a narrow line of mortar indicated an offset. The oven structure (Feature 1) described above had rested against its upper course, suggesting that the rebuilding of the wall was probably contemporary with the tower. The sequence of rebuilding is discussed further below (p 180).

The 1970 season: the south tower

The work of Whitwell in 1968 had been largely confined to uncovering the masonry of the tower, the wall to the south, and the lip of the ditch. Resources at the time did not permit detailed recording or further investigation of Roman deposits (except of the upper road surfaces and berm levels to the north, south, and west adjacent to the tower), and the monument was sealed in polythene before being backfilled for subsequent re-excavation.

Re-excavation in 1970 to this level was therefore a straightforward exercise. Pottery dating suggests that the section of colonia wall incorporated into the tower had been fairly thoroughly robbed to foundation level, in the 17th or early 18th century, except at its north end, immediately south of the north wall of the tower (Pl 8). As in the north tower, it was easily distinguishable from the tower as it contained yellow, as distinct from white, mortar. The foundations of the tower, which were slightly askew to the layout of its superstructure, butted up against the front and rear faces of the wall.

To the west of the tower the lip of the ditch was revealed, cut into the yellow-brown sand (CO) at a point 1.2 m (4 ft) west of the tower. In 1968, and at first in 1970, layer CO was assumed to be natural, but it was later shown to be occupation material dating from the Flavian-Trajanic period to the construction of the first defences. A slot ran north–south in the ditch side, possibly connected with a timber building, a drain, or even a bridge structure. The berm to the south of the tower had been metalled (see p 22).

During the same season, the trench was extended westwards (Areas III, IV), in order to reveal more of the ditch. In its earliest fill was found a layer of dark earth with compacted rubble (BJ). Later a complete composite section across the ditch system was excavated mechanically (see below, p 23). A northerly extension revealed more of the metalled berm.

Near the northern limit of the fragment of colonia wall incorporated within the south tower, the wall survived to a height of ten courses, with a double offset above its substantial foundations (Pl 8). The junction of this front face with the tower masonry showed clearly that the latter had been built up against the wall. An east–west section dug along the south side of the tower revealed that the foundations of both wall and tower had been cut into the layer of yellow-brown sand (CO). Their foundations, 900 mm (3 ft) deep, were of similar construction, pitched
limestone rubble set in clay, but the boundary between the two was clear.

The wall building level had been the surviving top of the layer CO, which had subsequently been sealed by a layer of brownish mortar associated with the wall construction, and in turn by a deposit of greenish sandy material (BK). Although the construction trench for the tower had been removed by the 1968 excavation, it was clear from the overlying layer of white mortar that it had been built from this higher level. The nature and date of the green sandy layer (BK) were therefore the clue to the temporal relationship between wall and tower. The Roman pottery which it contained provided a 4th century date, suggesting a considerable time gap between the construction of the wall and the tower. The south tower was slightly larger than the north, measuring 6.1 m (20 ft 2 in) north–south at the level of the top surviving courses. Unlike the north tower, only one of the huge blocks of limestone forming the lowest three courses of the south tower was moulded. They were, however, of similar proportions and several lewis holes were visible in the uppermost courses (Pl 1). In height the three courses measured, from the top, 340 mm (13 ½ in), 300 mm (12 in) and 200 mm (8 in). There were two offsets on the south and three on the west side, the highest here only indicated by evidence of differential weathering (see profile, Fig 23). The two offsets measured 138 mm (5½ in) for the upper and 175 mm (7 in) for the lower, and overlay foundations c 1.1 m (3 ft 7 in) deep. Although traces of it had been removed in 1968, a spill of mortar on these sides indicated the former existence of the associated surface, or berm.

Of the areas investigated in 1970, the south tower was best preserved on its north side, against the roadway (Pl 7). The walls were 775 mm (2 ft 7 in) thick, and stood up to five courses high of monumental blocks in most places though towards the eastern end nine courses of smaller stones survived, giving a total height above the foundations of at least 2.1 m (c 7 ft). The core, to a height of at least three courses, was of masonry blocks. There were either two or three offsets, depending on the height of individual blocks.

The colonia wall

The colonia wall had clearly been demolished at least to the approximate level at which the tower was found ie c 1.3 m (4 ft 4 in) above the foundation – the white mortar again being the clue to the later period. Buff-brown mortar was confined to the wall. The
foundations, like those of the tower, were on average c 1 m (c 3 ft 3 in) deep, and were constructed in a trench cut from the top of the sandy layer (CO) (see above, p 13). They consisted of large blocks of limestone rubble, some of it set in stiff clay and also including some loose sand (Fig 4; Pl 8).

The wall itself was faced, where it survived, with small limestone blocks, on average c 250 mm (10 in) long (Pl 8). These were set in brownish mortar. The offset at the bottom course was c 175 mm (7 in) wide. At the most, it survived to a height of 1.3 m (4 ft 4 in) where it had been incorporated into the tower. It was c 1.45 m (4 ft 10 in = 5 Roman feet) wide. From what survived, it appeared to be of exactly the same construction as found at West Parade (below p 187).

The 1971 season

More work in the area of the south tower in 1971 was concerned both with the eastern part of the structure, including the guardchamber, and the berm to the west. Detailed elevational and photographic records were made (Figs 7, 8). The guardchamber was c 3 m (10 ft) wide, larger than that in the north tower (see below).

New trenches to the east of The Park were opened, two of them to investigate the rampart (see below, p 25). The rear of the north tower was less well preserved than that of the south tower due to medieval robbing, which had also disturbed the adjacent road. The plan of the eastern part of the south tower was, however, easier to establish (Pl 9). Its wall survived for up to 23 courses at a height of c 5 m (16 ft). Where not surviving above its foundations, its line was indicated by a robber trench, at the base of which were rubble foundations set in clay, measuring 3.15 m (10 ft 6 in) north–south and at least 2.55 m (8 ft 6 in) east–west. The robber trench had followed the line of the walls of the superstructure, and traces of limestone along the eastern edge indicated an offset at ground level.

The collapse of the western section of the trench, on the line of The Park, only days after its excavation, led indirectly to the closure of the footpath two weeks ahead of schedule. Subsequent clearance of the gate structure revealed the south wall of the north tower standing to a height of 12 courses of small blocks above the monumental masonry, and the north wall of the south tower to a height of 9 courses (Pls 7, 8). Both towers had been robbed further east. Over the road, on the site of the gate entrance, a substantial number of voussoirs was found beneath the loose dark fill which had presumably been used to construct the 18th century walkway which became known as The Park. The arch may therefore have collapsed in situ.

To the south of the gateway, removal of the walkway exposed the east wall of the south tower guardchamber, which had a ledge or offset 625 mm (2ft 1 in) above its base. A similar construction was found within the north tower (Pl 7). The ledges may have held joists for the floor of a room which must have been reached from above.

Later in the 1971 season the foundations of the

Figure 7  N–S elevation through south tower
north and south towers were investigated and recorded, and the berm surfaces were excavated, including those to the south of the gate towers. The lowest courses of the side opposite the gateway had been provided with several offsets, while the foundations may have been wrongly surveyed by the builders, since the western edge of the south tower projected beyond them. This was, perhaps, a sign of haste, echoed in the fact that the tower was not exactly parallel to the *colonia* wall.

The walls of the guardchamber of the north tower were cleaned and recorded. The interior area was 2.42 m (8 ft 1½ in) below the ledge. The walls of the chamber were of small dressed limestone blocks (Pl 10). The core of the tower consisted of courses of pitched limestone rubble alternating with layers of mortar, on average c 150 mm (6 ins) high (see elevation, Fig 9). A coin of Valentinian I (354–75) was recovered during the cleaning of the core, but it may have been compressed into the mortar after construction. Although the coin was embedded in the mortar, and had mortar adhering to its surface, it is just conceivable that it was deposited there later, during robbing (Colyer 1975, 243, fn 3).

The area to the north of the north tower was further investigated in 1971, including one section into the eastern scarp of the ditch and another to investigate the construction of the gate tower. Here the construction trench was c 750 mm (2 ft 6 ins) wide compared with 150 mm (6 in) on both west and south sides (for berm, see below, p 22). It occurred to the excavators during the course of recording the towers that there may have been two discrete periods of gate construction, the earlier consisting of wide flanking walls extending back c 10 m (c 33 ft) from the *colonia* wall, to act as a revetment to the rampart bank. The evidence which suggested this interpretation was as follows:

(i) indications of straight joints in both gate towers as far as the *colonia* wall, defining the inner face of the flanking walls;
(ii) the foundations of the projecting towers both contained several courses of foundations set in mortar above the clay-based rubble, whereas those of the flanking walls did not, and were carried to different depths;
(iii) there were similar discrepancies in mortar types (see below, p 50);
(iv) certain features associated with the existence of a gateway had been cut by the construction trenches for the projecting towers. On the other hand the earliest surviving road surface sealed the construction trenches for the projecting towers (Fig 10). It is possible that earlier surfaces had existed but had been cleared. Slight traces of metalling at a lower level just inside the gate might support this idea;

Plate 9 (left) SE corner of south tower and (foreground) adjacent wall thickening looking NW. Note the excellent preservation, the stepped foundation of the tower, and the structural relationship of the wall thickening

Plate 10 (below) Detail of north tower showing guardchamber and coursed construction, looking east
the positions of the gatestop and adjacent stones did not appear to bear a direct relationship to the recesses visible in the towers adjacent to the road.

This problem is further discussed below (p 180).

The wall north of the north tower

The break between the tower and the wall was indicated by a straight joint, their offset plinths occurring at the same level (Fig 9, Pls 3, 10). The wall had clearly been rebuilt and the rebuilt work abutted against the tower. The mortar used in the rebuilt wall was of ‘orange-pink’ colour, clearly distinct from that used in the original colonia wall (see results of analysis, p 50). The latter had been demolished to foundation level in advance of the rebuilding. Close examination of the wall to the north of the north tower showed its core to be constructed of distinctly coursed, pitched rubble, each course having been sealed by a thick, levelling layer of mortar – a type of build found extensively in the late wall of the upper city (Jones 1980, passim) and at many other contemporary sites. The first ten courses or so were of an average height of c 300 mm (12 in); higher up, an average of 177 mm (7 in).
There were also clear breaks suggestive of gang-work (see further below, p. 38), one 3.75 m (12 ft 6 in) to the north of the tower, and these were also apparent to the south of the gate (see below). No change in mortar was apparent. The core contained some reused dressed blocks. The top of the rear of the wall, formed of well-pointed masonry, was also uncovered in 1971.

**The 1972 season**

Excavations in 1972 added more details to our knowledge of the north gate tower, which was now found to have overlain the remains of an earlier interval tower (XI). Moreover, the construction of the flanking wall (XJ) was shown to be clearly different from that of the projecting gate tower, corroborating the hypothesis suggested by the 1971 season that there had been two periods of gate structure. A considerable stretch of the city wall to the north of the gate was uncovered, and this is described below (p. 40).

The areas opened in 1972 are shown on Fig 3. Two of the four new areas were concerned with the rear of the north gate tower (P72, Area II) and the area east of this, extending southwards beyond the southern edge of the road (P72, Area III).

In Area II, the initial discoveries were of a north–south wall foundation (RF) parallel to the back of the tower, and its west–east return, associated with foundations further north (US, UW, WL, WQ), and of early post-medieval date (Fig 18). The remains of this building, described further below (p. 42), sealed the fill of the medieval robber trench to the rear of the gate tower. Except on the tower’s north side and at its northeast corner, robbing had penetrated down to the level of the water table, but beneath this level traces remained of the foundations of the gate tower and of the ‘flanking wall’ (XJ) of the postulated earlier gate structure (Pl 11). Those of the latter were apparent to a depth of at least 2 m in the fill of a well (XT), and were everywhere considerably deeper than those of the later tower. The full north–south width of the wall was not ascertained: it was at least 3.1 m (10 ft 3 ins) wide at foundation level, and c 2 m (6 ft 6 ins) above ground. Its construction had in turn partly destroyed the foundations of a north–south wall with an east–west return, clearly to be interpreted as an interval tower added to the rear of the *colonia* wall.

The well (XT) lay within the southeast corner of this tower, and on that basis may have been contemporary; possibly it was earlier, and filled by the time of the tower’s construction. It contained some early 2nd century samian ware. Around it there had been a surface of flagstones (XS) – possibly a basement within the tower with samian ware of late 2nd–3rd century date – sealed by a layer of silty material, above which were in turn laid successive metalled surfaces of the road through the later gate. The well contained the remains of a timber 200 mm (8 in) square.

The well was constructed from the top of XU, a brown sandy layer overlying the sandy subsoil, the same layer as the *colonia* wall building level. Rampart material appeared to have been cut away at the rear, and this suggests the possibility that the well postdated the rampart bank. But XU only contained pottery of mid 2nd century date, while the fill (XT) of the well could not be dated on the basis of finds. Besides, much of the top of the well appeared to have been cut away at the time of the construction of the flanking wall. Since the rampart may have lain over its site, it might follow that the well was abandoned by the time the earliest defences were constructed. The stratigraphic sequence at this point, however, and in particular its filling by rubble associated with the flanking walls, allows the possibility of use until this operation, or even subsequently.

**The interval tower**

The foundations of the interval tower (XI), c 1.2–1.5 m (4–5 ft) wide, had been inserted through the early rampart (much of which had been subsequently removed during the 4th century building operations) indicating that, if wall and rampart were contemporary, the tower was an addition to the wall. Its foundations consisted of limestone rubble, some laid...
flat, set in sand and clay, and had also been cut through a brown sand layer c 430 mm (18 ins) into the natural sand (cf West Parade, below p 189). Parts of the north wall, the rest partly incorporated into the gate tower foundations, and of the south wall were located. The east wall may have been incorporated into the flanking wall (XJ), but this had been heavily robbed in the 13th century or later. Enough survived, however, to show a straight joint where the flanking wall butted up against the colonia wall, here incorporated into the ‘first’ gate.

The foundations of the northeast corner of the gate tower did survive, and were distinctly shallower than those of either the interval tower or the flanking wall. The latter’s remains had extended into the clay underlying the natural sand, beneath the water table. They consisted of larger blocks than other features. The associated building level could be discerned in the east section of Area II at the top of the early rampart (Fig 12a). On the north side of the gate tower, five offsets survived (cf south tower, where there were seven) and an impressive height of c 2 m of the north face of the tower, well preserved and pointed. The core was clearly layered (Pl 11). In all, the tower measured 8.2 m (27 ft 3 in) east–west and 5.9 m (19 ft 9 in) north–south.

In summary, the sequence found in 1972 was as follows:

(i) the wall and rampart, presumably contemporary, of the late 2nd century or later
(ii) the well, which was probably earlier than, but may have been contemporary with,
(iii) the interval tower added to the rear of the wall – 3rd century or later
(iv) the flanking wall of the early gateway – see road section (p 21) for dating
(v) the gate with projecting towers
(vi) the rebuilding of the wall to the north of the gate.

As set out above, the sequence does not differ substantially from that proposed in 1974 and published in the Interim Report (Colyer 1975).

(3) The road

The road was first encountered in 1968 when a narrow strip adjacent to the south tower was uncovered and excavated. The finds from the successive surfaces indicated a mid 4th century date.

Investigations were resumed in 1970, running hand-in-hand with work on the gate towers. The north–south section at the eastern limit of excavations, and an east–west baulk left between the areas worked to north and south provided useful sections through the sequence of surfaces (Fig 10).

During 1970 four principal road surfaces were identified, in addition to a number of localized repairs. The earlier surfaces tended to be of small pebbles in mortar, the later of small cobbles in earth, mixed with building debris. The earliest road noted (DU) overlay slight remains of earlier timber structures cut into the sandy accumulation, the foundations of the demolished colonia wall, and the construction trench for the large central gatestop which was still in situ (Pl 12). Except where the gatestop and the colonia wall already existed, a substantial make-up layer of stones in mortar, sealing layers of sand and stone, had been laid down as a base for the first surface. A slot-like feature (EA) running east–west near the south tower could have represented a drain associated with the road. It had probably been discarded when the uppermost road surface (DF) was laid down. There was also a hint of another possible drain (CK), seen in section next to the north gate tower, and again abandoned in the later period.

The uppermost surface (BD, DF), which sealed the second offset of the towers, only survived fragmentarily. The next surface down included smaller as well as larger cobbles, and occurred over the whole area investigated. Beneath it was another major resurfacing (CW) which again only survived in parts, represented by smaller cobbles and pebbles, in some cases set in hard mortar. It appeared to have been repaired on the north side. The lowest surface (DT), of fine pebbles, was the most easily distinguished of the surfaces (Fig 10; Pl 12).

The latest road appeared to have been chopped through on the line of the ditch. This is best interpreted as a medieval recutting of the ditch at a time when the gateway and road were no longer used. As a result no definite evidence for any Roman causeway or bridge across the ditch survived. Excavation here did reveal part of the backfill (CG) of the easternmost early ditch which appeared to have been repacked with clay at the time of the insertion of the gateway – in which case no bridge would have been necessary. But it could have been associated merely with a change to the ditch system rather than a causeway. Interestingly, the clay layer (CG) stopped more or less in line with the south side of the road.

The 1971 season saw the excavation of the remaining areas of roadway, including the east–west baulk and the area east of the gatestop. The sequence was more or less identical to that found in the previous year, but more was learned about the nature and function of the underlying layers. The early colonia wall was found to have been removed at this point to foundation level (the lowest course of the wall survived near the south tower) together with the adjacent section of rampart, in preparation for the construction of the gateway and road surfaces (Pl 13). The gate was thereby proven to be an insertion into an existing defensive circuit.

A further sequence through the road surfaces was obtained in 1972, east of the gateway and adjacent to the rampart to the rear of the south gate tower, and a small area of road was also uncovered overlying the earlier wall within the entrance passage. The sequence at the latter was poorly preserved but next to the rampart fine surfaces were clearly visible. The earliest road appeared to be later than
3rd century levels (eg SQ) which were stratigraphically equivalent to PK and JO, extensions to the rampart (see below). But the later rampart layer SL definitely appeared to seal the first surviving road here (TI). Unless this was caused by later slippage, it demonstrates that the rampart was still being heightened after the construction of the gate. Such operations may have been necessary for the building of the upper courses of the gate and widened wall.

In all, traces were found of up to seven resurfacings, but it could not be determined how many of these were localized repairs and how many similar operations were not recognized, owing to a combination of the limitation on excavation and later disturbance. Where the investigation of the road did prove especially useful was in the discovery of a large number of coins between its stones, over eighty in all. Almost all the coins were of 4th century date (below, p 51), while the ceramic material from these contexts also contained much that was clearly contemporary with the road’s use, including several distinctive mid to late 4th century types (see coin and pottery reports below). While pottery fragments might have been used for hardcore, the coins provided a reliable basis for dating the construction of the road – and therefore of the gateway – and the period of its use, the frequency of its repair, and less precisely, the date of its abandonment. They are listed elsewhere, but those important for dating purposes are mentioned here.

A coin of AD 330–5 was found in a posthole (LA) beneath the gate tower and another of 330–45 in the make-up for the earliest road (DU). These indicate a date for the construction of the first gate of no earlier than the 330s, and the dates of some coins in the second and third surfaces would argue for a date around the middle of the century. From EE, a layer interpreted as packing of the early ditch to form a causeway, came a coin of 335–41. (This should be compared with the evidence from the contemporary wall and rampart.) Coins of Flavius Victor (387–8) and Arcadius (338–92) were encountered in and above the 5th surface, and indicate how late the use of the gate continued – probably into the 5th century. This late date is to some extent echoed by that of the pottery group found in a rubbish deposit adjacent to the north tower (Darling 1977a; see also below, p 133).

There was no direct relationship between the roads and the flanking walls of the earlier period of the gate – later robbing had disturbed it. Further west, however, all the definite roads clearly overlay the offsets of the projecting towers (Fig 10), and it is most probable that the rebuilding of the gate was associated with the earliest surviving surfaces. Either the earlier surfaces had gone – or there was only one phase of gate. The earliest surface respected
the gatestop, but later ones sealed it: this might suggest that the doors were relocated.

To the east of the gatestop, an early surface (KH) dropped away to the east but could merely be interpreted as an early road. The layer of clay, pebbles, and mortar (TN) could be similarly interpreted, but again only survived in a small area. To the west of the gatestop, any early surface could equally be identified as berm associated with the *colonia* wall before its demolition for the gate’s construction.

(4) The metalled berm

The berm between the front of the city wall and the lip of the ditch had been metalled at the time of the construction of the first fortifications and on at least two subsequent occasions. Remains of the earliest metalling were encountered to the north and west of the north tower, and to the west and south of the south tower. The best preserved area of both early and later metalling was at the southern end of the excavations.

Although the lip of the ditch had in most places collapsed into the ditch, investigations in 1970 to the north of the north tower showed the width of the berm to have been at least 4.2 m (14 ft) wide. The first metalled surface (CX: found mainly further south) sealed the brown sandy layer (CO) which constituted the occupation deposit immediately predating the construction of the earliest wall and rampart. The wall was also built from this level. The earliest metalling consisted of pebbles finer than were found in the later surfaces. Work further north in 1972 revealed a metalled berm (RD) 4 m (c 13 ft) wide contemporary with the rebuilt wall and sealing the fill of the early ditch (Fig 17; below, p 40).

Later building activity, notably the building of the projecting gate towers, had damaged the early surface in the vicinity of the gate, and no discernible surface survived beneath the gateway road surface (see above, p 20), possibly owing to the extensive engineering works involved. Adjacent to the north tower, a levelling deposit (MO) associated with the gate’s construction was dumped in advance of the laying of a yellow-white mortar ed surface (CT, DX, MN), which was in turn sealed by further building debris (BQ, BV, CP, CQ) and, at a later date, by a dump of rubbish material (p 133; Darling 1977a). The oven feature (above, p 10) thought to belong to the construction period clearly sealed this mortar level, whose exact function is thus unclear.

In Area V (1971), however, well to the south of the south tower, definite later metallings were identified (Pl 14). The later of the two (KW, NS, OB, OC)
contained late 3rd century coins and was formed of pebbles larger than those of the earliest surface (MT, NT, OE), set in pink or yellow mortar. The latest surface (KT) only survived at the southern end of Area V. It contained in its make-up layer an early 4th century coin of Constantine I (307–37) and may have dated to the time of the refurbishment of the defences. This evidence indicates that it was intended that the berm should be maintained as an intact feature during the life of the Roman city wall. Pottery dating from the berm deposits is discussed below (p 127).

(5) The ditch system

The existence of an area of derelict land to the west of the position of the Roman gate allowed a section to be dug for the first time across the full width of the ditch system of the Roman walled city. The line of the ditch system at this point had been known for many years, although its scale was uncertain. The evidence from the upper city indicated a width of c 25 m (c 80 ft; Jones 1980, 54). Such dimensions were consistent with the hypothesis that Orchard Street to its west had originated as a lane on the outside of the medieval ditch, which was presumed to have had much the same profile as that of the late Roman period (Fig 11).

The eastern lip of the ditch was located in 1968 at a point c 10 m south of the south tower. It was also found in 1970 to the west of both gate towers and had been cut through the Roman road at this point, suggesting that the gateway was abandoned at some date while the fortifications were still in use (Pls 1, 4). Of course the insertion of the gateway in the 4th century at this point would have necessitated either repacking part of the earlier ditch system to form a causeway or the construction of a bridge. Investigation of the eastern scarp here provided no certain clues, and was complicated by the fact that the original lip, cut into the underlying loose sand, had in many places collapsed into the ditch.

During early September 1970 the excavations to the west of the south tower were extended westwards by several metres (P70, Area IV) to allow examination of the inner scarp. A machine was subsequently used to provide a composite section across the system, stopping just short of Orchard Street (Areas V, VI; Fig 3). This work was hindered by the unstable nature of the ditch fill, requiring extensive shoring, and by encountering both a 'live' sewer and the water table. It is possible that water often lay in the wide sump of the late Roman ditch here, at a depth of c 3 m below the contemporary ground level. Presumably the sump acted as a drain for water coursing down the hill towards the river.

Several facts could be established from the evidence of the section (Fig 11), but problems of interpretation remain. In the inner scarp was the sump of an early ditch or slot. A few metres to the west down the scarp was a more likely candidate for the sump of an early ditch (DY), possibly later than the other. If these were ditches of a wide V shape, they had been more or less completely removed by the later cutting of a much wider ditch, almost flat-bottomed; perhaps the water table made deeper cutting inadvisable. The ditch was c 24 m (77 feet) wide, and near the outer edge were remains of two further earlier sumps.

The larger of these (DM) had a flat bottom and, as it contained much Roman building material, may actually represent an extramural structural feature: in 1971 Roman buildings were noted 50 m away to the west of Orchard Street.

The early ditch system, whether single, double, or multiple, was presumably contemporary with the earliest defences. The *colonia* wall was separated from the ditch by the metalled berm c 4–5 m wide described above (p 22). Certainly the lowest fills in the ditch (BY, BZ, DL, DM, DN) produced only Roman artefacts, and these dated up to the 4th century. The late Roman recutting is probably to be associated with the strengthening of the defences in the 4th century, and this wide ditch may have been recut in the medieval period after becoming partially silted. Work to the north of the gate in 1972 (below p 40) suggested that the second period ditch was contemporary with the rebuilt wall and confirmed
Figure 11  E–W composite section through ditch system and berm adjacent to colonia wall south of south gate tower
that the ditch had been recut in the medieval period (Fig 17).

Almost all the fills excavated in the 1970 section contained pottery of medieval or later date. The ditch might have been neglected after about the 13th century – when part of the gate was robbed, or this may have been the time when the defences were reorganized (see general discussion below). Final levelling appears not to have taken place before the early 18th century, when the area became gardens, and The Park a fashionable walkway overlooking them.

In summary then, only outline information was recovered about the Roman and medieval ditch system, and a careful, detailed investigation at another point would be justified. In particular, the earlier system was not understood, nor was the exact relationship of the medieval ditch to that of late Roman date. More recent examination to the north of the West Parade site has added a little to our knowledge (see below, p 253).

(6) The rampart trenches (Areas II and III, 1971)

The areas east and southeast of the gateway (Fig 3) were opened for investigation in February 1971. Area I was designed to examine the road surface east of that dug in 1970 (described above, p 20). Area II, the rear of the south gate tower at its junction with the colonia wall, and the relationship of all these features to the rampart (Plate 15). Preliminary examination of the rampart here showed that it extended well to the east of the eastern limit of Area II, but the presence of a modern building made it impossible to extend the trench further. Area III to its south-east was designed to examine the eastern part of the rampart, any north–south street inside the defences, and structures predating the rampart. Coincidentally, it also provided an opportunity to recheck the interpretation of the trench dug in 1948–50 (above, p 3).

Five periods of structures and associated features dating from the end of the 1st century to the 3rd century were found under the extended rampart, and at least two periods of building lay beneath the earlier rampart. Pottery dating evidence for these is discussed below, p 123. There were at least two distinct phases of rampart construction, with much rubbish dumping at certain periods (see p 124 for discussion of pottery dating from the ramparts). The relationship of the ramparts to the gate tower and the thickened wall was established, although that to the first colonia wall had been obliterated except at the very southern limit of the excavations (Area V, 1971, see p 38 below). Much of the gate structure had
apparently been robbed in the 13th century or soon after, and there was evidence of occupation over the rampart in the form of pits or structures from the 11th to the late 16th centuries.

Each trench is described summarily below, together with the latest deposits. The Roman sequences are then described in some detail, although it has not been felt necessary to cover all constituent contexts of each stratigraphic phase. This information may be consulted in the site archive.

**Area II: upper levels**

This area lay to the rear (east) of the southern gate tower, and contained the junction of the tower with the rear face of the *colonia* wall. It measured c 14.5 m (48 ft) east to west at its greatest length and 4.5 m (15 ft) north to south. To the south of the gate tower and north of Area V (see Fig 3), a baulk was left which was later investigated (Area II/V, see below, p 37).

Modern accumulation from the landscaping of the gardens was cleared mechanically, first to locate the rear face of the *colonia* wall and then down to the top of the latest rampart or any later archaeological feature. This process involved the prior demolition of The Park footpath, originally built c 1720, and the closure of mains services which had run beneath. The wall was found at a depth of only c 600 mm below the ground surface, and therefore clearly survived to a considerable height. The rampart bank to its east survived in places only 150 mm below the surface, and was recognized by the orange colour of its clay and sand composition. The rear of the south gate tower was also well preserved, having been largely covered by the rampart (Pl 9). At its junction with the *colonia* wall, here widened, the tower was clearly shown to be the earlier by its relationship to the wall, although the evidence from the rampart and construction trench indicates that the two were roughly contemporary (Fig 12).

The rampart sloped gently down towards the east, and had been cut through by several features. These included a number of pits (FG, FH, FN, FO, FP, FV, FX), as well as two rectangular features (FN/FO: post-pits?). All were of 11th century date or later. A north–south slot (FK) may have represented a late Roman or sub-Roman structure.

The late levels of the rampart (Phase VIIb; see p 32) were next removed, and they and underlying dumps were found, like those in Area III, to be prolific in artefacts and animal bone. Their removal also revealed the construction trench (OH/GH) of the gate tower and widened wall, sealed by an area of clay daub (Fig 14, Plate 15).

**Area III: introduction**

At roughly the same time, work began in earnest on Area III, and excavation of the two separate trenches (and of other parts of the site) subsequently went hand-in-hand according to the availability of labour. Area III was deliberately positioned to overlap Area II to the west, so ensuring a composite section through the complete width of the rampart and, it was hoped, facilitating correlation of deposits between the two (Fig 3). It measured c 18 m east–west by c 3.6 m north–south.

As in Area II, the post-Roman features included spreads, pits, and slots mostly of medieval date but also some which contained no artefacts later than the Roman period (EP, EN/HS, GP, GS, HL, HP, HQ, HS). Among these was an east–west slot (HX) close to the northwest corner of the trench. It resembled the construction trench of a Roman building, and could just about have been contemporary with the construction of the gate towers. Here, as in Area II, the excavation of the later rampart dumps was a major operation, complicated by the quantity of cultural material – largely residual, but very rewarding for the excavators. Beneath the (later) rampart in Area III, the whole trench apart from the western end was occupied by a sequence of buildings. This sequence, though complex, was elucidated largely during the course of the excavations, although subsequent study has refined it. The features found in both Areas, and the overlying rampart levels, are described in sequence.

**Area II: early structures and rampart dumps (Period 1)**

The ‘natural’ sand subsoil was encountered at a depth of 4.8 m at the western end of Area II below what had been The Park walkway (Fig 12a). Further east, because of earthmoving operations in c 1880 when the grounds of Beaumont Manor were landscaped, it was a little deeper. The sand overlay the blue lias clay. Two overlying sandy layers could be discerned during excavation: QL, which probably represented accumulation associated with late 1st and early 2nd century occupation, and QG, the layer from which the earliest rampart was constructed (equivalent to CO west of the gate, see p 13, above).

**Phase I**

Features cutting into the undisturbed subsoil included the wall trench for a timber building, the northeast corner of which lay within the excavated area (Fig 14; Pl 16). The slot was c 250 mm (10 in) wide; it contained one posthole within the excavated area but produced no finds. To its north-east lay a circular pit, QO, dish-shaped in section, c 1.8 m (6 ft) in diameter and only c 250 mm (10 in) deep as surviving, and two further small postholes. There was also a double posthole (QR). These features were dated by pottery to the late 1st/early 2nd century (see below, p 123).
Figure 12a (top)  E–W section across Area II 1971, showing wall, rampart and underlying structures
Figure 12b (below)  Interpretative version of Fig 12a
Figure 13  W–E section across Area III 1971, showing latest rampart deposits over underlying structures
It is significant that, from the first, all major features ran on an alignment more or less at right angles to the known layout of the colonia.

Phase II

The Phase I features were found to be filled with the brown sand layer (QL) into which later features had been cut. Of most note was the eastern part of another timber structure recognized by a row of stakeholes running roughly north–south, a gully to its east, and a clay floor to its west (Pl 17). Twelve stakeholes were found, on average c 250 mm (10 in) apart, c 120 mm (5 in) deep, and c 60 mm (2½ in) in diameter. The clay floor (QN) was c 50–60 mm (2–2½ in) thick and extended westwards for c 3.5 m (c 12 ft). The gully (QT), c 1.5 m (5 ft) to the east of the stake-holes and c 50 cm (20 in) wide, is presumed from its stratigraphic position to have been contemporary. A further, more substantial, ditch or gully (QK) c 1.5 m (5 ft, centre to centre) further east, ran parallel. This was c 1.2 m (4 ft) wide and varied in depth between 250 mm and 300 mm (10 in and 12 in).

Further east two cremation burials were found, both dug into layer QG, and belonging to the mid to late 2nd century (see p 124 for pottery vessels, nos 45, 46, Fig 27). Although this was the ground level at the time of the rampart’s construction, burials are unlikely to have lain within any defences (or within the notional or official town), and the pottery dating confirms this. The cremation (PS) had been marked by a slab of limestone, which sealed a grey ware pot (see below, p 89, no 45) containing the remains of an adult or youth. The pot had been inserted into a hole slightly larger than the pot itself. The stone marker had been sealed by robbing debris from the adjacent wall (HG) in and against the earth section.

The second burial (NF), adjacent to (PS), was of more complex construction (Fig 14). The grey ware pot (p 89, no 46), containing the remains of an infant had been inserted into the south-west corner of a square depression, c 600 mm (2 ft) square and c 200 mm (8 in) deep. The hole had then been filled, and stakes c 75 mm (3 in) in diameter inserted into at least three of the four corners and the centre, and perhaps also adjacent to the cremation in the other corner. This may have formed the basis for a wooden roof of twigs, which could have been set alight for the cremation process, and so represent a bustum or an ustrinum (Jones R F J 1987, 815). A localised patch of intensive burning and fragments of charcoal nearby were contemporary with this burial, and could also indicate the site of the actual cremation process. The other burial lay only c 600 mm (2 ft) to the south and might indeed have been connected.

The rampart (Period 2)

The features of Phase II, including the construction level of the stone foundations (QP) were sealed by the 'greenish brown' sandy layer (QG). From this level the earliest rampart bank had been constructed, presumably later than the cremation burials (Fig 12). The elucidation of the deposits forming the rampart was a difficult task, and some uncertainty must remain about the number of constructional phases, the assignation of certain deposits to individual phases, and the function of certain deposits as rampart or occupation layers.

These problems are not helped by the fact that the front of the rampart, or the contemporary wall, lay several metres to the west, having been separated from levels in Area II by the later insertion of the gate tower and internal wall thickening. The account given below takes these difficulties into consideration, but nonetheless attempts to establish the most likely interpretation.

Phase III: earliest rampart?

Over QG a sandy layer (QH) was dumped; this was partially sealed by a mortar spread (QF) which, if derived from the construction of a contemporary wall, suggests that wall and rampart were built concurrently (Fig 12). In turn, a sandy layer (QE) containing much rubbish and a substantial clay and
sand layer (PX), both of Antonine date, were deposited. The layer PX survived to a height of only 1.2 m (4 ft) above the presumed contemporary ground level but was sloping up to the west, and the height adjacent to the colonia wall can be estimated at c 2 m (6½ ft) or more. These rampart deposits terminated in a gully (QA) 1.2 m (4 ft) wide and c 45 cm (18 in) deep, which lay c 7.5 m (25 ft) from the inner face of the colonia wall (Pl 15). QA had probably served as a drain to the rear of the bank, a common feature in such contexts, especially needed when the rampart, as here, was both sealed by a layer of clay and set on a hillside. Pottery evidence (group 10, p 124, below) indicates a construction date in the late 2nd century or perhaps at the beginning of the 3rd.

Phase IV: rampart heightening and lengthening
(Period 2b)
A similar gully (PR/PQ) was found c 3 m (10 ft) east of QA, and probably served a similar function after the rampart had been widened by that amount to take account of its heightening (Pl 15). The heightening was represented principally by two substantial dumps, PW and HE, which appeared to be later in date than the earlier dump, with pottery dating up to the early 3rd century (Fig 12). They were separated only by two narrow layers west of the earlier gully (QA). Both were fairly clean, possibly being derived from ditch digging, and extended the width of the rampart to c 11 m (36 ft). The upper layer (HE) was of stiffer clay, suitable for binding the underlying layers. It survived to a height of 2.2 m (7 ft), which can be projected to suggest a height of 3–3.5 m (10–12 ft) adjacent to the colonia wall. It had clearly been cut by the construction trench for the widened wall and therefore belonged to an earlier phase. At its tail the gully PQ/PR was 1.1 m (3½ ft) wide and 450 mm (c 18 in) deep, similar in size to its predecessor QA. Within the gully a north–south slope with the natural gradient was discernible, corroborating its identification as a drain.

Probably to this phase belonged some massive foundations (QP) only encountered in the northeast corner. These were at least 1 m (3 ft) deep, and were only partially excavated, to a depth of c 300 mm (1 ft) beneath the water table. They are best interpreted as the southwest corner of a building that was later extended southwards.

Phase V: the life of the second rampart
During the construction and life of the first two phases of the rampart, the ground level to the east appeared to remain much the same. The gully at the rear of the second phase rampart contained a lower fill of silt, but was subsequently filled in with clay. Fragmentary evidence survived for its replacement by a cobbled pathway (PN) no more than c 2 m wide.

At about the same period, or shortly afterwards, the north–south wall (HG) in the eastern section appeared to have been robbed. This wall may have been equivalent to LO in Area III (qv), and the demolition and robbing of both walls may have been
an early stage in the later extension of the rampart (see below). The lower robbing fill of wall HG consisted of sand and loose mortar with some wall plaster similar to LO. Robbing had not taken place before the deposition of the extensive layer of rubbish (PK), but the upper fill of the robber trench consisted not of this layer but the next rubbish dump (GK) (qv below). If the demolition of this structure can be assigned precisely to the next Phase (VI), its construction level is uncertain in both Areas II and III, but is perhaps most likely in Phases III–V (late 2nd–3rd century).

The remains of the southwest corner of the building in the northeast corner of Area II, mentioned above, are similarly difficult to assign to a particular period. No traces survived of the building level apart from the hint that the foundations were sealed by the sandy layer QK. Taken at face value, this indicates that they existed from Phase II (early/mid 2nd century) until their robbing in advance of the major widening of the rampart in Phase VI (below), and possibly as part of the same process as the demolition of HG.

It is conceivable that this was a building, later extended southwards, to the south of (and contemporary with?) a postulated east–west street, which had to be demolished to make way for the rampart extension at the time of the building of the gate. This hypothesis depends to some extent on the interpretation of the rubbish dump PK as a separate operation from the subsequent heightening of the rampart. The dump seems to belong to the early 3rd century (p 125, below).

**Phase VI: rampart widening with rubbish (Period 3?)**

At a date in the mid 3rd century or later the rampart was effectively widened by a further 6 m (20 ft) by the dumping of a substantial amount of rubbish over the existing bank and the ground to its east. It is difficult to know if this was an early element in the major building programme (Phase VII: = Periods 4–5) which involved work on the gate and the widening of the wall, or a separate, earlier exercise. The dumps consisted of sandy or ashy layers, some of them (PK) more than 600 mm (2 ft) thick in places.
after later compaction and containing abundant amounts of animal bone, pottery, and other artefacts (Fig 12). These provided a terminus post quem of c AD 250, although most of the material was of earlier date (see Roman pottery report below, p 125: group 11).

There were similar and even more substantial dumps overlying PK in the form of layers GK, GJ, and GI, and these could possibly be interpreted as part of the same general dump. They were, however, stratigraphically separated from PK by the mortar layers PJ and HI which were presumed to be derived from the thickening of the wall and from the roughly contemporary building of the south gate tower. Whether the deposits here assigned to Phase VI belong to that operation is difficult to establish, but certainly their dating suggests a different source.

One possibility is that the rampart material was removed to make way for the nearby interval tower which was erected at about this time (above p 19), but the early rampart material tended to be of cleaner material and contained artefacts of earlier date. These deposits contained much in the way of both butchery waste and pottery as well as other artefacts, and seem to represent systematic clearance (see pottery report, group 17, p 130, and animal bone report, p 169, below).

Phase VII: late refurbishment of rampart and wall
(Period 6a)

The rubbish dumps GI, GJ, and GK sealed the mortar layers PJ and HI, the former of which really represented two layers, one of whitish-yellow mortar (as used in the gate tower?) and one of pinkish mortar (as used in the wall). The exact relationship of these layers to the construction trench GH/OH for the wall thickening was not obvious. As can be seen clearly from the section drawing (Fig 12), the latest of the three (GI) was sealed at its highest point by GB and GC, two sandy layers which in turn appeared to have been cut by GH/OH. It could, however, be argued that the trench was cut from beneath GB. Yet further north, the relationship of construction trench to rampart suggested that the trench had been backfilled before the dumping. The function of the mortar layer PJ underlying the rubbish dumps is therefore not certain.

At the same time a close relationship clearly existed between the dumping of rubbish to heighten and widen the rampart and the internal thickening of the wall. The use of dump construction would in any case have necessitated widening the rampart considerably if the same height of rampart was to be maintained adjacent to the internal thickening of the wall, which also appears to have been heightened.

The construction trench (GH) for the widening of the wall appeared to be more or less continuous with that for the south gate tower, the latter having been built free standing after clearance of part of the existing rampart. Pottery from its fill was largely residual (group 16, below, p 129). Pink mortar, presumably derived from the widened wall, was found in the fill of the construction trench adjacent to the wall: presumably the trench for this operation was dug and the wall at least partially built before the rampart was again deposited against its rear and that of the south tower. The existence of a silty layer at the bottom of the construction trench could be argued as supporting this interpretation. The wall itself was stepped in at several points, narrowing its width from 8 m (26 ft) (including the 1.5 m (5 ft) wide early wall) at the base to 5 m (16 ft) at the highest surviving level and surviving up to 3.9 m (13 ft) in height (Fig 12). The steps were not continuous, and clearly different stretches of several metres in length had been built by different gangs (Pl 9, 15; cf Fig 4).

The late rampart layers consisted principally of rubbish derived from other contexts in the vicinity. Some were dark greenish-grey in colour, with variations within, and may have come from large-scale landscaping nearby (cf reports on glass, pottery, other finds and animal bones). The insertion of the gate into the circuit could have provided some of this material. It seems unlikely, both from their physical nature and on grounds of probability, that they represent actual rubbish dumping on the site over a long period, separated from each other by only hints of ephemeral activity. Much of the material was 2nd–3rd century in date, but the dumps did contain some 4th century artefacts and pottery (see below, p 130 discussion of pottery groups 17–20). Above layer GI was a further dump FM, more blackish in colour, sealed in turn by FU, a layer of sandy clay. This, or a similar layer (FT) above it, may represent the topmost surviving layer of the late rampart bank in Area II: consisting of stiffer, cleaner material utilized to bind the loose rubbish deposits. If projected this would give a height of c 7 m (23 ft) adjacent to the wall, but there may have been a level area to the rear of the wall. In all, the new dumps had raised the height by up to 3 m (10 ft). (For the full width of the rampart, see Area III, p 37.)

Area III: sequence of deposits

At least five periods of structural features, including slots for timber wall trenches, were discerned in the 500 mm (20 in) or so of sandy loam accumulation overlying the sandy subsoil (Figs 13, 15). Within these deposits, two general dumps or occupation layers of slightly different colour were distinguished as a working basis. The layer MA overlay MB which in turn overlay ‘natural’. For the eastern 5.4 m (18 ft) of the trench, a similar deposit PD existed between MB (or instead of it) and natural. Features could accordingly be assigned to three distinct stratigraphical phases according to their relationships to these layers. Over the series of slots was an east–west wall trench with a parallel gully, sealed in turn by a sill wall which was roughly contemporary with a series of postholes. All of these are described
below in sequence and pottery dating is also discussed below (p 124). Later disturbances in the western 2.5 m (8 ft) of the trench meant that no evidence survived here for early structures, although a number of slots were noted to the west of the colonia wall, suggesting that the early occupation in this area was not bounded to the west by the subsequent line of the fortifications. It is, however, again notable that from the first the alignment of the features uncovered suggests formal planning at right angles to Ermine Street.

Phase I (Period 1)

Features cutting into either PD or the natural sand included a series of north–south slots, a pit or scoop, and some postholes (Fig 15a). All of these, together with a small area of ‘burning’, were sealed by MB. A late 1st or early 2nd century date is likely.

In all there were eight slots, six of which ran across the full width of Area III, while the most westerly (OP) certainly, and the third from the west (PF) possibly, terminated well to the north of the south section. Others may have lain further west but did not survive. Their widths varied between only 200 mm (8 in) and 600 mm (2 ft), depths from 50 mm (2 in) to 250 mm (10 in). The distance between the features, centre to centre, was between 1.5 m (5 ft) and 2.4 m (8 ft).

The fact that one slot (OV/ON) had clearly been recut shows that more than one structural period may be present (though it was conceivable that the recutting belonged to Period II). In the absence of floors and further stratigraphical data it was impossible to disentangle them further or to confirm that they actually represented timber buildings rather than remains of horticultural activity. Similar problems attended the interpretation of the shallow pit OQ and the two postholes PG and PI. The dark staining (PE) east of the easternmost slot (PC) may indicate building debris. Subsequent analysis suggests that they probably represent buildings used for storage (see below, p 179).

Phase II

Features belonging to the next phase of activity were distinguished by their fill of orange-brown sand, similar in colour to that of layer MA which sealed them, and had been cut into MB (Fig 15). They had also been disturbed in places by similar features of Phase III. A date in the first half of the 2nd century is likely.

As a result of the disturbance, the Phase II slots survived only to a shallow depth. Again there were few finds, and no traces of any floors or wall material. Only four definite slots and another possible one were revealed, but more might have existed. The spacing of 3.6 m (12 ft) between OO and OX, and between OY and OZ, could indicate narrow buildings on a north–south alignment, but any discussion of building plans or functions can only be speculative.

A patch of turf was found running into the north section, its purpose uncertain.

Phase III

Five more north–south slots were found cutting into MA, the layer sealing Phase II features (Pl 18; Fig 15). All were of the same size, 250–300 mm (10–12 in) deep and 300 mm–650 mm (12–26 in) wide. The most substantial was the most easterly (NO) which showed evidence of four postholes, 120–250 mm (5–10 in) deep, cut down from within it. They were spaced 900 mm (3 ft) apart. There was also a posthole in the slot NK. This slot returned eastwards in the north section, and there can be no doubt that it represented a timber structure. A mid 2nd century date is indicated by finds of pottery.

Phase IV

Subsequent wall remains ran east–west, approximately at right angles to the features of Phases I–III. In Phase IV, the principal features consisted of a timber slot LW running into the north section and at least 10 m (33 ft) long, and a parallel gully LX 1.2 m (4 ft) to the south (Pl 19; Fig 15). The slot was c 300 mm (1 ft) wide, with a posthole at its western termination. The gully was basically c 600 mm (2 ft) wide with a small ‘feeder’ extension at one point. Unlike the slot, it sloped gently to the west, confirming its identification as a drain.

There is little doubt that these remains represent the southern fringes of another timber structure. Both slot and gully had been filled with much rubbish, including building debris, but this cannot necessarily be seen as the remains of the actual building. A pit (JS/KG) in the north section near to the western end of the trench must belong to Phase IV or V, but it is uncertain how it related stratigraphically to the earliest rampart. Its upper fill again contained much rubbish. Other pits occurred to its east, and their exact stratigraphical position was also uncertain. An Antonine date is probable.

Phase V

This phase includes two forms of structural remains, a line of postholes running in a roughly east–west line (Va) and the fragmentary remains of a sill wall (Vb) (Fig 15; Pl 20). Their occupation may have run through into the 3rd century.

There were twelve postholes in all cutting through MA and its equivalent layers and which were also later than the features of Phase IV. Each was c 220 mm (9 in) in diameter and c 150 mm (6 in) deep. Most lay to the north of the line of the sill wall, which could have formed a later replacement for the building they
Figure 15  Phase-plans of features beneath extended rampart in Area III 1971
may have supported. Others occurred on the line of the wall and could have been associated. The sill wall LZ was found close to the eastern end of the trench, although a larger stretch survived further west, and another fragment occurred close to the north–south so-called ‘retaining’ wall (LO) which was built after the sill was disused.

Discoloration of the underlying layer confirmed that the wall had once been continuous over a length of at least 14 m (43 ft). It was composed of small limestone rubble laid flat, as if the only course, bounded by facing stones, and c 600 m (2 ft) wide. The central portion contained three postholes, but these were not definitely contemporary.

**Phase VI: wall LO**

After the demolition of the sill-wall building, and at roughly the same time as the filling of the pit (JS/KG) to its west, a new north–south wall was constructed. This could well have been the same wall as that found at the very eastern end of Area II (HG: Fig 14).

Its building level and constructional levels were clear from excavation. The foundations were of limestone rubble set in sand, and 500 mm (20 in) deep. Above them the lowest dressed course was 750 mm (30 in) wide, but was offset above on both sides to a width of c 550 mm (22 in). Up to eight courses of masonry survived, consisting of roughly dressed limestone blocks set in orange-coloured mortar. The rubble core contained much in the way of reused building debris, including painted wall plaster.

To its east a thick layer of sandy loam (GT) was dumped or accumulated before the wall went out of use. To the west, an equivalent layer JO (see below, Phase VII) is probably to be equated with PK in Area II, as part of the extended rampart, but contained more rubbish. Against the north section the wall had been robbed, possibly during the insertion of an infant burial, while to the south it had been removed during excavations in 1948–50.

The provisional interpretation of the 1948–50 findings saw the wall LO as a revetment for the second phase of the rampart (Figs 2, 13). The possibility that it represented the wall of a building immediately inside the rampart was not found acceptable – no associated floors or other walls were discovered to its east. Conceivably these may have lain to the west and have been subsequently destroyed; but certainly there was no trace in Area II, so any such building must have terminated immediately north of Area III and LO could not therefore be related to HG in Area II. The function of the wall LO therefore remains uncertain; the dumping of JO to
its west during its lifetime does not necessarily imply that it functioned as a revetment: it may have been disused soon after this depositon.

**Phase VII**

This phase is reserved for the deposition of the rubbish layer JO (pottery group 12: p 127, below), possibly as a rampart extension contemporary with PK in Area II, and for that of GT (pottery group 14: p 129, below), a layer of dump or accumulation to the east of the wall LO (Fig 13). Three cess pits in the south section (MQ, ND, NN) may also belong to this phase; they may have related to a building to the south or east of the site. GT may be seen as having been deposited while LO was standing, at the same time as or soon after JO ie, up to the mid 3rd century; it does, however, contain some later finds, including a 4th–early 5th century brooch (p 147, no 4), and some 4th century pottery, suggesting that it was contaminated by virtue of under-excavation of overlying deposits. It is possible that the two layers, although differing in composition, belonged to a widening and heightening of the rampart, and in view of the problem of precise dating, they might conceivably be interpreted as the first part of the rampart extension assigned to Phase VIII. Both were sealed by the layers GR and HY which were associated with the robbing and obliteration of LO.

**Phase VIII**

HY overlying JO, IG representing the upper fill of the robbing of LO against the north section, and GR overlying GT, were obviously part of the same deposit (for pottery dating, see groups 15 and 19, pp 129–32 below). It consisted of sand containing much in the way of charcoal, limestone fragments, and large amounts of animal bones, pottery, and other artefacts and was no earlier than the early 4th century. It occurred over the whole area of Area III, extending into the east section (Fig 13). Its level fell only gently to the east, but there were no traces of structures within it. A similar layer (HV) occurred over part of GR. It is best seen as a dump of rubbish, and can be associated stratigraphically with GK in Area II, which did form part of a rampart heightening and widening. GK itself was associated with two similar overlying dumps, GJ and GI, but any levels overlying GR/HY/HV in Area III are likely to belong to a later phase. All that can be said is that Phases VII and VIII formed at least one, if not two, stratigraphically
distinct periods of activity, but both may in fact have constituted early elements in the refurbishing of the defences contemporary with the (re)building of the gate towers.

**Phase IX**

A narrow layer of mortar and gravel (HT), overlying HV and GR, was provisionally associated with construction work at the rear of the wall and gate. An east–west slot (HX), near the western end of Area III, turned into the north section at the northwest corner, and probably represents no more than a temporary building connected with the construction work. It ran eastwards for 3.3 m before being lost near to the former line of the wall LO. A small wall visible east of HX in the north section belonged to the same stratigraphical period, but had no foundations or mortar and survived only fragmentarily.

**Phase X**

This period represents the final group of layers used to heighten and widen the rampart, contemporary with the layers FM, FU, and FT in Area II (pottery group 20, p 132, below). Like the upper two of those layers, HK, HR and HW were formed largely of sandy clay, possibly derived from ditch digging (Fig 13). They raised the level by almost 2 m in places, and the tail of the latest dump (HK) lay c 15 m (50 ft) from the western end of the trench: a total rampart width of c 25 m (80 ft), and a total width for the whole defensive system of c 60 m (200 ft). In Area III the rampart survived to a height of only 2 m (6½ ft), but if projected at the same angle of declivity to the rear of the wall, it would suggest a height of 7–8 m above existing ground level (see Figs 12–13).

Dating the rampart deposits has been bedevilled not by lack of material—there were vast amounts recovered—but rather by the highly residual nature of most of it. Several deposits consisted largely of rubbish derived from elsewhere in the city, and the likelihood is that Phases VIII–X, and possibly Phase VII, all belong to the same major building operation which took place at some date in the 4th century (Periods 4–5 and 6a). The evidence for this date is better provided by the material from the roads (qv, p 20, above).

**Phase XI**

A number of features were recognized which had cut into the top of the late Roman rampart, the most notable being an east–west slot (EN/HS). They all belong either to the late 4th or to the sub- or post-Roman periods.

**Phase XII**

There was renewed activity in this area, as in the rest of the site, in the 11th–12th centuries. An accumulation of dark brown earth (EQ) containing many mussel shells and first recognized in the 1948 trench, belongs here, together with the large pit (GP) in the southeast corner.

Most of these deposits in this phase were no earlier than the 18th century.

(7) **Area II/V and V 1971: the wall and rampart to the south of the gate**

The uppermost deposits shown at the western end of the rampart section (Fig 12) in the south face of Area II 1971 were subsequently excavated to the top of the late Roman construction trench (OH), together with the rest of the baulk between Areas II and V (the baulk was termed Area II/V; for location, see Fig 3). The only definitely Roman layer removed here was a sandy layer (GA), the highest surviving fragment of the later rampart. It stood at a height of c 2 m above the contemporary ground level (GR in Area III), and c 3.5 m above the ground level associated with the earliest rampart. It is clear, however, that the crest of the rampart had been slighted: the latest rampart dumps, FT in Area II and HK in Area III, suggested a bank roughly twice as high.

As in Areas II and III, there were in addition a number of deposits overlying the rampart whose date and function were uncertain. Some may be interpreted as rubbish dumps dating from the 11th century, others possibly as the slight remains of structures built on top of the modified rampart. Several rubbish and cess pits in this area (eg FG, FH, FV) can be assigned to the 12th and 13th centuries; these may have been associated with properties to the east, fronting on to the west side of Beaumont Fee (see discussion below, p 262).

Overlying the pitting was a wall (JM) running north–south only slightly east of the rear of the widened Roman city wall (P 21). It was poorly built, of small dressed limestone blocks (reused?), with an abundant mixture of loam in its mortar, and was c 750 mm (30 in) wide. No mortar was used in the core. Only a length of c 2.5 m (c 8 ft) survived, to a maximum height of 740 mm (c 30 in). Pottery from levels associated with its construction indicated a date of no earlier than the 15th century, while a gully (JK, JL) running parallel to its east contained 16th century material (see pottery report, below p 135). The likelihood is, however, that the life of the wall was associated with a loamy accumulation (JC) sealing the fill of the gully. It is difficult to know what to make of the Wall JM. As the evidence stands, it does not add up to a definite building, yet it can hardly be seen as defensive, and roughly contemporary structures were found further north in 1972 (below p 42). It is also uncertain whether the city wall stood above the rampart at this time, or whether the
wall was built on the rampart crest as the natural western boundary for a property. The documentary evidence for 14th century properties defined by the city wall to the west makes the former more likely.

**Area V: the wall and rampart to the south of the gate**

Thorough investigation of the *colonia* wall and rampart to the south of the gate was to some extent limited by safety factors, and nowhere was this more the case than at the extreme southern end. To the front (west) of the wall, the berm deposits were investigated at several points, and have been described above (p 22). The first *colonia* wall had been extensively robbed in this area, but its superstructure survived in places as islands preserved between Victorian cellars (Pl 22). These lowest courses were of larger stones than those used above. The thickened section survived rather better and some details of its construction could be examined at front and rear. Examination of the fabric indicated the sequence of its building: the first five courses had been laid in a continuous sequence, quite possibly in the same operation as the foundations, running south from the gate tower. These foundations were much less deep than those of the earlier *colonia* wall. Above the level of the five lowest courses, the wall had been erected in stretches of c 3 m (10 ft) or more to its full surviving height: the vertical break showing the gangwork was quite clear (Pl 22). The break at the rear was indicated by a marked change in the stepping of the rear face, and similar breaks were noted on the south wall of the lower city during excavations at Saltergate in 1974 (p 254, below; detailed report in preparation). Failure to match the different sections may be construed as an indication of hasty workmanship, but the quality of build was good, as proven by its long survival.

Further south, the excavation trench stopped immediately north of a vaulted sewer, at a point c 25 m (c 80 ft) south of the south gate tower. Fortuitously, the wall thickening came to an end c 300 mm (12 in) north of this point, thereby allowing the possibility, nowhere else available at The Park site, of examining the relationship between the rampart and the first wall. (To the north of the gate, the wall had been completely rebuilt – see below, p 40.) This also suggested that the thickening of the wall had not been applied to the complete circuit (but see discussion below).

Investigation of the lower levels here (Fig 16) showed first that the foundations of the wall thickening, set in pinkish mortar, were trench-built, having been cut through a number of bands of sand and clay. On excavation, all of these layers were interpreted as representing the rampart, even though the earlier deposits were also found to the west of the early *colonia* wall. As such, they were initially explained as representing the front of an earlier rampart, possibly crowned (as formerly suggested at Silver Street; see below, p 256) by a timber palisade. This identification appeared to be reinforced by the fact that all the rampart levels had been cut by the wall’s robber trench, to the east of which a construction trench was revealed. The orthodox sequence of rampart–inserted wall–thickened wall accordingly seemed to fit the evidence.

Subsequent re-examination of the data suggested another possibility: that the earliest sand and clay layers could in fact represent the remains of occupation predating the construction of the defences, including timber structures with clay floors, similar to the evidence found in Areas II and III to the northeast. The discovery of an east–west slot at the lowest level near to the southwest limit of the trench confirms that early structures did exist in this area. There would then be no need to postulate that the rampart had ever lain to the west of the *colonia* wall. But in view of the occurrence of clay layers in lenses and wedges, the possibility remains that they represent the front of the original rampart.

As for the relationship between the wall and rampart, two further facts had to be explained. The construction level for the early wall on its west side could be identified, and was sealed by the earliest berm (NV). On the east side, it had been cut from much higher up (as might be expected if it had to be cut through an existing rampart), but its width at the top of c 3 m and its shape suggested the possibility that it represented complete rebuilding, as had happened north of the gate – perhaps another gang’s work. Unfortunately, the construction trench contained no pottery in its fill. This revised interpretation seems more convincing, especially when taking into account the discovery in the 19th century of reused tombstones in the stretch of wall immediately to the south of the excavation (Richmond 1946, 41...
The rampart levels as redefined, therefore, only show a height of 1.2 m (4 ft), formed of sandy and clay bands, but the top 2.5 m (c 8 ft) of the trench had been disturbed, probably at the time of the construction of the sewer and of the houses along the line of The Park in the 1840s.

(8) The rampart to the rear of the gate 1972 (P72, Area III)

An area adjacent to the northeast corner of Area II 1971 was opened in the following year, with several objectives (Fig 3). One was to examine the relationship between the road surfaces and the rampart; another to uncover more of the substantial building whose apparent southwest corner had been noted in the northeast corner of Area II in 1971. Additionally, more information was sought here, as in Areas II and IV 1972, about features on top of the rampart, especially in view of the general scarcity of evidence for post-Roman occupation. As with the other trenches excavated in the same season, the work had to be carried out in haste and under difficult conditions, as building work had already commenced.

Several structural periods were encountered in the levels predating the later rampart, but in the limited area investigated these were difficult to interpret. The foundation of at least one wall running east–west, and those of another possible wall, or at least a gully, running parallel to its north, had been dug from a level only just above the ‘natural’ sand. In retrospect, it is perhaps surprising that, in comparison with the trenches to the south, no timber buildings were located here. Unless an early east–west street, of which no trace survived, ran here, it calls into question the 1972 identification of the undisturbed subsoil. It is possible that the gully, filled with TU/TW, was a timber slot, if not a drain associated with the stone foundations.

In the next stratigraphical phase, the foundations were sealed partially by the fill of the gully, probably after the mid 2nd century. The substantial foundations UA (equivalent to QI/QR in 1971) were dug from this level, bottoming at 2.4 m (8 ft) below the top of natural and also below the water table, and c 2.5 m (c 8 ft) wide. Subsequently a wall was built up to UA on the same line as the earlier east–west wall and this too had a gully (TR) on its north side. It was later demolished and sealed by a hard surface layer of clay and pebbles (TN), probably a yard or floor rather than a path. The larger wall remained standing well into the 3rd century or later. This in turn was removed and robbed well into foundation level before the gateway was erected, although we cannot be sure from either stratigraphical or dating evidence if demolition took place to make way for the gate. There are problems too in trying to understand the plan or function of these structures: presumably they lay mainly to the north and east of the excavated areas, but the idea that there was a road on to which they fronted and which was extended westwards when the gateway was inserted could not be tested.

The earliest road surface (TJ), found in the northern fringes of this trench, appeared to overlie dumps
of material which were likely to have been associated with the extension of the rampart (eg SQ, probably the equivalent of JO and PK in the other rampart trenches: for pottery dating, see group 13, p 128, below). It also overlay SP, a mortar layer thought to be derived from the building of the gate towers, and at the same time it appeared to be sealed by the sandy rampart layer SL and its associated overlying deposit SH. These were associated with deposits in Area II 1971 contemporary with gate construction and wall thickening. The interleaving of these layers seems to suggest that gate, late rampart, and road all belong to one single major operation (although it is conceivable that rampart material was subsequently washed over or between road layers). Presumably, the towers were erected to a certain height before any roads were laid, while dumping on the rampart went hand-in-hand with work on the walls and road. This again begs the question of any road surface associated with the so-called flanking walls: were these walls part of an original plan which was modified immediately after their construction, or were earlier road levels associated with the major construction works on the main towers and wall?

Post-Roman occupation

A pit of 11th–12th century date occupied much of the area of the trench and lay immediately south of the Roman road. Its fills (RM, RN, RO, RP, RV, RW, RZ, SA, SB) contained much in the way of mussel shells and lenses of sandy or ashy material of various hues. At roughly the same level stratigraphically were a number of spreads of similar consistency, and a small pit (TP) in the same corner. They were sealed in turn by dark loam deposits, RH and RI, of post-medieval date.

(9) The wall and rampart to the north of the gate 1972 (Areas I and IV)

The wall to the north of the gate was examined in 1972 both on its front face (Area I) and at its rear, together with the late rampart here (Area IV). To the rear, only the post-Roman deposits were seriously affected by the redevelopment scheme, while the main purpose of work in Area I was to identify different periods of the wall by studying details of its construction, including those of the foundations, in order to throw light on some of the problems encountered to the south of the gate. It was also hoped to reveal more of the berm and of the early inner ditch.

The front of the wall was revealed by removing the overburden largely by hand, including that of the robber trench – the wall’s front face and the front part of the core had been almost completely robbed. Two fragments, one immediately north of the north gate tower and one further north, were examined in detail. Both showed that the wall had been rebuilt from foundation level on a wider scale, but incorporating the foundations of the early colonia wall (Fig 17). The core contained some large blocks, and the meagre remains of the front face – only surviving at three points – included some large reused blocks, with one stone which was moulded. At this point, investigations to the east (see below) showed the wall’s thickness to be 4.2 m (c 14 ft).

In front of the wall, cleaning revealed a pebbled surface, sealing the construction trench for the front of the rebuilt wall. This was c 4 m (c 13 ft) wide, and sealed the fill (XG) of the early ditch, whose eastern lip was c 450 mm (c 18 in) to its east. The early berm was therefore c 3.5 m (c 12 ft) in width (cf p 22). The later berm showed evidence of an east–west gully,
perhaps for drainage, at the northern limit of excavation. Only the upper fills of the eastern scarp of the later ditch were accessible, with the probable lip of its medieval successor 1.4 m (4 ft 8 in) to its west and only a few centimetres higher. These levels had been sealed by dumps associated with the early 18th century landscaping, which in turn was subsequently cut into by the robber trench, possibly at the time of the construction of the Victorian terraced houses.

In all, the surviving front of the rebuilt wall was exposed for a length of c. 24 m (c. 80 ft) to the north of the north gate tower, the rear face (Area IV) for c. 16 m (c. 50 ft). In places only a width of c. 750 mm (30 in) survived out of a normal width at base of 4.2 m (14 ft) (see Figs 4, 17). The rear face had been largely covered by rampart deposits, which survived up to 3.4 m (c. 11 ft) high. It was examined to foundation level at two separate points, at 6 m (c. 20 ft) and at 16 m (c. 50 ft) north of the gate tower, and the foundations extended at least 600 mm (2 ft) eastwards from the base of the superstructure. These trenches showed again that the early colonia wall had been demolished to the top of foundation level to allow complete rebuilding: the new wall did not employ such deep foundations. This process had involved the removal of the front part of the existing rampart, and in places the rear face of the wall was trench-built: its rough face was a clue to this (Fig 17, Pl 23). Higher up, from the level of a putlog at a point 2.3 m (c. 7 ft 6 in) above the base at the rear, it had clearly been dressed and pointed.

Examination of the core (still clearly visible since the wall has been on display since excavation) revealed that it had been formed of pitched courses of limestone rubble, occasionally giving the impression of herringbone work, overlying successive levelling courses of mortar. The stones in the lower courses tended to be larger. Not enough survived of the front face to suggest other than that it contained some large reused blocks and was offset. Its general appearance suggested that it was built principally of undressed blocks of newly-quarried stone. The style of build hints at a parallel with the gate towers, further possible indications of their contemporary construction.

The two parts of the rear face investigated revealed 21 and 19 courses respectively to a height of 3.9 m and 3.3 m (13 ft and 11 ft), with a step c. 100 mm (4 in) wide after 12 (11) courses, at 1.8 m and 1.7 m (6 ft and 5 ft 8 in) below the surviving top. The discrepancies in build no doubt reflect the emphasis on speed of construction by different gangs at the expense of uniformity, although the rear face was not stepped as south of the gate. Traces of a step sealed by the clay rampart were noted at the surviving top, narrowing its width by c. 400 mm (16 in). Other steps may have occurred at a higher level. The stones were on average 100–150 mm (4–6 in) wide, with some at the rear up to 400 mm (16 in) wide. Here the wall was well pointed (Pl 23).
Late features on the rampart

Discoveries on the rampart to the rear of the rebuilt wall reinforced the impression provided by work further south. A hearth (WW) of medieval date incorporated a number of reused Roman tiles set in clay. There were in addition a number of pits and scoops, ranging from 200 mm to 2.7 m (8 in to 9 ft) in depth and dating from the 11th century to the post-medieval period (Fig 18). Over these were further remains of the building located in the area immediately to the south: its west wall (US) continued northwards to a return eastwards (WL) which appeared to be of two periods. Pottery dating (below, p 135) indicates construction not before the late 15th century and use not after the 17th. The nature of this structure, at least 10 m (33 ft) long and at least 3 m (10 ft) wide, is uncertain.

(10) Aftercare

The monument was preserved for permanent display after careful consolidation by Messrs H Harvey and M Mayfield of William Wright and Sons Ltd of Lincoln (Pl 23). The high quality of this work was officially commended. The road was ‘re-created’ under the supervision of Miss Colyer, and of Mr S E Rigold of the then Department of the Environment, by reintroducing some suitable flat pebbles set into mortar. An explanatory sign was later erected by Lincoln City Council, in turn updated by the City of Lincoln Archaeology Unit in 1996.

Conservation policies did not prove adequate, however, and after several years’ exposure the condition of the monument had visibly deteriorated. The penetration by water into frost cracks during severe winters, had by 1985 affected the gate towers particularly badly, the wall to the north and south less so.

It is pleasing to report that, since the financial year 1986–7 Lincoln City Council has devoted more resources to try to ensure the gate’s preservation. A further survey as a basis for repairs was carried out in 1987 (copy in site archive). The long term future of the monument remains uncertain. Provision of a full cover incorporating the monument into the basement foyer of City Hall is at present ruled out by its prohibitive cost.
Figure 18  Medieval and later features found overlying the rampart
The finds

(1) Architectural stonework
by T F C Blagg

Decorated cornices (Figs 19–22; Pls 24–6)

1 Width 1.65 m Depth 0.88 m Height 0.36 m. Limestone. Built into the south side of the north tower of the lower west gate (Fig 20; Pl 24).
2 Width 0.82 m Depth 1.18 m Height 0.35 m. Limestone. Found near the south tower of the lower west gate in 1968 (Fig 21; Pl 25).
3 Width 0.45 m (broken one side) Depth 0.72 m (broken at the back) Height 0.28 m (the top is broken off). Limestone. Found with no 2 (Fig 22; Pl 26).

The main decorative feature of these cornices is the upper moulding, a cavetto with shallow modillions. The modillions are carved with foliage in several different designs. The panels between them are slightly narrower in width, and are carved with various motifs: pairs of crossed Celtic shields, a rosette, bunches of leaves, and spiral shoots, calyces and leaves placed diagonally around a central square or rosette. At the bottom is a cyma reversa moulding carved with serrated leaves separated by tongues. There is a plain fascia at the top, and another separating the two decorated mouldings.

Diagonal marks of a broad-bladed chisel are visible on the fasciae; the leaf carving also retains chisel marks. The sides have been dressed with an axe or an adze, but are chiselled smooth to a depth of 50–60 mm alongside the moulded profile to ensure a close fit between adjoining blocks. The top and bottom have been left with the rough dressing of the mason’s point, save for a chiselled margin about 0.35 m wide along the top’s forward edge. There are lewis holes in the tops of nos 1 and 2 and also bar-cramp holes in both top and bottom.

Decorative cornices with modillions are not common in Roman Britain, and among that select number these examples from Lincoln are unusual in some of their features. The normal version, which derives from a type prevalent in north-east Gaul and Germany, has modillions which are spaced along a vertical fascia, giving apparent support to the strongly projecting upper part of the cornice. The vertical panels between the modillions and the spaces on the underside of the projection are decorated, the former with motifs of similar character to those used at Lincoln, the latter usually with rosettes. Cornices of this form are known from Bath (Cunliffe 1969, 149–50, 197 and pl lxiii, no 3.4), Cirencester (Corinium Museum inv A187; unpub but see Blagg 1977, 69 and pl 4v), and Verulamium (Kenyon 1934, 238 and pl lxiv).

The Lincoln cornices are unorthodox in their conflation of the vertical panels and the horizontal projection into one cavetto curve, a profile also adopted by the modillions, which have a very shallow projection of only 30 mm. The only other British examples of this treatment which are known to the writer are found on a cornice from a temple at Wroxeter (incorrectly described by Bushe-Fox 1913, fig 6, nos v and vi as two separate items; also Bushe-Fox 1914, 5 and 6, fig 2), and on small cornices and a matching pediment from Corbridge (Knowles and Forster 1909, 466–9 and fig 13, no 8; Forster and Knowles 1912, 166 and fig 4, no 7); in both cases the decoration is simpler than at Lincoln. The leaf and tongue of the lowest moulding of the Lincoln cornices is more conventional. This version is very similar to the ornament on two relief sculptures which also come from Lincoln, the figure of a Tyche, and carving of three female figures (Blagg 1982); it was evidently part of the repertoire of a local school of stonemasons.

Normally in Roman architecture the modillions supported the projecting main part of the cornice, the corona and sima. If this scheme were followed in the buildings for which these Lincoln cornice blocks were carved, the upper mouldings would have been carved on a second course of stone. Nevertheless, the tendency in northeastern Gaulish architecture to emphasize the modillions at the expense of the mouldings above is also reflected in Britain. On the Wroxeter cornice there was only a sima moulding above the modillions, the whole profile being on a
single course of stone, and on the Corbridge cornice there was only a plain astragal above the modillions. It is quite possible, therefore, that these Lincoln pieces constituted a complete cornice profile for the building which they decorated. In view of the uncertainty on this point, it is impossible to estimate the original height of the building by inference from the height of these blocks, save to observe that it was not a particularly large one. Lack of material which is comparable in detail makes it difficult to suggest a close date for the cornice; it is probably 2nd century, perhaps early 3rd.

**Plain mouldings (Figs 19, 23)**

4 A corner piece, 0.23 × 0.26 m (two joining fragments: the edges of the moulded sides are damaged, the other two are broken). Height 0.245 m. Limestone. Found during building work 1971. Corners of dowel holes are present in both top and bottom. The mouldings are: a fascia at the top, a cyma recta and a cavetto, separated by fillets. One side has a steeper profile than the other; the latter, the better preserved, is drawn.

5 Width 0.26 m (broken obliquely). Depth 0.20 m (broken). Height 0.235 m. Limestone. Found during building work 1971. The under side has been smoothed, the fascia and top dressed with a point. This is part of the same stone as no 4, but the profile on this side of the corner is less steep.

6 Corner piece, 1.12 × 0.95 m+ (broken obliquely on two sides). Height 0.20 m. Limestone. Found during building work 1971. Moulded with a fascia, a bold cyma recta, and a cavetto separated by fillets. There is a lewis hole in the top.

7 Width 1.135 m. Depth 0.90 m+ (the back is concealed). Height 0.305 m. Limestone. Built into the north tower of the lower west gate, on the north side. The mouldings are: a fascia, a cyma recta and a cavetto, separated by fillets. Their surface is well preserved, and shows marks of a claw chisel with at least five teeth, each 4 mm wide. There is a lewis hole in the top.

8 Corner piece, 1.80 × 0.80 m. Height 0.32 m. Limestone. Built into the north tower of the lower west gate, forming its southwest corner. The block is considerably worn, particularly on the south side, no doubt as a result of traffic through the gateway; a rut has been worn across the corner. The top is dressed with a point, drafted smoother with a chisel along the edges. Moulded on two sides with the same profile as no 7.

9 Corner piece, 1.67 × 0.99 m. Height 0.29 m. Limestone. Built into the north tower of the lower west gate, forming its northwest corner. Carved on adjacent sides with two series of mouldings comprising a vertical and an inclined fascia divided by a fillet. The original underside (the top of the block as it is placed now) was dressed with a point, drafted at the edges by a broad chisel with a blade at least 50 mm wide.

10 Width 1.65 m. Depth uncertain (mainly covered). Height 0.29m. Limestone. Reused in the lower west gate, south of no 9. Same profile as no 9, but better preserved.

11 Width 1.215 m. Depth uncertain (mainly covered). Height 0.29m. Limestone. Reused in the lower west gate, south of no 10 and north of no 8. The southwest corner (as placed) is missing. Same profile as nos 9 and 10.

12 Width 1.85 m. Depth uncertain (partly covered). Height 0.32 m. Limestone. Reused in the lower west gate, east of no 8. The upper part of the mouldings (as the block is now placed) is badly worn and flaked, presumably damaged by traffic. There remain an inclined fascia and a cyma reversa or a fascia merging with a fillet (weathering prevents clear distinction) similar to the corresponding part of no 9, though the proportions do not match exactly.

The plain mouldings are of two main types. The first comprises nos 4–8, and there are three versions. Nos 4 and 5 are so similar in their proportions that they can be attributed to the same course of stone in one structure, though since the steepness of their profiles differs, they must have come from different sides of it. They could have formed either a cornice or a base moulding. The profile of no 6 is also formed by a cyma recta and a cavetto, but is bolder. The lewis hole in the top indicates that the block came from a cornice. Nos 7 and 8 have strongly projecting cavettos separated by a pair of fillets. The profiles are not identical in proportion, but the two blocks probably formed part of the same structural element. The position of no 7's lewis hole suggests that they originally formed a base moulding.

The second type is represented by nos 9–12, of which the first three have an identical profile. The inclined fasciae indicate that the original use of the blocks was as parts of an architrave.

**Fluted pilasters**

13 Width 0.44 m. Depth uncertain (partly covered). Height 0.23m. Limestone. Reused in the lower west gate, east of no 12. It is decorated with stopped (convex) fluting, and thus belonged to the lower part of a pilaster. There are two flutes and part of a third. In the top is a hole for a bar cramp, which would have attached it to the block on which the rest of the fluting was carved (the block adjoining it in its reused position has no corresponding cramp-hole).

14 Width 0.83 m. Depth 1.54 m. Height 0.54 m. Limestone. Reused in the lower west gate, above nos 9 and 10, set back from their mouldings so as to leave a flat ledge 205 mm wide on the west, 175 mm (disregarding the projection of the pilaster) on the north. The pilaster projects 0.08 m from the face and is 0.60 m wide. It is decorated with four concave flutes.

15 Width 1.14 m+ (one side broken). Depth 0.86 m. Height 0.29 m. Limestone. Reused in the lower west gate in the course above no 14, which it overlaps. On the front is part of a pilaster of the same dimensions as no 14. The corner is broken: three stopped flutes survive, and there is space for a fourth at the break. The top and the faces were dressed with a broad chisel leaving marks of a blade at least 35 mm wide.

16 Width 0.62 m. Depth 1.72 m. Height 0.55 m. Limestone. Reused in the lower west gate above nos 8 and 12. It is badly damaged but there are traces of two concave flutes. The top has a hole for a bar cramp cut in one side, and a lewis hole.
Plate 24  Decorated cornice no 1 (cf Fig 20)

Plate 25  Decorated cornice no 2 (cf Fig 21)
Figure 20  Decorated cornice no 1 (cf. Plate 24)

Figure 21  Decorated cornice no 2 (cf. Plate 25)

Figure 22  Decorated cornice no 3 (cf. Plate 26)
All four pieces have fluting of similar depth and cutting, though somewhat variable spacing, and presumably came from the same structure. The pilasters were 0.60 m wide, with four flutes, and projected 0.08 m from a plain face. Two of the blocks have convex stopped fluting, which places them in the lower half of the pilaster. If the overall height of the pilasters in proportion to their width corresponded with the proportions calculated for the Façade of the Four Seasons at Bath (0.45 m wide: 3 m high: Cunliffe 1969, 29ff and fig 9; Cunliffe and Davenport 1985, 123–9), it can be estimated as about 4 metres.

General remarks

The decorated cornices (nos 1–3) are attributable to one building. So too are the fluted pilasters (nos 13–16), though not necessarily to the same one. There are four different versions of plain moulding. Conceivably, then, parts of six different structures might be represented. It would be more economical to hypothesize, however, that at least those four architectural elements which were found reused in the north tower of the lower west gate had been derived from a single structure, one with a decorated cornice, an architrave, fluted pilasters supporting it, and a base moulding. That is to say, that all those pieces of architectural decoration can plausibly be reconstructed as a coherent elevation from which only the frieze between the cornice and the architrave, and the capitals and bases of the pilasters, if they had them, are not represented among what was found in excavation at The Park. Such funeral monuments as those from Neumagen provide parallels (Massow 1932); a temple is a possible alternative.

The plain mouldings nos 4–6, which were not found built into the lower west gate, could of course also have been reused in it at a higher level, as cornices or as impost blocks for the archway over the gate passage. They might also be attributed to the same hypothetical original structure as the rest if, as is not unlikely, it had a lower tier or podium with cornice and base mouldings. These are mere speculations. It is, however, a fact that both decorated cornices and fluted pilasters are relatively uncommon features of Romano-British architecture. Therefore, whatever was demolished in the 4th century to provide material for the west gate of the lower colonia included at least one building which, though not necessarily very large, was of considerable architectural distinction.

Other architectural and sculptural fragments were found built into the western city wall, about 100 m south of The Park site, in October 1821 (Fig 24; Britton 1807, 9, 600a).¹ They included part of the inscription from a military tombstone (RIB 259); a relief sculpture carved with figures standing in niches on three sides; a pilaster or frieze decorated with a running scroll; a plain moulded column capital; and two fluted pilaster shafts (Pls 27–8). The last differed from nos 13–16 in being entire shafts, 6 feet (1.8 m) high and fluted on all four sides, with two flutes only on each side. Their greater width, however, 1 ft 5 in (420 mm), was almost identical with that of no 13. They thus appear to have come from a monument of similar character to that (or those) to which the fragments from The Park belonged, but probably to a different one. The relief sculpture was identified at the time as an altar, and one of the

Plate 26  Decorated cornice no 3 (cf Fig 22)
Figure 23  Moulded stonework: profiles
Plates 27–8 Architectural fragments found c 100 m S of The Park site 1821: see description in text (from the Willson Collection, folios D 22–3, reproduced by courtesy of the Society of Antiquaries of London)
figures as Cybele. Unfortunately the piece is now lost, but from the drawing it resembles strongly the pedestal of a votive Jupiter column. The identity of the figures is not clear, but one appears to be wearing a helmet, cuirass and tunic, and is possibly Mars, while another wears female dress and holds a patera. The niches are framed by pilasters decorated with foliage. Evidently both religious and funerary monuments provided building material for the west wall, but the varied nature of the fragments shows that the re use was neither regular nor systematic.

Note

1 A description of the discovery appears in the annotations to p 600a of Vol IX of John Britton, *The Beauties of England and Wales* (London, 1807) in the Willson Collection of the Society of Antiquaries of London. 'A great deal more' of the wall was dug up in 1830, but 'nothing of much curiosity was found'. The collection also contains drawings of the 1821 discoveries, one of them incorrectly dated 1824, which are published here as Pls 27–8 by kind permission of the Society of Antiquaries. Willson MSS VI, 8 and 11 give further references to the discovery. The information from the Willson papers was first notified to us by Mr F H Thompson FSA at the time of The Park excavations in 1971; and noted by Miss Colyer in the Interim Report (Colyer 1975, 238–40, with fn).
of dolomite, the quantities being determined visually.

The results of analysis by particle size distribution are presented in Fig 24 and Table 2. They should be compared with the results from West Parade (p 205, Fig 99). The samples are on the whole fairly similar geologically, and moderately constant in terms of the proportion of lime to sand of c 30%, although the use of limestone as an aggregate causes some problems with analysis. They indicate some similarity in profile among those samples taken from the early wall (group 1: sample nos 29, 96, 116), while those in a group recorded as ‘white mortar’ from the north and south gate towers (group 2: sample nos 28, 104, 115) are even more distinctive. The whitish or buff colour of the latter group was apparently related to the higher proportion of silica in the lime, presumably derived from a different source from that used in the darker mortars.

The other groups are not so distinctive. The correlation between the samples from the postulated ‘early’ gate was inconclusive, for although this material differed somewhat from the profile of the projecting gate tower samples, it could be interpreted simply as an earlier phase of the same building operation. The same was largely true of the samples from the rebuilt wall; but sample 156, from the rebuilt wall north of the gate, should be compared with those from the rebuilt wall at West Parade (nos 33, 36, below p 205).

Examination of the calcium:magnesium ratios has not yet yielded any useful results, but may well repay further investigation.

(3) Roman coins
by J E Mann

A list of the Roman coins has been published elsewhere in this series (Mann & Reece 1983, 52–3);¹ a short summary of the dating evidence is provided here.

No coins were found in levels predating the construction of the defences, nor in the earliest rampart, apart from one of Domitian beneath the early road.²

North tower: A coin of Valentinian I (AD 364–75) was recovered from the core of the guard chamber north wall.³

Road: An Urbs Roma commemorative (AD 330–5) from a posthole (LA) at the north-west corner of the south gate tower provides a terminus post quem for the earliest road surface through the gateway. The latest issues from subsequent surfaces provide the following dates:

Road surface II (DU) Constantinopolis copy, AD 330–45
Road surface III (DT, GY) 3 Fel Temp Reparatio copies, AD 350–60
Road surface IV (JX) House of Theodosius, AD 388–402

Coins from the two latest surfaces give a similar date to that of surface IV, with none issued later than AD 402.

These show that the roadway was in use from at least the 330s until the final decade of the 4th century, and probably into the 5th.

Rampart: A single coin, a sestertius of Trajan, was found in the Period 2 rampart lengthening (JO) while the later of two recovered from the accumulation (GT) during the life of the ‘rampart retaining wall’ (LO) is a Gallienus antoninianus of AD 260–8. Three coins from the Period 6 heightening (GK, GJ, GR) included two 2nd century issues and a Victorinus antoninianus. The latest stages of the rampart (IF, IH) alone produced exclusively 3rd century issues, while an illegible coin from the uppermost surviving level (EZ) may be of 3rd or 4th century date. Although this dating conforms with that of the other finds and pottery from the Period 6 rampart, the dating of the Period 5 road surfaces (see above) shows that all are clearly residual.

Rubbish deposit on latest berm: A small group of coins (16) was recovered from a rubbish deposit on the latest berm adjacent to the north tower. Those from lower levels (AK, AS, BB) of this dump included...
a House of Valentinian *Gloria Romanorum* issue of AD 364–78, while the latest coin from upper levels (AD, AP, BF), was a *Salus Reipublicae* of Theodosius I, AD 388–95. The rubbish sealed building debris from the construction of the gate towers and an oven thought to have been used by the construction workers. It is suggested above and elsewhere (Darling 1977a, 3) that the oven is unlikely to have been used after completion of building work, and was rapidly buried beneath the rubbish deposit which itself seemed to have accumulated within only a short period of time.

**Notes**

1. The preliminary identifications were by Miss Colyer. Subsequent detailed examination (and, to some extent, reinterpretation) of the stratigraphy has necessitated some revision.

2. The number of coins stratified in Roman levels is as follows: Period 1: 0, Period 2: 5, Period 3: 0, Period 4: 2, Period 5: 83, Period 5/6: 1, Period 6: 36.

3. It is just possible, although unlikely, that this coin could have been deposited here during Victorian masonry robbing.

### (4) Medieval coins and jetons by Marion Archibald

**i) Coins**

1. Penny, Henry II, short cross, class Ic, later 1180s  
Mint: York; moneyer: Hugo. Wt: 0.74 g. P70 C128  
Unstratified

Discounting the corroded state of this coin, it was unclipped and relatively unworn when originally deposited, probably before 1204.

2. Penny, Richard II, 1377–99 (details of class illegible)  
Mint: York. Wt: 0.61 g. P70 C15  
Period 8 (AL)

The condition of this coin, which is very worn and clipped, suggests that it was originally lost from circulation in the mid 15th century. Few coins of this type survived the reduction in coinage weight in 1464, although the odd abnormal survivor must be allowed for.

**ii) Jetons**

3. Nuremberg, brass, Hans Krauwinckel, fl c 1580–1610  
Obv: initial mark, pierced star with pellet in centre;  
RECHEN PFENING NVRENB, pierced quatrefoil stops. Reichsapfel in cartouche  
Rev: initial mark as obverse; HANNS KRAVINCKEL GOT. Three crowns alternating with three lis around central rosette, pierced quatrefoil between each crown and lis  
Wt: 1.73 g (chipped), D: 25 mm. P70 C105  
Period 8. Robbing of *colonia* wall (FI)

This is the sort of jeton familiar from Dissolution layers.

4. Nuremberg, brass, Hans Krauwinckel, fl c 1580–1610  
Obv: initial mark, pierced star with pellet in centre;  
RECHEN PFENING NVRENB, pierced quatrefoil stops. Reichsapfel in cartouche  
Rev: initial mark as obverse; HANNS KRAVINCKEL GOT. Three crowns alternating with three lis around central rosette, pierced quatrefoil between each crown and lis  
Wt: 1.73 g (chipped), D: 25 mm. P70 C105  
Period 8. Robbing of *colonia* wall (FI)

(5) Roman pottery

**Introduction and discussion by Margaret J Darling**

The pottery from stratified Roman layers at The Park amounts to nearly 16,000 sherds, 339 EVEs, 318 kg. This was all quantified for sherd count, vessel equivalent (based on rim percentage) and weight during 1985–86, when the original report was drafted. The quantified records were typed into the Unit Sirius computer in 1986. These data have since been downloaded to the Unix computer Roman pottery database, in the same format as the other Lincoln sites (to be published in the series *Lincoln Archaeological Studies*).

**Groups analysed**

Reporting on the pottery from excavations across defences presents certain problems, and The Park is quite exceptional. On the one hand, there are large rubbish deposits excavated in different areas which are difficult to relate to the sequence of defensive structures, and on the other, there are two exceptionally large groups of pottery, from a massive dump on the rampart and a late rubbish dump on the berm (Darling 1977a). These two large groups account for 45–48% of the stratified pottery. Analysis of the records has been largely confined to the following twelve large groups:

<table>
<thead>
<tr>
<th>Group No</th>
<th>Content</th>
<th>Period*</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Primary rampart and early additions</td>
<td>2a–b</td>
</tr>
<tr>
<td>11</td>
<td>Lengthening of rampart, PK–PM</td>
<td>3(–5)</td>
</tr>
<tr>
<td>12</td>
<td>JO, rubbish probably to be related to PK–PM</td>
<td>3(–5)</td>
</tr>
<tr>
<td>13</td>
<td>SQ, TN, TM, TH, rubbish, possibly related to PK–PM</td>
<td>3(–5)</td>
</tr>
</tbody>
</table>
14 GT, rubbish, uncertain relationships; contaminated. 3–6, allowing for contamination

15 Robber trench, HG, HF, IG, LT 3–6

16 Construction trench for widened wall, NZ, IU, GH, OH 5–6

17 Main rubbish on rampart, GI–GK 5/6

18 ST, SO, SL, SN, SH, SI, rubbish possibly related to GI–GK 5/6

19 GR, rubbish on rampart, ?contemporary with GI–GK or later rampart. 5/6

20 Upper rampart layers (divided into two sub-groups: 6
20A = GL, FW, FY, FZ; HV, HU, HX; FM, FU, FT, FL, EZ;
20B = GB, GC, GA; HK, HW, HR; OG, II, OA, IH, IF, JE, IS) 6

21 Late rubbish dump on berm (Darling 1977a). 6

* Some of the rampart dumps could not be associated with individual constructional periods of the wall/tower/gate.

Only a small group came from the road layers, very fragmented and abraded. The contexts comprising Period 1 have also been grouped, although not all can be conclusively assigned to the pre-defences period. The extracted groups account for 88% to 91% of the stratified pottery, based on EVEs and weight.

Aims of analysis

The aims of the analysis work are to examine:

a) the dated content of the groups, based on all pottery, and separately for samian.

b) the fragmentation of individual layers as a guide to the freshness of the rubbish.

c) the occurrence of specific fabrics and forms to gauge their date of appearance and floruit.

d) the groups for their fabric and function content, and to establish if any of the spatially separated rubbish groups can be related.

The distribution of the pottery across groups and by period is shown on Table 3.

Condition and fragmentation

The level of fragmentation of the pottery is shown in Table 4, which charts the sherd weight and brokenness (excluding amphorae and mortaria) for each group, and separately for the remaining pottery by period. This is a combination chart, the left axis referring to the columns of sherd weight, the right to the graph of brokenness.

Apart from the lower sherd weight (all except Period 6 under 15g) and higher brokenness found in the pottery not analysed in detail and remaining in the periods, the most notable feature is the freshness of the main rubbish dump on the rampart, group 17, with the highest sherd weight and lowest brokenness measure, rivalled by the last deposit on the upper rampart, group 20B. The late group of rubbish on the berm (Darling 1977a) is the next freshest group. Both groups 14 and 18 are more fragmentary than most, and groups 10, 11 and 12 are alike apart from the lower sherd weight in group 10.

Measures

Although three quantification measures were available and all are given for fabrics, weight has been used for analysis of fabrics, EVEs for analysis of vessel types, and sherd count for analysis of date and function, the latter to enable comparisons with the archive databases of other Lincoln sites. Since mortaria and amphorae usually produce strong heavy sherds, the analysis on weight has excluded these. Their occurrence is discussed in the relevant sections of the report (pp 108–21) and their fluctuating quantities through the various groups did not seem to provide useful information, apart from the declining quantity of amphorae.

The groups

The individual groups varied enormously in size, the smallest, regrettably, being the primary rampart and early additions group 10 with only 6.8kg, and the largest, the rubbish layers group 17 at 96kg. Some of the smaller groups are considered less useful:

Group 13, SQ etc, rubbish produced a very high percentage of colour-coated wares, and ordinary grey sherds were correspondingly low.

Group 14, GT rubbish, known to have been contaminated by group 19 GR above, had an exceptionally high proportion of late shell-tempered sherds, and a low percentage of samian for its position in the stratigraphic sequence.

Group 15, the robber trench HG, etc, is also notable for an abnormally large amount of colour-coated wares (any estimate of fragmentation for this group would also have floundered if the amphorae were included due to the presence of a Dressel 20 rim/neck/handle).

Group 18, ST-SI rubbish produced an exceptional amount of samian for its stratigraphic position, which may have arisen from disturbances, particularly in view of joining sherd connections with lower layers (as SQ, etc).

Plotdate analysis

Part of the revision of the 1986 pottery report has been to use the plotdate procedure developed to
Table 3  Distribution of the pottery (excluding non-Roman contexts) showing the groups and periods, with details of the average sherd weight and brokenness measure (figures excluding amphorae and mortaria)

<table>
<thead>
<tr>
<th>Period: Group</th>
<th>EVEs</th>
<th>Sherds</th>
<th>Weight Grams/sherd</th>
<th>Brokenness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1039</td>
<td>982</td>
<td>12420</td>
<td>0.90</td>
</tr>
<tr>
<td>2:10</td>
<td>958</td>
<td>441</td>
<td>6859</td>
<td>0.44</td>
</tr>
<tr>
<td>3:11</td>
<td>1672</td>
<td>689</td>
<td>14642</td>
<td>0.41</td>
</tr>
<tr>
<td>3:12</td>
<td>2296</td>
<td>913</td>
<td>20057</td>
<td>0.38</td>
</tr>
<tr>
<td>3:13</td>
<td>746</td>
<td>319</td>
<td>7834</td>
<td>0.48</td>
</tr>
<tr>
<td>3–6:14</td>
<td>1176</td>
<td>731</td>
<td>11544</td>
<td>0.66</td>
</tr>
<tr>
<td>2</td>
<td>593</td>
<td>437</td>
<td>6517</td>
<td>0.75</td>
</tr>
<tr>
<td>3</td>
<td>43</td>
<td>18</td>
<td>220</td>
<td>0.42</td>
</tr>
<tr>
<td>4</td>
<td>338</td>
<td>395</td>
<td>4133</td>
<td>1.26</td>
</tr>
<tr>
<td>5</td>
<td>494</td>
<td>314</td>
<td>6097</td>
<td>0.85</td>
</tr>
<tr>
<td>3–6:15</td>
<td>448</td>
<td>174</td>
<td>5426</td>
<td>0.51</td>
</tr>
<tr>
<td>5–6:16</td>
<td>1590</td>
<td>873</td>
<td>15163</td>
<td>0.51</td>
</tr>
<tr>
<td>5–6:17</td>
<td>11706</td>
<td>3970</td>
<td>96007</td>
<td>0.33</td>
</tr>
<tr>
<td>5–6:18</td>
<td>808</td>
<td>478</td>
<td>8531</td>
<td>0.61</td>
</tr>
<tr>
<td>5–6:19</td>
<td>1093</td>
<td>542</td>
<td>10772</td>
<td>0.48</td>
</tr>
<tr>
<td>6:20A</td>
<td>1665</td>
<td>792</td>
<td>14821</td>
<td>0.46</td>
</tr>
<tr>
<td>6:20B</td>
<td>1740</td>
<td>711</td>
<td>16543</td>
<td>0.41</td>
</tr>
<tr>
<td>6:21</td>
<td>4010</td>
<td>2085</td>
<td>42353</td>
<td>0.51</td>
</tr>
<tr>
<td>6</td>
<td>481</td>
<td>432</td>
<td>5849</td>
<td>0.53</td>
</tr>
<tr>
<td>Total</td>
<td>32896</td>
<td>15296</td>
<td>305788</td>
<td></td>
</tr>
</tbody>
</table>

Table 4  Pottery groups and periods: sherd weight and brokenness, excluding amphorae and mortaria

![Graph showing pottery groups and periods: sherd weight and brokenness](image)
examine the dated content of groups of pottery. This works from the archive measure of sherd count and filters the pottery from an individual group through a file which assigns dates based on the fabric and vessel type. The resulting raw values are then spread across the period, and plotted either as raw sherd count values or, more usually for comparisons between groups of disparate sizes, as percentages. The technique can be applied to a complete site for comparison with neighbouring or similar sites, or to stratified groups. When combined with analyses of the pottery for fabrics and functions, this is a useful tool for assessing groups and their relationships.

The stratified groups identified for analysis of the pottery are shown on Tables 5 and 6, with the total pottery as columns, and the coarse pottery alone, excluding samian, as a line graph. Table 5 shows the groups from the main sequence in Area II with Period 1, while the rubbish deposits are also on Table 6. The total sherd count for each group is shown, together with the percentage used for the plotdate chart. Of the total 13,704 sherds, 6773 are plotted (49.4%). The charts show the chronological development of the site, and enable individual groups to be assessed for their residual content (including the effect of the samian), and compared with other groups. Although some contexts in Period 1 may not pre-date the defences, the group provides the starting point.

**The stratified groups**

The separate areas of excavation created difficulties in the cross-relating of deposits, and fitting them into the sequence of defensive structures. When the plotdate charts are analysed for the two Areas II and III, individual sequences arranged by date content can be seen, and loosely cross-related (below). Analysis of the fabric and functional content is also helpful, although the variations in rubbish dumped on adjacent sections of ramparts argue for caution in interpretation (Darling 1984, 89).

**Area II, 1971**

- Rampart: 10
- Rampart lengthening: 11
- Main rubbish dumping: 17
- Construction Trench: 16; Upper Rampart: 20A
- Robber trench: 15
- Upper Rampart: 20B

**Area III**

- Main rubbish dumping: 17
- Rubbish: 12 and 18
- Rubbish: 14
- Rubbish: 19

The difference between the Period 1 assemblage and group 10 of the primary rampart and its early additions arises mostly, but not entirely, from the samian content, suggesting that the earliest rampart was comprised of material from the excavation of the ditch, plus contemporary rubbish mostly from the area. This first rampart group is the only group where the samian broadly coincides with the coarse pottery, and contains a significant quantity of 1st century pottery. The following group 11, the rampart lengthening, contains less residual 1st century material, and the coarse pottery peak has moved into the 3rd century, forming an overlap with the main dump group 17.

The rubbish deposit in Area III (group 13) has been largely discounted due to the mixed nature of its date content, and the probability of intrusive material, but its earlier content suggests it is at least partly related to the phase of lengthening the rampart (group 11 in Trench II). The rubbish of group 12 has a similar relationship to the lengthening group 11 as occurs with the main group 17, which its profile resembles, although the peak in the early 3rd century differs. This may be a freak of the group, arising from its content of colour-coated wares, and perhaps also the sherds from the Dales ware jar. Group 12 differs from group 17 in the fabric and functional content of its pottery. The dating profile of group 18 is very close to that of group 17, the main difference arising from the samian content. The functional analysis, however, shows the content of 18 to be significantly different from 17, which contains a higher kitchen element, suggesting different sources.

The rubbish of group 14 has a very similar profile to those from the construction trench 16 and the lower part of the upper rampart 20A. The robber trench 15 with its peak firmly in the later 3rd century has a closer relationship with the rubbish of group 19, which is the only group in Area III to peak strongly in the late 3rd century, and to have a minimal residual samian content; the two groups are also very similar in their fabric and functional content.

The chart (Table 5) for the main dumping on the rampart of GI–GK, group 17, indicates a separate source, the peak having moved back into the earlier 3rd century, with quantities of later 2nd century pottery. The earlier part of the next phase of dumping, the upper rampart group 20A, progresses from group 17 with a peak in the later 3rd century again, but still with quantities of residual earlier material. The residual content lessens in the last part of the upper rampart group 20B, with a strong peak in the late 3rd century, as in group 19 in Area III, and a higher 4th century content.

**The rampart sequence**

The bulk of the pottery from the rampart came from the major group GI–GK group 17, and Table 6 shows this in relation to the other deposits, including the robber trench group 15.

This shows overlaps with the preceding lengthening group 11, and with the succeeding upper rampart group 20A. The earlier content in relation to the underlying group 15 from the robber trench is also clear, suggesting that the rubbish in group 17 was
Table 5  Plot date of groups of Roman pottery from the main sequence in Area II of The Park (columns showing all pottery, line graph coarse pottery excluding samian) by percentage of sherds

Period 1 (982 sherds, 66.2%).

Group 10 Rampart & additions (441 sherds, 49.7%).

Group 11 Rampart lengthening (886 sherds, 43.1%).

Group 12 Rubbish JO (913 sherds, 51.7%).

Group 13 Rubbish SQ-TN (319 sherds, 64.6%).

Group 14 Rubbish GT (731 sherds, 50.8%).

Group 15 Robber trench (174 sherds, 49.4%).

Group 16 Construction trench (873 sherds, 47.5%).
Table 5  Plot date of selected groups of Roman pottery from The Park (cont)
brought to the site specifically to increase the rampart, while that in the robber trench was more contemporary. Only the upper part of the last rampart group, 20B, shows an appreciably different dated content.

The rubbish deposits

The relationships of the earliest deposits in Area III with the main defences sequence is shown in Table 7, which plots their dated content in relation to the rampart lengthening 11 and the main group 17. The similar date content and nature of the rubbish deposit group 14 with the deposits in the construction trench group 16 and the lower part of the upper rampart group 20A can be seen in Table 8, showing all pottery plotted as percentages.

The rubbish of group 14, GT, is the clear precursor in terms of its dating profile of the overlying group 19. Functional analysis shows it to be almost identical to group 18 despite the higher samian content of 18, but broadly similar to group 19 which has fewer liquid holders and items of table ware, and more drinking vessels, consistent with its slightly later dating. Analysis suggests that the three groups are related.

The final comparisons between the two areas are in Table 9 which shows the total pottery percentage plot for the rubbish of group 19, with the robber trench group 15 and the top of the upper rampart group 20B. The dating profiles of groups 15 robber trench and 19 rubbish are almost identical, the latter having a slightly later emphasis, and this close similarity also occurs in the functional and fabric analyses. Group 15 is a small sample, but the analyses suggest that it has the same source as the stratigraphically later group 19.

Group 19 rubbish has been connected with the main rubbish deposit GI–GK group 17, but the dating profiles differ significantly, group 19 peaking at c AD280. The fabric analysis also shows significant differences between the two assemblages, and group 17 has a much lower content of drinking vessels, with more emphasis on kitchen wares.

The last rubbish deposit is the late dump on the berm (Darling 1977a), group 21. The dated content (Table 5) shows this group to be quite distinct from all others, its profile concentrated in the 3rd and 4th centuries. The fragmented group from the road layers (just 275 sherds; not shown) has the nearest 3rd and 4th century profile, also peaking at c AD320–340.

The main rubbish dump

Functional analysis suggests a broad coincidence between the main deposit group 17 and the construction trench group 16 and the lower part of the upper rampart group 20A, but the dating profile for group 17 is quite distinct with its early bias. When the residual samian is excluded, both groups 16 and 20A peak at c AD280, and have a 4th century content, largely lacking in group 17 (the tail charted into the 4th century is mostly due to the long date-ranges necessarily applied). Although there are similarities between group 17 and other rubbish deposits, group 17, when analysed, stands out as a discrete group of pottery: a dump brought on to the site specifically for
the purpose of increasing the rampart size, almost certainly in a short-term operation.

**Comparison with other Lincoln sites**

As a site on the defences, The Park can be compared to two other defences sites: the site excavated in 1966 at East Bight on the north defences of the Upper City and, more pertinently, the Silver Street 1973 sites (lin73C, B) on the east defences of the Lower City. While the pottery discard policy operated on the Silver Street sites produces problems with comparisons, certainly leading to higher percentages of samian, the overall pattern may remain usable.

Table 10 shows all the pottery from The Park as an area chart, overlaid by line graphs for the other sites. While clearly both East Bight (eb) and lin73C differ substantially in having earlier elements, the profiles from the late 2nd century onwards are broadly similar. Given the vagaries of comparison with sites
with an unknown discard policy, it is notable that the profile for the lin73B site, to the rear of the main defences, is broadly similar to that for The Park.

It is clear that the assemblage from lin73C indicates more activity in the 1st and 2nd century than occurred at The Park. When, however, the sherd values attributed to the period from c AD180–200 onwards are recalculated and the percentages spread (Table 11), it can be seen that the assemblages from the two sites are very similar.

There appear to be no other sites in the Lower City closely comparable with The Park. The nearest profiles are from two adjacent hillside sites, Spring Hill/Michaelgate 83 and Michaelgate Chestnut House 84, but these differ in having lower percentages for the later 2nd to early 3rd century period than occur at The Park. When compared to the average of the other Lower City sites, The Park stands out with its emphasis in that period, and the lower percentages for the 4th century. This is shown in Table 12.

The closest profile elsewhere in the city comes from the extramural site at Winnowsty Cottage (wc87),
where occupation appears to have started in the later 2nd century, and declined in the first half of the 4th century. There is also a reasonably close coincidence with the profile for the coarse pottery from the St Mark’s Church site (sm76), allowing for the higher 1st to 2nd century activity at The Park.

**Fabrics and functions**

The fabrics from The Park groups (including the pottery from Period 1 for comparison) are shown as percentages based on weight in Tables 13–14. These exclude amphorae and mortaria where the inclusion of only a sherd or two can distort figures based on weight (full quantified figures are in Appendix, p 65). Table 13 shows all fabrics and groups, but Table 14 concentrates on the major fabrics from the sequence of pre-defences through to the upper rampart in Area II. The remaining percentages not shown on the charts represent the reduced GREY fabrics, generally present in increasing quantities until the arrival of DWSH shell-gritted and, at the very end, the late coarse fabric, LCOA, in group 21.
Table 13  Fabrics, excluding amphorae and mortaria, percentage weight of all groups
Table 14  Main fabrics for sequence in Area II

![Diagram showing main fabrics for sequence in Area II]

- MLCO
- EGRY
- IAGR
- IASH
- BB1
- EROX
- FINE
- SAM
Only in the first three groups, Period 1, the earliest rampart group 10 and the lengthening group 11, is the samian percentage higher than the fine wares, predominantly NVCC. The percentages of samian and fine wares, however, are almost equal from groups 16, 18, 20A and above all, the large rampart dump group 17. Of the groups deposited during the floruit of colour-coated wares, it is notable that the dump group 17 has only 11% fine wares, a strong indication of the bias towards the later 2nd to early 3rd century of this major group. The major decline in fine wares occurs in the last deposits on the rampart, particularly group 20B, and in the latest rubbish group 21, as can be seen from Table 15 which shows beakers as a percentage of all EVEs.

The changing character of the colour-coated beaker assemblage can be gauged from Table 16, which
shows the beaker types by group, based on EVEs, as a percentage of all beakers.

The first part of Table 16 isolates the rampart sequence groups, ending with the lower part of the upper rampart; the second part deals with all other groups. The incidence of cornice-rimmed beakers is of interest, marking out groups 12 and 13 as being closer to the rampart sequence than the other rubbish deposits. Pentice-moulded beakers first appear in the small construction trench group 16, but become dominant in the last stages of the upper rampart and the late group 21. The paucity of funnel-necked types in the rampart sequence is in contrast to their occurrence in the rubbish groups.

Any quantity of the early shell-gritted native tradition fabric IASH is confined to the Period 1 assemblage, and the earliest rampart group 10, while the later native tradition fabric IAGR also occurs in group 13 rubbish, possibly related to the earliest rampart. A small quantity of early LEG fabric occurs in Period 1 deposits. The declining quantities of BB1 and EROX, the earlier oxidized wares, mostly flagon types, can also be discerned. No detailed analysis of the GREY vessels has been undertaken, but the consistent occurrence of BB types as flanged (flat-rimmed) bowls and dishes, together with BB type curved rim cooking pots in the main rampart group 17 is notable. Based on EVEs, the bowls and dishes accounted for 11.6% and the cooking pots 16.5%, quantities unparalleled in other groups. Although bead-and-flange bowls occur in groups 13 and 17, they do not appear in quantity until groups 19 and 20 where they start to displace the flanged bowls.

The main indicator of later date is the fabric group MLCO, which includes shell-gritted Dales ware jars and the later bowls and dishes, and the LCOA coarse later fabric, used mainly for the double lid-seated jars found almost exclusively in the latest rubbish group 21. Dales ware first occurs in group 12 (probably as a single jar), but forms a small component of the groups until the upper rampart groups 20 where there is a dramatic increase in the upper rampart group 20B, and finally the latest rubbish group 21. Dales ware and late shell-gritted wares alone rise from 4.6% in 20A to 12.8% in 20B, and finally to 22.5% in the late group 21, which also contains 10% LCOA. The late lid-seated shell-tempered jars common in the late group 21 are not represented in the Upper Rampart, although there is a single jar in group 18, Fig 37, no 400. Apart from two dishes, one probably a contaminant in group 14, and the other in group 20B, no other shell-gritted open forms occur before the late group 21.

Of the various rubbish deposits not certainly related to the rampart sequence, while groups 14, 18 and 19 have a similarity in their fabric analyses, groups 12 and 13 both appear distinct but could be related. Group 15 from the robber trench in the middle of the sequence has a closer resemblance to group 19 rubbish, while group 16 from the construction trench ties in strongly with the main rubbish dump group 17.

The Park: Fabric group quantities by stratified group

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<tr>
<td>Total</td>
<td>12420</td>
<td>6859</td>
<td>14642</td>
<td>20057</td>
<td>7834</td>
<td>11544</td>
<td>5426</td>
<td>15163</td>
<td>96007</td>
<td>8531</td>
<td>10772</td>
<td>14821</td>
<td>16543</td>
<td>42438</td>
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</tbody>
</table>
Since the pottery report was drafted in 1986, analysis of pottery groups by assumed function has been used for other Lincoln sites. This is based on the archive measure of sherd count, and filters the data through a file which assigns possible functions, based on the fabric and vessel type. The resulting data can be charted for comparison with other groups, enabling comparisons between site assemblages or individual stratified groups. The proportion of sherds excluded from analysis varies from about 16% to 42%, averaging 33% over the groups. Vessels associated with lighting, industry, writing and ritual are also included, but are significant only for presence/absence. Analysis of the identified pottery groups from The
Park, including the pottery from overall Period 1, is shown in Table 17.

As with analysis of fabrics, the functional content of groups has a chronological basis, with liquid holders decreasing, drinking vessels increasing and then declining, and includes a general change from kitchen vessels to what can be termed table-to-kitchen. The material comprising the lengthening of the rampart, group 11, differs from that in the underlying earliest rampart, which is itself substantially different from the group from Period 1. The latest rubbish, group 21, is quite distinct.

Such analysis enables examination of the relationships of individual groups, and their deposition. The differences discernible between the Period 1 assemblage and that comprising the first rampart group 10
suggest that the material for the rampart was brought to the site. The subsequent lengthening group 11 is markedly different, and has a later dating emphasis. Comparisons between groups that may have the same origin but are stratigraphically unrelated suggest links between the rubbish deposits groups 12 and 13; 14 and 18; the robber trench 15 and rubbish group 19; and the construction trench 16 with the main rampart dump group 17, and the lower part of the upper rampart group 20A. Functional differences between groups of comparatively close dating are unlikely to be great, and the possible links are discussed in relation to the plotdate charts (p 123). When plotted as graphs, most of the groups from 12 to 20B cluster, particularly for the table-kitchen category, and the medial groups appear to be groups 14 and 18 from Area III, with almost identical profiles.

It is possible, however, to see two distinct groups, the first being the connected sequence from the rampart comprising the lengthening group 11, the fill of the construction trench 16, the main rubbish dumping 17 and the first part of the upper rampart 20A, as in Table 18. This is the important group since
it represents over 44% weight of the stratified pottery. The second is composed of most of the rubbish deposits, and the robber trench (Table 19). These rubbish deposits represent over 20% weight of the stratified pottery, and their main distinguishing feature is the high level of drinking vessels. The two groups of deposits have been re-analysed as single groups and Table 20 shows their functional profile in relation to that from the late rubbish group 21, the chart summarising 78% of the stratified pottery.

This shows clearly the difference between the two main groups, and the contrast with the late group on the berm. The main rubbish dump on the rampart, group 17, also differs from the other groups when related to its dated content. Apart from the earliest groups, it is particularly high in the kitchen and table-kitchen categories, medial on tablewares (principally samian), and low on drinking vessels and liquid holders. The combined profile for kitchen, table-kitchen and drinking vessels marks its individual character, and the nature and interpretation of the accompanying bone assemblage should be borne in mind.

The other major group, the late rubbish on the berm, group 21, differs from all other groups, and its principal component can be seen to be kitchen wares, with the lowest percentage of table-kitchen of all groups, and a low percentage of drinking vessels. This group has been compared with late groups from three other sites (Table 21), the latest stratified group from St Mark’s Church (sm76), and very late groups from Hungate (h83) and Grantham Place (gp81), to see if differences occur.

The profile of the St Mark’s group is very close, but those from Hungate and Grantham Place differ, particularly in their lower content of kitchen vessels. A comparison of the plotdate profiles for the four groups shows the H83 group to be conclusively the latest, the SM76 group to have less late 4th century, but the profile of the GP81 group is very similar to The Park group 21 (Table 22).

The two groups from H83 and GP81 are ‘dark earth’ deposits, and this may be the reason for the differences rather than the dated content.

Detailed comparison of stratified groups from The Park with others, such as the large groups from St Mark’s Church site, is difficult due to the earlier content at The Park, not only from the early rampart and rubbish, but also from the main rubbish dump group 17. There is a strong emphasis on table to kitchen vessels at The Park which does not occur at St Mark’s. The main difference observed at St Mark’s is that the later groups have a higher content of table-kitchen and kitchen than in the earlier groups from the timber and half-timber phases. Compared on a percentage basis, The Park pottery is closer to the late St Mark’s groups, but still has a stronger table-kitchen element. More work is necessary to understand these differences, which may indicate varying contemporary assemblages between different areas of the city, although the associated animal bone assemblage argues for caution in interpretation.

**Samian ware by Joanna Bird**

The main interest of the samian ware from The Park lies, despite its highly residual context, in the dumped material from Period 6. This dates mainly from the mid-Antonine period onwards, culminating in a small group of East Gaulish wares dating to around the second quarter of the 3rd century. These late pieces show that Lincoln was still receiving a small amount of samian towards the middle of the 3rd century, when generally samian imports into Britain seem to have ceased (cf Bird 1986, 139–47).

The bulk of the Period 6 material consists of mid to late Antonine Central Gaulish products; the decorated ware includes ten bowls of the Doeccus-Casaurus group, three or four – one of them a black-slipped vase – of Paternus II, two each of Advocius, Cinnamus and the Iullinus-Caletus-Severus group, and single bowls of Albucius, Banvus, Mecercator, and perhaps Catussa I. Lezoux potters of the same date range represented by stamped plain vessels are Antiquus, Apolastuer, Attillus v, Clemen ii, Dester, Geminus vi, Ivenis, Mainacnus, Malledo, Marcus v, Mossius ii, Moxsiius v, Paterculus, Pentilius, Primausis ii, Sedatinus and Tituro. The earlier decorated bowls, of Criciro, Divixtus and Sissus II (two), all date up to the mid-Antonine period. The East Gaulish wares are mainly products of Rheinzabern, and the latest vessels include decorated bowls of Julius II–Julianus I and Attillus and perhaps also the dishes with stamps of Firminus ii and Potentinus, as well as such plain forms as D31–31R/Lud Sa–Sb, Dr 45, unstamped Dr 33, dishes of the Dr 32 series and an incised beaker. Other Rheinzabern products include decorated bowls of Regius I and Cerialis and a stamp of Vitalis viii, together with two Trier bowls of Werkstatt II, all probably of Antonine to early 3rd century date.

Of the earlier phases on the site, Periods 3–5 produced insufficient samian for discussion. Period 1 consisted largely of South Gaulish wares of the second half of the 1st century, but included a small amount of Antonine material with odd examples of Dr 31, Dr 31R and Walters 79; the latest stamp was of Reogenus, c AD 150–180. The samian from Period 2, though less in quantity than that from Period 6, shares its predominantly mid-to later Antonine date, but has only a tiny amount of East Gaulish ware, none of it necessarily any later than the late 2nd century. The Lezoux decorated ware includes three bowls of the Cinnamus group, two or three of Advocius, and single bowls of Mecercator II, Casaurus-Doeccus and Paternus II or Censorinus; the contemporary plain ware stamps are of Advocius, Albucianus, Antiquus, Cadgatis, Maccatus, Macri anus, Martius iv, Maximus ii, Pugnus ii and Regalis i. The East Gaulish products include a bowl of Cobnertus I of Rheinzabern and an unassigned bowl, probably from Blickweiler.
**Table 23  Samian ware from the Park: forms, weight and catalogue**

<table>
<thead>
<tr>
<th>Group/Pd</th>
<th>SAMSG wt</th>
<th>Dec/Stamps</th>
<th>SAMCG wt</th>
<th>Dec/Stamps</th>
<th>SAMEG wt</th>
<th>Dec/Stamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>27 18 36</td>
<td>77g</td>
<td>31R 37 38 31-R 72 27 33 18 18/31 18/31-31 31 79</td>
<td>421g</td>
<td>2; 31; 40; 41; St 1; 50</td>
<td>37</td>
</tr>
<tr>
<td>11</td>
<td>29</td>
<td>7g</td>
<td>31R 37 38 31-R 33 15 18/31 31</td>
<td>1210g</td>
<td>36-39; St 8; 13; 24; 33-4; 47-8,53</td>
<td>33</td>
</tr>
<tr>
<td>12</td>
<td>18R</td>
<td>90g</td>
<td>30 31R 37 38 31-R 33 CLSD 31 36 79 79R 45</td>
<td>1620g</td>
<td>32-34; St 3; 5; 14; 52</td>
<td>33</td>
</tr>
<tr>
<td>13</td>
<td>27 18</td>
<td>7g</td>
<td>31R 37 38 33 18/31 18/31-31 31 45</td>
<td>872g</td>
<td>42-44</td>
<td>33 31</td>
</tr>
<tr>
<td>14</td>
<td>27 18</td>
<td>25g</td>
<td>30 31R 37 38 CU21 31-R 33 CLSD 18-18/31 18/31 31 36 79 LUD Tg M</td>
<td>707g</td>
<td>25-28; St 23</td>
<td>37 38 33 31 79R M</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td>31R 38 CU21 33 31 45</td>
<td>286g</td>
<td>31R 46 32</td>
<td>240g</td>
</tr>
<tr>
<td>16</td>
<td>CU11-RT12</td>
<td>50g</td>
<td>31R 37 38 CU21 33 80 18/31 18/31-18/31 31 79 M</td>
<td>1027g</td>
<td>St 45; 49</td>
<td>CLSD 31</td>
</tr>
<tr>
<td>17</td>
<td>35-36 27</td>
<td>25g</td>
<td>30 31R 37 38 CU21 31-R 68 27 33 40 80 CLSD 18/31 18/31 31 36 79 R CU23 45</td>
<td>7585g</td>
<td>56-60; 62-71; 73-87; 89-92; St4; 6; 7;10; 12; 16-7; 20-2; 26-7; 29-30; 32; 40</td>
<td>37 38 BK 33 485g</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td></td>
<td>31R 37 38 33 CLSD 31 32 36 79 45</td>
<td>931g</td>
<td>98-105; St 39</td>
<td>38 32</td>
</tr>
<tr>
<td>19</td>
<td>27</td>
<td>5g</td>
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<td>570g</td>
<td>94</td>
<td>37 38 31-R 31 36 170g</td>
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<tr>
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<td>15/17R-18R</td>
<td>5g</td>
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<td>935g</td>
<td>51; 54; 55; 93</td>
<td>30 31R 37 38 31-R 72 33 CLSD 31 32 325g</td>
</tr>
<tr>
<td>20B</td>
<td>27</td>
<td>7g</td>
<td>31R 37 38 33 80 31 45 20B</td>
<td>345g</td>
<td>37 31</td>
<td>20g</td>
</tr>
<tr>
<td>21</td>
<td>27</td>
<td>5g</td>
<td>31R 31-R 33 79 M</td>
<td>145g</td>
<td>38 45</td>
<td>40g</td>
</tr>
<tr>
<td>Per. 1</td>
<td>29 37 67 24</td>
<td>255g</td>
<td>30 31R 37 38 35-36 CU21 72 27 33 18/31 31 79 CU15 RT13</td>
<td>714g</td>
<td>1; 14; 18-22; 23; St11; 18; 35</td>
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<tr>
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<td>25g</td>
<td>31R 37 38 27 33 18/31 31 36 RT13</td>
<td>313g</td>
<td>35; St 19</td>
<td>CU21 20g</td>
</tr>
<tr>
<td>Per. 3</td>
<td>18</td>
<td>5g</td>
<td>37</td>
<td>65g</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>Per. 4</td>
<td>37 27 36</td>
<td>23g</td>
<td>37 BK 27 33 18/31 31 45</td>
<td>154g</td>
<td>46-47</td>
<td>30R 37 33 50g</td>
</tr>
<tr>
<td>Per. 5</td>
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<td>37g</td>
<td>37 27 33 18/31 18/31 31 31 79</td>
<td>235g</td>
<td>49-50</td>
<td>31R 30g</td>
</tr>
<tr>
<td>Per. 6</td>
<td>27</td>
<td></td>
<td>31R 38 BK 33 31 36</td>
<td>349g</td>
<td>St 51</td>
<td></td>
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<tr>
<td>Roads</td>
<td></td>
<td></td>
<td>37 38 18/31 31 31 R 33 45</td>
<td>195g</td>
<td>St 25</td>
<td></td>
</tr>
<tr>
<td>Post-Roman</td>
<td>29 37 27</td>
<td>158g</td>
<td>31R 37 38 31-R 72 27 33 CLSD 18/31 31 36 79 45</td>
<td>1011g</td>
<td>7; St 2; 9; 28; 37-8</td>
<td>31R 37 38 325g</td>
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<td>Total weight</td>
<td>806</td>
<td>19690</td>
<td>2025</td>
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</table>
The total samian from the site amounted to 1642 sherds, 3716 EVEs, weighing 22.521 kg. Comparative little came from post-Roman layers, and that stratified in Roman contexts was 1505 sherds, 3565 EVEs, 20.925 kg. Table 23 gives details of the fabrics and forms with cross-references to the decorated and stamps reports. Table 24 shows the distribution of samian from different sources through the site periods and stratified groups:

Table 24 also shows that the bulk of the samian came from Period 5–6 contexts which were deposited in the 4th century. These rampart rubbish deposits are similar to the rubbish deposits of Period 2–3, and would appear to represent rubbish from one or more rubbish dumps redeposited to enlarge the rampart. Most of the pottery in the very large layers (GI–GK) of group 17 can be viewed as of 3rd century date, the more conclusively 4th century pottery appearing in the upper rampart sub-phase groups 20 of the period. The samian therefore offers evidence relevant more to the assessment of residuality and the character of assemblages than to dating:

The evidence provided by the samian for the chronology of the site depends most upon the more closely datable potters’ stamps (52) and decorated sherds (241), and these are plotted by date on the combination chart Table 25, the stamps represented by the columns (left axis), the decorated by a line graph (right axis).

The gap between the three South Gaulish and the later Lezoux stamps suggests that 1st century activity on the site was probably limited and early. Stamps and decorated sherds, however, represent only a fraction of the samian, with the plain wares averaging over 70%. Table 26 shows the two categories.

The longer date ranges applied to plain wares extend the range, and the increasing quantity of plain relative to decorated vessels is also applicable in the later 2nd century (Darling 1998). The assemblage has been examined for changes in the ratio of plain to decorated vessels, and differs from other Lincoln sites only in having a paucity of decorated wares in the later 1st century, and amongst the East Gaulish vessels in the 3rd century.
The stratified groups

The dates of the samian from the stratified groups have been spread by date (based on sherd count), and charts for the main groups (excluding small samples) appear as Table 27. The spread is calculated on the basis that if 10 sherds are dated AD 110–140, each of the three decades has a value of 3.33 sherds. Percentages are calculated on the values to standardise the results from groups of disparate sizes.

The first chart on Table 27 covers all the samian from Period 1 deposits, predating the defences, which shows a very different profile from the following group 10 of the earliest rampart. This is the only group with significant quantities of South Gaulish wares, although even there, Central Gaulish wares predominate. The decline c AD 60 is a decade earlier than usual on other sites occupied in the 1st century in Lincoln. The next group 11, material added to lengthen the rampart, has reduced quantities of South Gaulish samian. Thereafter the groups vary only in detail, although East Gaulish wares are
Table 27  Comparative analyses by date of the samian from groups at The Park
present in significant quantities only in those late in
the sequence. The earlier character of the main
rampart dump GI–GK group 17 is highlighted by
its relatively low percentage of East Gaulish
sherds relative to that from the upper rampart
group 20.

East Gaulish wares, percentage of all samian:

<table>
<thead>
<tr>
<th>Group</th>
<th>shs</th>
<th>EVEs</th>
<th>weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI–GK Group 17</td>
<td>5.1</td>
<td>4.5</td>
<td>6.2</td>
</tr>
<tr>
<td>Upper rampart Group 20</td>
<td>17.4</td>
<td>10.1</td>
<td>22.2</td>
</tr>
</tbody>
</table>

Although the upper rampart layers produced a
much smaller sample (only 1.647kg), the figures are
consistent with the results of analysis from other
sites in the Lower City and the Wigford suburb, at
17% on sherd count.

Fragmentation

Table 28 shows the samian percentage of each group,
based on weight, with an indication of the fragment-
tation (sherd weight) relative to the overall fragmen-
tation of the groups (excluding heavy amphorae and
mortaria).

The fragmentation of the samian is similar to that
of the rest of the pottery, although large fresh sherds
in the wall robber trench group 15 are notable. The
relative quantity of samian remains relatively high
throughout, the main decline only occurring in the
topmost part of the upper rampart group 20B.

The Park was the first Lincoln excavation for which
the samian has been fully quantified and, as an
exceptionally large group with a strong late 2nd to
mid 3rd century bias, the samian forms have been
examined on the basis of both EVEs and sherd count
quantification.

The large number of form 33 cups (or small bowls)
from Central Gaul is noteworthy. The quantity of
form 33s poses a question about the validity of EVEs
as a quantification measure since the small curved
form is naturally strong, surviving rubbish disposal
better than some other forms. The paucity of East
Gaulish drinking vessels is interesting, and it may
be conjectured that the beakers produced in the same
kilns at Trier (as extensively copied in the Nene
Valley) had become the fashion. This may, however,
be simplistic since cup and beaker forms are funda-
mentally different, and even if both were used as
drinking vessels, the contents may have differed. It
is interesting that the Central Gaulish potters
producing similar beakers differed from the Trier
potters in also making cups (Greene 1979, fig 2.3, nos
7, 8).

Samian stamps
by Brenda Dickinson (updated August 1996)

The Park

Superscript (a), (b) and (c) denote:
(a) A stamp attested at the pottery in question.
(b) Not attested at the pottery in question, but other
stamps of the potter known from there.
(c) Assigned to the pottery on the evidence of fabric,
distribution, etc.

Table 28 Samian ware as a percentage of each of the groups
Table 29  Quantitative analysis of samian forms from The Park

<table>
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<tr>
<th>Sherds</th>
<th>SAMS/</th>
<th>SAMCG</th>
<th>SAMEG</th>
<th>Total</th>
</tr>
</thead>
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<td>Sherds</td>
<td>EVEs</td>
<td>Sherds</td>
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<td>30</td>
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<td>75</td>
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<td>0</td>
</tr>
<tr>
<td>37</td>
<td>*</td>
<td>8</td>
<td>215</td>
<td>149</td>
</tr>
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<td>CU11-RT12</td>
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<td>0</td>
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<td>Bowl</td>
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1 Advocius 1a 38 [ADVO]CISI-OF
Waster stamped with this die found at Lezoux. Output includes forms 79, 31R, 80, and 33. Site evidence: Hadrian’s Wall (Chesters Museum), Binchester and Newstead. Also makes decorated ware of mid- to late-Antonine date. c AD 160–190. P70 S.53 (PO)
2 Albinus iv 6c 31 ALBIJWIW
Appears at Corbridge and Halton Chesters. Stamps from other dies at Castlecary, Castledykes and Chesterholm and on forms 18/31, 18/31R and 27. c AD 130–160. P70 S.19 (EK)
3 Albucianus 6d 31 [AL]BVCIANI
Appears at Ospringe cemetery and Traprain Law. Makes forms 33 and 31 but also uses another die on forms 79 and 80. Other stamps appearing at Pudding Pan Rock, Catterick, Bainbridge, Stanwix. Also on a form 27 in the Musée des Antiquités Nationales, Saint-Germain-en-Laye. c AD 160–200. P70 S.35 (JO)
4 Antiquus 2a 31 ANTICVM
Appears on a form 27 from Bavay. Also appears at Birdoswald. Possibly starting earlier than no 4 above. c AD 150–180. P70 S.36 (JO)
5 Antiquus 3a 79 AN[TICVI]
Appears on form 79/80. No dated sites but other stamps appear at Birdoswald and also on form 27 from Bavay. c AD 160–180. P70 S.1 (GK)
6 Apolaster or Apolauster 3b 33 A-POL-AVSTI
This stamp occurs in the Wroxeter forum destruction deposits. It was also added, after moulding, to the rim of a decorated bowl of form 37 from the fort at Ilkley. Two other bowls, with rims stamped with a different die, are in the styles of Cinnamus ii, or an associate, and Casarius ii. c AD 155–190. P70 S.6 (GK)
7 Attilius v 3a 13R ATTILLIA/AA
Also makes 80 and possibly 15/31. Appears at Corbridge. Stamps from other dies appear at Elchester, Lanchester, Chesterholm. Also makes Tx of late-Antonine date, and possibly Tg. Late-Antonine. c AD 160–190. P70 S.62 (GK)
8 Cadgatis 1a 31R [CADGATI]:MA
Stamp occurs at Benwell, South Shields, Newstead. Stamps from other dies at Camelon, Castlecary, Catterick and on Forms 27, 18/31R, rim of stamped Albucius bowl (CGP 120, 4). c AD 160–180 on the form. P70 S.55 (PK)
9 Cintusinus i, 2b 31 CINTVSMIM
Appears at Birdoswald, Chesterholm and Catterick. Makes forms 27, 79 and 80. This die used on 31, 31R, 33, 38. Other stamps appear at Pudding Pan Rock, Piercebridge, South Shields, Hadrian’s Wall, Newstead. Also stamps on the rims of bowls by Cinnamus. c AD 150–180. P70 S.27 (U/S)
10 Clemens iii 1a 31 CLEMENTS
Stamp appears on a form 37 mould in the Musée des Antiquités Nationales, Saint-Germain-en-Laye in Lezoux style; a further example in Roanne Museum from Lezoux, and both have another stamp in the decoration of Priscus iii (Die 4d), an Antonine potter. Makes forms 79 and 31R, both stamped with this die. Site evidence: Catterick, Benwell and another site on Hadrian’s Wall. c AD 160–190. P70 S.12 (GK)
11 Cracuna i 2a 31 or 18/31 [CRA]CVNA-F
This is a common stamp in the Rhineland, which seems to have received little, if any, Central Gaulish samian after c AD 150. It also appears several times in Antonine Scotland. Its frequent use on forms 18/31 and 27 suggests that it originated in the Hadrianic period. c AD 130–155. P70 S.58 (QG)
12 Dester 1a 31 [DESTER]R-F
All Dester’s stamps seem to have come from the same die, which was used on forms 31R and, probably 79. He was certainly at work after AD 160, therefore, and a stamp from South Shields will belong to this period, but the Lincoln dish, in view of its form, is likely to be earlier. c AD 155–190. P70 S.11 (GR)
13 Divicatus 3c 33 DIVICATVS
Known from Newstead and Catterick North. Noted on forms 27, 18/31, 79 or Tg. Other stamps from Malton, Bar Hill and a group of c AD 140–150 at Castleford. Other stamps found on forms 18/31, 31, 27, 44, 42, 18/31R, 79 and Ludowici Tg. c AD 140–170. P70 (PL)
14 Donatus ii Incomplete 2 33 DONATI
Stamp also occurs on form 80 and so in use c AD 160 or later. His output includes a high proportion of forms 18/31 and 27, and many of his vessels reached the Rhineland, suggesting activity before c AD 150. c AD 135–165. P70 S.31 (JO)
15 Firminus ii 2b Form unknown but flat base FIRMINV<TE>
Stamp also appears on forms 32, 31R and Ludowici Tb. Osterburken. Late 2nd- or 3rd-century. P70 S.14 (GR)
16 Geminus ii 4a 45 GEMINIMA
Also on forms 79, 80 and 33. c AD 170–200 on the form. P70 S.20 (GJ)
17 Ivenus 7a 80 IVII<
Making forms 18/31R, 27 and 80. No site evidence for the stamp and no other examples noted. A stamp from another die at Camelon. c AD 150–180. P70 S.9 (GK)
18 Macceculus 3a probably 31R MA[CCALIM]
Stamp found at Pudding Pan Rock, Corbridge, Chester, Housesteads, Brough (Petuaria). Stamp from another die found at Chester-le-Street. c AD 160–200. P70 S.21 (IO)
19 Macrianus 4a 33 AACRIANI
Stamp occurs on form 27, and another die on forms 79R and 31R. Stamps from his later die appear at Bainbridge and Malton and, probably, in the Pudding Pan Rock wreck (Liverpool Museum). Date for this, his earlier die, c AD 150–180. P70 S.32 (KE)
20 Mainacenus 2a 31R [MAI]ACNI or [MAI]NCN
Appears mostly on form 31R. Many examples from Pudding Pan Rock wreck, c AD 160–200. P70 S.4 (GR)
21 Malledo 6a 33 MALLED[VT]
Stamps with this die forms 33 and 31. With another die stamps forms 79, 80, 31R and Tg. Evidence from other dies: found at Newstead, Binchester, Worcester Fire (2), Hadrian’s Wall, Wallsend, Catterick and Verulamium 2nd Fire (but not burnt). c AD 150–180. P70 S.24 (GJ)
22 Marcus v 8a 33 MARCI
Appears South Shields, Halton Chesters, Corbridge, Chesters, Chesterholm. Occurs on forms 33 and 31R. Other dies used on forms 79, 79R and stamps appear frequently on Hadrian’s Wall; also Pudding Pan Rock, Malton and Newstead stamped with another die. c AD 160–200. P70 S.8 (GK)
23 Martius iv 1b 38 MARTIVI
This stamp is commonest on form 33, but is also known on forms 80 and Ludowici Tg. Many examples have been noted from Hadrian’s Wall and there is one in a group of late 2nd-century samian from New Fresh Wharf, London (Dickinson 1986, 191, 3,103). c AD 160–190. P70 S.23 (GT)
24 Maximus 4a 33 MAXIMI
One form 27 with this stamp and it occurs also on forms 31 and 33. A burnt example in the Verulamium 2nd Fire. Stamp from another die on form 80. c AD 150–180. P70 S.51 (PL)
25 Probably Modestus i 2c AD 18 OFM[ODES+]b
This stamp appears at London and Hofheim. Stamps from other dies: Cirencester Fort Ditch (2), Kingsholm, Colchester Pottery Shop (4), Usk, Camulodunum, Chester, Rheingönheim, Wroxeter, York, Caerleon, Ubberton (site closing in early Flavian period). He makes forms 29, 15/17, 18 and 24. c AD 50–65. P70 S.66 (RK)

26 Mossius ii 2a 33 MOSSILMb
Appears at Milton, Benwell, Wroxeter, Ribchester, and stamps from other dies at South Shields, Chester's Museum, Catterick. Makes forms 31, 33, 80 and 27. c AD 150–180. P70 S.28 (GJ)

27 Moxt/sius v 1a 31 [M]OXIMA 
Appears on form 31R. Site evidence: Bainbridge, South Shields, Chester's. Also appears on form 37 rims, with ovolus used by Albinicus ii or Paternus v and Doeccus i. c AD 160–190. P70 S.10 (GK)

28 Paterclinus 3a 33 PAT[ERCLINI]b
Stamp appears at Brough (Petuaria), Corbridge. Stamps from other dies appear in: Wroxeter Gutter and at South Shields, Chester's Museum (burnt), Benwell, Malton, Bainbridge, Chesterholm. Makes forms 31R, 79, 80, 38, 33 and also 27, stamped with various dies. c AD 150–180. P70 S.26 (GJ)

29 Paterclinus 4a probably 79 PATERCLINIMb
Found at Lezoux, Wroxeter Gutter, South Shields, Chester's Museum (burnt), Benwell, Malton, Bainbridge, Chesterholm. Also stamps with this die forms 31R, 80, 38 and 33. With another die stamps form 27. Also makes decorated ware. A figure-stamp stamped with his name found at Rheinzabern but he is unlikely to have worked there. c AD 160–180. P70 S.65 (WY)

30 Pentilius 1a 79 PANITIL:MNAV
No definite evidence but probably from Lezoux on fabric etc., and one appears in Lezoux Museum. Makes form 79. Site evidence: Catterick, appears several times at Chesterholm and there are 10 stamps from the Wroxeter Gutter, c AD 160–190. P70 S.3 (GK)

31 Potentinius iii 1b probably 32 POTTI:TIVSY
Makes late forms 32, 40 and Ludowici Tn (stamped with different die). Late 2nd- or 3rd-century. P70 S.48 (GK)

32 Primanus iii 6f 31 PR[MAN]i
Site evidence: Pudding Pan Rock, Wroxeter, Housesteads, Bourges (on form 15/31 of mid- to late-Antonine date). Stamps from other dies appear: Wroxeter Gutter, Bainbridge. c AD 160–190. P70 S.13 (GK)

33 Pugnus ii 2a 33 PVGIM b
No other examples of this stamp noted. Evidence from other dies: also making form 27 and appears in Wroxeter Gutter, Benwell, Corbridge, Chester-le-Street, Alcester (pit group of early-Antonine date), Camelon. c AD 145–175. P70 S.52 (PL)

34 Regalis i 4a 33 REGALIS:Eb
Makes forms 31R and 79R also with this stamp, and stamped with other dies, forms 27 and 80. This stamp appears at Corbridge and Benwell; others at Newstead and Hadrian's Wall generally. c AD 150–180. P70 S.50 (PL)

35 Reogenus 1b 31 [RIIOGE]NIMa
Makes forms 27, 79, 79R and Ludowici Tg. This stamp appears at Catterick, Hadrian's Wall and in Worcester Fire (mid-Antonine). Others appear at Camelon, Murrills, Ardoch, Birrens and Old Kilpatrick. c AD 150–180. P70 S.60 (QP)

36 Sabinus iii 33a 24 [ISA]BINII
Nine examples of this stamp from a group of samian of c AD 50–60 from La Graufesenque, six of them on form 29. Occurs also on form Ritterling 8. One of the earlier stamps of a potter whose wares appear occasionally at Flavian foundations. c AD 50–65. P70 S.59 (QL)

37 Saturninus ii 8a probably 79 SATVRNINb
There are many examples of this in the late-Antonine samian from the Pudding Pan Rock wreck. The die was used to stamp some of the later 2nd-century forms, such as 31R, 79R and 80. c AD 160–200. P70 S.29 (U/S)

38 Secundinus vi 3a probably 79 SICVNDINIMb
Occurs on forms 79, 80, Ludowici Tg, and also decorated ware. Stamps from other dies appear at South Shields, Brough (Petuaria). c AD 160–190. P70 S.64 (UY)

39 Sedatianus 1a 33 S[EDATIA]b
Antonine type fabric. Also makes forms 79, 80, 31R but mainly form 33. This stamp noted only on form 33. Appears at Corbridge. Stamp from another die occurs at Housesteads. Mid- to late-Antonine, c AD 160–190. P70 S.63 (SL)

40 Situro 1a 33 TITVRNISOFb
(Stops in the centres of the Os missing on this example, therefore probably one of the earlier stamps from the die, since the stops are normally associated with worn lettering.) Site evidence: Wroxeter Gutter, Corbridge, Wroxeter Forum destruction, Benwell, Wallsend, Malton. Making forms 79, 31R, 80. c AD 160–180. P70 S.7 (GK)

41 Vitalis viii 5b either 31 or 31R [VIT]ALISFEb
No site dating evidence for stamp, but appears on form 32. Also makes form 40. Started at Kräherwald and then moved to Rheinzabern. Occurs in a pottery store at Langenhaim destroyed in the early 3rd century (Simon & Köhler 1992, Tafl 34–35). c AD 160–200. P70 S.25 (GR)

Unidentified

42 Fragmentary stamp, reads [MAN on Form 33, Central Gaulish fabric and probably Lezoux. The fabric looks Antonine in date but the form of the letters does not. Could be dated in the 2nd century, mid- to late-Antonine. P70 S.55 (GK)

43 Rosette stamp on form 46, East Gaulish and probably from Rheinzabern. Late 2nd- or 3rd-century. P70 S.18 (IG)

44 Form 32 etc. of East Gaulish fabric, likely to be Rheinzabern, fragmentary stamp: [SF. Late 2nd- or 3rd-century. P70 S.17 (IG)

45 Form 18/31R or 31R, Lezoux fabric probably, circle round fragment of stamp, letter possibly [E: c AD 145–175. P70 S.38 (NZ)

46 JO on form 24, South Gaulish, pre-Flavian. P70 S.46 (PD & PC)

47 Form 33, Central Gaulish fabric, probably Lezoux but not certain. Fragment of stamp showing bottoms of letters only. Antonine. 2nd-century. P70 PL

48 Illiterate stamp II\AILIAIA on form 33, fabric of standard late Lezoux type. Late 2nd century. P70 S.61 (PK)


50 Form probably 31R, of Lezoux fabric. Fragmentary stamp reading: [M Probably mid- to late-Antonine. P70 S.54 (PR)

51 Form 79 or 80 of Lezoux fabric, with fragment of unidentifiable stamp. Late Antonine. P70 UF

52 VIVI[, illiterate stamp on form 33, Lezoux fabric. Antonine date. P70 S.34 (JO)

53 [NI bowl, probably form 38, of Lezoux fabric, Mid- to late Antonine. P70 PK
Decorated samian
by Joanna Bird (Figs 25–6)

The following report covers all the decorated samian from the excavations, both stratified and unstratified, and is arranged by stratigraphic period. Illustrated sherds are denoted by asterisks. Numbers in brackets for multiple entries from contexts refer to original recording references.

Incised and rouletted

Period 1

1 KI S43, Déch 72 (with another sherd (no 2) from PP, Period 2, probably one vessel), CG, with incised roundel containing a large daisy motif; each petal of the daisy touches a plain circle, then has three shorter petals beyond its tip, touching the outer roundel. Antonine

Period 2

*2 PP S57, Déch 72, CG, probably same vessel as KI above. Antonine

Period 4

3 EF S40, Dr 30R, probably one vessel; EG, Hadrianic-Antonine
4 IC S44, Dr 30R: = EF S40, qv
5 IY S42, Dr 30R: = EF S40, qv

Period 6

6 FM S39, Déch 72/Lud VS series, EG (Rheinzabern), with incised roundel; cf Oswald & Pryce 1920, pl 77, esp no 8. Antonine – first half 3rd century

Post-Roman

7 AT S45, Déch 72, CG, with incised roundels and leaf motifs; cf Oswald & Pryce 1920, pl 77, especially nos 1 & 3. Antonine

Moulded

Period 1

8 CO Dr 29 rim, SG, Neronian–early Flavian
9 MB Dr 29, SG. The motif at the base may be a monkey (cf Hermet 1934, pl 27, no 56, which is larger). The fabric and slip indicate a Neronian date
10 NC Dr 37, SG Basal band of short s-gadroons, below what is probably a leaf scroll with a hare. Flavian
11 NR (joining sherd with S47, unstrat.) Dr 29, SG. The basal band of spiky rosettes alternating with swans occurs on a stamped bowl of Felix from Neuss (Knorr 1919, taf 32, C), but no more of the design survived. The Lincoln bowl has a wreath of triple leaves above, and the upper frieze probably carries a scroll, including pointed leaves. c AD 50–65
12 PB Dr 29, SG, with hare in upper frieze. Small panels with this hare, smaller hares and hounds, were regularly used on stamped bowls of Felix (eg, Knorr 1952, taf 23,A), but were also used by other potters (eg, Murranus: ibid., taf 44,C). c AD 50–70
13 PG Dr 37, SG, noted on initial viewing but now missing
14 Dr 37, C.G., Hadrianic, noted on initial viewing, now missing

Periods 2–3

25 GT Dr 37, CG The ovolo (Rogers 1974, B206) was used by several Antonine potters
26 (3) Dr 37, CG Scrollery with probable foliage. Antonine
27 (1) Dr 37, probably in the style of Medetus-Ranto (X–9) of Les Martres-de-Veyre. The astragalus and horn motif are on Stanfield & Simpson 1958, pl 30, no 365, the grouped circles on pl 32, no 374. c AD 100–130; the footring seems unworn
28 (2) Dr 37, CG (Les Martres-de-Veyre). The two figures, sea-beasts or tritons, are not identifiable. c AD 100–130
29 (4) Dr 37, EG, rather matt brownish slip, and probably slightly overfired. The spaced rectangular beads suggest a product of Blickweiler, and the bow motif may be a partial impression of a leaf spray used there (Müller 1968, taf 23, no 622). The figures are not identifiable. Hadrianic–mid Antonine
30 HE Dr 37, style of Cobnertus I of Rheinzabern. Ludowici & Ricken 1948, taf 22, no 10, has the ovolo, wavy line, palmleaf and niche in the same arrangement. Antonine
31 S56. Dr 37, CG, with graffito spiral made before firing under the base. Hadrianic–Antonine
32 JO (3) Dr 37, CG The ovolo, Rogers 1974, B206, was
Figure 25  Decorated samian
shared by several potters, including Quintilianus, Paternus II, Censorinus and Laxtucissa. The large figure was used by Quintilianus and the small figure is probably the triton used by him or an associated potter (Stanfield & Simpson 1958, pl 68, no 1; pl 69, no 9). However, the beaded borders are more characteristic of the later users of the ovolo, and the astragalus terminal was used by Censorinus (Stanfield & Simpson 1958, pl 101, nos 1, 10), while the bowl itself would suggest an Antonine date.

*33 (1) Dr 37, probably by Mercator II of Lezoux. The ovolo and cored border are on this form on Stanfield & Simpson 1958, pl 145, no 2. The pointed leaf may be Rogers 1974, J48; the small one is not certainly identifiable. c AD 160–190

34 (2) Dr 37, CG The figure is probably Oswald 504; Oswald lists this figure as used by Advocicus, and the ovolo beads and rosette in the field would suit his work (Stanfield & Simpson 1958, pl 112, no 12; pl 114, no 28).

Antonine

35 KS Dr 37, CG, with Cinnamus ovolo 3, probably 3a. c AD 150–170

36 PK (3) Dr 37, CG, with square beads of Casurius-Doeccus group. c AD 165–200

37 (1) Dr 37, CG The ovolo was used by Sacer with similar beads (Stanfield & Simpson 1958, pl 82, no 1); the figure is a cupid. c AD 125–150

38 (2) Dr 37, CG The ovolo is probably one used by Pugnus (Stanfield & Simpson 1958, pl 153, no 2). c AD 145–175

39 PL Dr 37, CG Cinnamus group ovolo 3, with ovolo beads and horseman, Oswald 247. c AD 150–170

40 PQ Dr 37, CG Ovolo 3 of the Cinnamus group, probably the version with the corded tongue, 3a. c AD 150–170

41 PX Dr 37, CG The ovolo (Rogers 1974, B213) was used at Lezoux by Butrio and Libertus I, both of whom used similar beadrows; the figure is not identifiable. c AD 120–140

*42 SQ (same vessel in TM). Dr 37: two pieces making up approximately 2/3 of a bowl in the style of Advocicus of Lezoux. The design is apparently arranged in five panels: A Minerva, B large cupid and a pigmy, C seated figure above small medallion with crossed darts, D festoon with rosette and dolphin to left above a boar, E festoon with rosette and dolphin to right; the motif beneath does not survive, but panel C on the second piece is followed by animal legs in this position. The first piece apparently has the panels A B C D A B C E, the second piece has D A B C and ?E. Stanfield & Simpson 1958, pl 114, no 28, is closely similar, and has the ovolo, beads and terminals, and panels A, B, the medallion from C but empty and beneath a different figure, and the dolphin festoons of D and E. The dart motifs and seated figure are on Stanfield & Simpson 1958, pl 112, no 13; the boar, Oswald 1642, is recorded for Advocicus. c AD 150–180

43 TM see Dr 37 in SQ

44 Dr 37, style of Advocicus of Lezoux. Ovolo, inturned festoon, as Stanfield & Simpson 1958, pl 114, no 28. c AD 150–180

**Period 3**

*45 XT (probably one vessel as in IY, Period 4, cat 47). Dr 37 in the style of Drusus I (X–3) of Les Martres-de-Veyre. The mould from York (Stanfield & Simpson 1958, pl 16, no 206) is almost identical, but has an ovolo instead of the upper row of beaded circles (for which see pl 16, no 195). It has the same acanthus saltire, festoon with pigmy and helmet, acanthus pendants between the festoons, paired acanthus, and the basal band of beaded circles; the motif in the second festoon here may be the griffon on the York mould. c AD 100–125

**Period 4**

46 EF Dr 37, CG, with an ovolo (Rogers 1974, B213) used by Butrio and Libertus I. c AD 120–140. (Same as PX, Period 2 above, possibly the same bowl)

47 IY Dr 37, Les Martres-de-Veyre, as in XT, Period 3, c AD 100–125

**Period 5**

48 ME Dr 29, SG Gadroons in lower frieze. Early–mid Flavian.

49 Dr 37, with band of beaded circles at the base in the style of Drusus I (X–3) of Les Martres-de-Veyre (Stanfield & Simpson 1958, pl 16, nos 204, 206). c AD 100–125

50 SP Dr 37, CG, with an ovolo regularly used by Iustus (Stanfield & Simpson 1958, pl 110, no 7). c AD 160–190

**Period 6**

*51 EZ (Joining with GI (2) below). Dr 37, probably by Sissus II of Lezoux. All three leaves are recorded in his work (Rogers 1974, H37, J13 and J160); he regularly used a wavy line beneath the ovolo, and what ovolo survives would fit with his. c AD 135–170; both sherds are in very 'new' condition

52 FL Dr 37, with an ovolo used at Trier by potters of Werkstatt II Stufe D and by potters following the style of Censor. Antonine – early 3rd century

53 FM (1) Dr 37 in the style of Trier Werkstatt II, with one of their characteristic basalt wreaths below a band of small double medallions, one of which encloses a crane (Fölzer 1913, type 671; cf Müller 1968, taf 41, nos 1127, 1129). The motif above is probably an inverted ovolo, one of the 3-banded hollow tongueless ovolos used by Werkstatt II. Antonine

54 (2) joining sherds with GI (5) below. Dr 37, in the style of Doeccus of Lezoux. Ovolo Rogers 1974, B160; the figure in the festoon is probably the sea-horse on Stanfield & Simpson 1958, pl 149, no 32, which also has the beads, medallion and astragalus; the circles are both shown on no 28. c AD 165–200

55 FT Dr 37, style of Criciro of Lezoux. Stanfield & Simpson 1958, pl 118, no 17, has the horse, lioness and snake-and-rocks in the same arrangement, and is from the same or a closely similar mould. c AD 135–165

*56 GI (1) S22. Dr 37. Lezoux. Ovolo probably Rogers 1974, B157, with the end of the tongue missing. This was used by Banuus, as was the border (A34), but the rosette does not appear. A small bowl, which may be
a mixture of different potters' motifs. Presumably mid-to late Antonine (Identified by Brenda Dickinson)

*57 (2) see EZ above (no. 51) joining sherds

58 (4) Probably same bowl as GJ (4) below. Dr 37, style of Cinnamus of Lezoux. Scroll, medallion, bird, rosette, leaf, all as Stanfield & Simpson 1958, pl 162, no 60, and the motif in the medallion here may be the paws of the lioness shown there. c AD 150–175

59 (5) Dr 37, CG Broken ovolo, probably one of the ring-tongued series. Antonine

60 (6) Dr 37, in the style of Divixtus of Lezoux. The erotic group, medallion, circle and narrow beads are on Stanfield & Simpson 1958, pl 116, no 8; the motif in the next panel is not identifiable. c AD 165–200

*61 (3) Dr 37, Rheinzabern. The ovolo is Ricken & Fischer 1963, E25, the medallion probably K20; the leaf is not certainly identifiable. The fabric and finish indicate a date in the second quarter of the 3rd century

62 (7) Dr 37, CG, style of Doeccus. The ovolo, beads and beaded festoon are on Stanfield & Simpson 1958, pl 148, no 14, the pair to this bird on no 18. c AD 165–200

63 Dr 37, CG, a sherd from a bowl of Doeccus with his characteristic square beads. c AD 165–200

64 (1) Dr 37, probably in the style of Iullinus or Caletus and Severus of Lezoux. The large corded motif is shown on Stanfield & Simpson 1958, pl 127, no 30, and pl 128, no 5, and both potters occasionally used wavy-line borders (pl 127, no 34; pl 128, no 3). c AD 160–190

65 (2) Dr 37, CG The large ovolo is broken. Mid- to later Antonine, probably

66 (3) Dr 37, style of Doeccus of Lezoux. Ovolo Rogers 1974, B160; beads and astragalus festoon as Stanfield & Simpson 1958, pl 150, no 44. The motif in the festoon is not certainly identifiable. c AD 165–200

67 (3) Dr 37, CG; the broken ovolo is not certainly identifiable. Antonine

68 (4) Probably same bowl as GI (4) above

69 (5) Joining sherds with FM (2) above

70 (5) Dr 37, style of Doeccus of Lezoux (possibly same pot as FM (2) and GI (5) above). The dolphin, beads and fish are on Stanfield & Simpson 1958, pl 147, no 1, the rosette on pl 148, no 14. c AD 165–200

71 (5) Dr 37, CG Scrollery. Antonine

*72 Dr 37, style of Attillus of Rheinzabern. Ludowici & Ricken 1948, taf 179, no 5, has the corded arcade and acanthus terminal; taf 181, no 12, has the medallion. A date in the first half of the 3rd century is likely, and probably in the second quarter

*73 GK Déch 68, CG, with black slip. This vessel was included in Dr Simpson's second paper on black-slipped vases, and identified there as "probably in the style of Paternus II" (Simpson 1973, no 39). This attribution receives further support from Bémont's study of Central Gaulish moulds: her GM 56, assigned to Paternus II, includes all the motifs except the figure group (Bémont 1977, 180–4 & pl 32). As noted by Simpson, the figure is a smaller variant of Oswald 561. c AD 160–190

*74 (1) Dr 37, style of Casurius of Lezoux. Ovolo is on Stanfield & Simpson 1958, pl 132, no 9, the leaf on pl 135, no 39, the lion on pl 135, no 41, and the bull and panther on pl 137, no 60; the other animals include a hound and small hare. c AD 165–200

*75 (2) & (4), probably one bowl. Dr 37, style of Casurius of Lezoux. The Minerva, mask and beads are on Stanfield & Simpson 1958, pl 134, no 29, the ovolo and the satyr on the ornamental plinth on pl 133, no 19. c AD 165–200

*76 (3) Dr 37, style of Iullinus of Lezoux, with his corded borders, small ring terminal and little seated figure (Stanfield & Simpson 1958, pl 125, no 9; pl 127, no 22); the figure is probably Oswald 538. c AD 160–190

*77 (5) Dr 37, style of Albucius of Lezoux. Ovolo, bead and reed border, as Stanfield & Simpson 1958, pl 120, no 5, etc; the figure, Oswald 1114, is assigned to him, and the foliage motif is on pl 123, no 33. The small mask is not precisely matched in Oswald. c AD 150–180

78 (6) Dr 37, style of Sissus II of Lezoux, with ovolo Rogers 1974, B3, and characteristic wavy-line border. c AD 135–170

79 (7) Dr 37, in the style of Doeccus of Lezoux. The ovolo, coarse beads and dolphin are on Stanfield & Simpson 1958, pl 147, nos 1 & 7. c AD 165–200

80 (8) Dr 37, CG The broken ovolo is not certainly identifiable. Antonine

*81 (9) Dr 37, probably by Cinnamus of Lezoux. The Victory, Oswald 819A, is assigned to him, and the motif to the left is the leaf-cross on Stanfield & Simpson 1958, pl 160, no 41. He is not recorded for the tree (Rogers 1974, N11), and the figure – probably Pan – on a mask is not exactly matched in Oswald. c AD 150–180

82 (10) Dr 37, style of Paternus II of Lezoux. The rosette and frond are on Stanfield & Simpson 1958, pl 107, no 32, the smaller frond on pl 106, no 20, and the leaf is probably that on pl 107, no 30. c AD 160–190

83 (11) Dr 37, CG The ovolo is Rogers 1974, B165, assigned to Catussa I, but Rogers shows the tongue as beaded while here it is clearly corded. Antonine

84 (12) Dr 37, style of Advocius of Lezoux. The leaf and ovolo beads are on Stanfield & Simpson, pl 113, no 22. c AD 150–180

85 (12) Dr 37, CG, double medallion. Antonine

86 (12) Dr 37, CG Broken ovolo, probably the large one used by Casurius or Cinnamus ovolo 1. Antonine

87 (13) Dr 37, CG Scrollery with little stag and corded circle motif. Antonine

88 (14) Dr 37, La Madeleine, in the style of Ware mit Eierstab B/C. The rosette beneath the little arcade with acorn terminals is on Ricken 1934, taf 9, no 5; the other motif is part of a vine-leaf. Hadrianic–early Antonine

89 Dr 37, CG Only the tip of ovolo at the top survives. Antonine, probably

90 Dr 37, CG The incomplete ovolo is not certainly identifiable. Hadrianic–Antonine

*91 Dr 30, CG, in the style of Doeccus of Lezoux, with one of his usual ovolos and his characteristic large beads (Stanfield & Simpson 1958, pl 149, no 27). The large leaf is probably that on pl 151, no 62; this is not figured by Rogers (1974), who took the closely similar but smaller leaf on pl 149, no 31, as his type H18. The ivy leaf is on pl 148, no 19. Scroll bowls are unusual in Doeccus' work (Stanfield & Simpson 1958 illustrate only one), and the corded festoon used to make the scroll here (Rogers F2) may be a new element in his repertoire. The motif in the field is apparently a small ring with the centre partly blocked (cf Rogers 1974, type E45). c AD 165–200.
Figure 26 Decorated samian
Dr 30, CG probably by Mercator II. The ovolo and corded border are on Stanfield & Simpson 1958, pl 145, nos 8–9, the smaller leaf (Rogers 1974, H129) on pl 146, no 12. The larger leaf is as Rogers 1974, H14 and 15, but between the two in size. c AD 160–190

GL Dr 37, CG The ovolo (Rogers 1974, B160) and square beads were used by Doeccus; the corded arcade is probably Rogers F1. Mid-late Antonine

GR (1) Dr 37, CG The frond, Rogers 1974, H117, was used by several mid- to late Antonine potters, including Doeccus and Mercator II

(2) Dr 37, style of Julius II–Julianus I of Rheinzabern. Ludowici & Ricken 1948, taf 207, no 22, has the ovolo, arcade and cross motif. The fabric and finish of the bowl and its high rim band indicate a date in the second quarter of the 3rd century

HX Dr 30, EG, style of Reginus I of Heiligenberg and Rheinzabern. The figure of Hercules (Oswald 758) was used by Janu and Cirina at Heiligenberg, and by Reginus I (among others) at Rheinzabern; the medallion was also used by Reginus I at Rheinzabern (Ludowici & Ricken 1948, taf 14, no 20). Reginus began work at Heiligenberg, and the fabric of this sherd is not certainly Rheinzabern ware, so origin at Heiligenberg is a possibility. Antonine

IF Dr 37, in the style of Cerialis of Rheinzabern. The astragalus (Ricken & Fischer 1963, O.201) and figure standing on a mask (M.240a) were used on bowls of Cerialis V style, the piguous (M.151) on bowls in Cerialis I and II style. Antonine to early 3rd century; heavily burnt

SI (1) Dr 37, CG Part of small running animal at base. Antonine

(2) Dr 37, CG Small acanthus (cf Rogers 1974, type K33) at base. Hadrianic–Antonine

SL (1) & (3), joining sherds. Dr 37, style of Paternus II of Lezoux. Scrollery and large medallion as Stanfield & Simpson 1958, pl 105, no 12, pl 107, no 26; the horseman, bear and double groove at base are on pl 106, 22, and the partial leaf on a closely similar bowl from London (Bird 1986, no 2.30). The double frond may be a new motif in his work. c AD 160–190; worn inside

(2) Dr 37, probably by Banvus of Lezoux. The mask is on Stanfield & Simpson 1958, pl 139, no 7, and pl 140, no 12; the coarse beads and double medallion are on pl 140, no 13; and the leaf may be that on pl 139, no 5. The cupid is Oswald 444. c AD 165–200; worn footing

(2) Dr 37, style of Advocipus of Lezoux. Figure, beads and terminal as Stanfield & Simpson 1958, pl 112, no 13; medallion as pl 112, no 6; small medallion as pl 112, no 7; dolphin, cf pl 113, no 20; and the fragmentary figure is probably the dancer on pl 112, no 13. The peacock, Oswald 2365, was used by several contemporary potters, notably Paternus II. c AD 150–180

Dr 37, by Laxtucissa or Paternus II of Lezoux. The border and wreath were used by Laxtucissa (Stanfield & Simpson 1958, pl 97, no 4), the wreath and dolphin by Paternus (pl 104, no 4; pl 105, no 12). c AD 160–190

ST (1) Dr 37, CG Part of mask – probably the support for a figure – at base. Antonine; has probable rivet-hole

AU Dr 37, probably style of Paternus II of Lezoux. For the boar and hound, cf Stanfield & Simpson 1958, pl 106, no 25. c AD 160–190

BM Dr 30, CG Part of figure in scrollery or medallion. Antonine

EM/EK Dr 37 in style of Puginus of Lezoux: Stanfield & Simpson 1958, pl 154, no 16, has the ovolo impressed over a line, and the same figure. c AD 150–180

EU Dr 37, style of Cinnamus of Lezoux. Both bears are on Stanfield & Simpson 1958, pl 163, no 68, and no 71 has the same arrangement of freestyle panel and large festoon. The animal in the festoon may be a boar; the others are a hound and perhaps a third bear. c AD 150–180

FQ Dr 37, CG Double medallion; the motif inside is not certainly identifiable. Antonine

GP Dr 37, style of Casurius of Lezoux. The corded medallion, beads and pointed leaf are on Stanfield & Simpson 1958, pl 134, no 23, the serrated leaf on pl 133, no 19. c AD 165–200

HQ S41. Dr 29 rim, SG, Neronian–early Flavian

IB Dr 37, style of Casurius of Lezoux. The bird, medallion, beads and terminal are on Stanfield & Simpson 1958, pl 133, no 17, the foliage motif (grouped vertically) on pl 134, no 28. c AD 165–200

RR Dr 37, style of Cinnamus of Lezoux – his ovoid beads and ring terminal, with circles, as on Stanfield & Simpson 1958, pl 158, no 22. c AD 150–180

WD Dr 37, CG Traces of a signature, but not identifiable. Hadrianc–early Antonine

Coarse Pottery

by Margaret Darling

Fabrics

The original Lincoln numerical fabric series (as in Darling 1984, 1988a) has been converted to mnemonic codes for ease of use; both are given below since The Park pottery was recorded under the original series.

Local/British oxidized and fine wares

CR (1) Cream fabric and surfaces, sometimes with darker exterior surface. The fabric can be white, particularly on 2nd century vessels. Some self-coloured slip is evidenced by drips on the interior surface. The fabric can vary from fairly soft to very hard, and has sparse to common ill-sorted very small sub-rounded quartz, some angular, and sparse ill-sorted sub-rounded red (less frequently, black) iron-ore. Occasionally the fabric is slightly micaceous when fired at a lower temperature than usual.
This fabric is most commonly used for flagons, but honey pots, jars (with nodular rustication), bowls, tazze, and mortaria are also known, and it is apparently the same fabric that was used for the red-slipped and painted vessels, the former separately recorded as fabric RDSL. (Illustrated vessels nos 1, 2, 4, 6, 7, 27, 49, 50, 61, 73, 84, 107, 108, 136–138, 140, 141, 155, 156, 195, 252–55, 261–63, 310, 426, 427, 516, 537)

West Parade, Fig 101, no 7

PINK (2) This fabric tends to merge with CR, and may be merely a variant. Since it is known from early contexts and the cream fabric continues virtually unchanged through the 2nd century, it has been recorded separately. The fabric and surfaces are usually light pink (in the range 5 YR 8/2–4) but can be darker or tinged with cream. It tends to be softer than the CR fabric, but is similar in its inclusions, some of the quartz of light brown colour, very sparse ill-sorted sub-rounded opaque quartz, sparse iron-ore inclusions, often only flecks, and a varying amount of mica in the fabric.

This appears in similar forms to CR fabric, and is also occasionally red slipped. (Illustrated vessels nos 3, 8, 18, 19, 76)

LEG (3) This is a fine variant of the same basic fabric as CR above, the colour varying between cream/white to light grey, but is characterized by having a darker exterior surface which can range from light to mid-grey. Mica is invariably present; occasionally tiny white inclusions, probably calcitic, are visible. The darker exterior produced during firing commonly found on closed forms also appears on the open cups.

This is first seen in legionary contexts, and it is unlikely that this fabric continued beyond the legionary period. The most common form is the small beaker with upright or slightly everted rim of very diverse detail, which is normally rouletted. The same fabric is, however, also used for rusticated jars of the earliest type, and occasionally other vessels, such as reeded-rim bowls and small cups. These latter, although derived from the pre-Flavian fine ware form, do not copy the Lyon ware cup form (Greene 1979, fig 5) most commonly found in Britain (Darling 1984, 82). (Illustrated vessels nos 5, 9, 10–14, 51, 68, 89, ?179)

OXSA (4) This fabric is light pink-brown with similar coloured surfaces (2.5 YR 6/4–6/6), but can vary to having a grey core and the surfaces being more cream-brown. The fabric is hard and has a rough feel; the inclusions are common to abundant ill-sorted sub-rounded quartz, often multicoloured, and sparse black ?iron-ore. It is possible that two very similar fabrics have been combined, although both seem to occur in early contexts. It is also similar to fabric CRSA below, the only obvious difference being the colour.

This fabric seems to have been used mainly for flagons, but a lid also occurs. The flagons are invariably early, including classic Hofheim types. It is relatively rare, and probably of early date, occurring in legionary contexts. No illustrated vessels

OXWS (8) Oxidized fabrics with white slip are rare in Lincoln and may not have been locally made. It is probable that more than one source was involved, and sherds in this fabric are individually described in the catalogue for that reason. Flagons appear to be the main form, although a tazza is also known (no 430). (Illustrated vessels nos 139, 142, 225, 430)

CRSA (13) Cream (sometimes pinkish) fabric and interior surface (10 YR 8/3), darker cream to yellow exterior surface (7.5 YR 7/6). Very hard fabric with a rough feel, and common to abundant ill-sorted sub-rounded quartz, sparse ill-sorted sub-rounded and occasionally angular red inclusions.

This fabric is very similar to a harder fired, grittier version of fabric OXSA above, but seems to occur only in later contexts. Most sherds seem to be from closed forms, but bowls and lids also occur. Fairly thin walled sherds from an open form (Period 5, SP) were decorated on the interior with red-brown paint suggesting some connection with parchment ware from Crambeck and Oxford. Its origin is unknown. (Illustrated vessels nos 447, 4768)

West Parade, Fig 101, nos 5–6.

MICA (14) Mica-dusted wares. These occur in brown to red-brown fabrics (7.5 YR 6/4–7/4 to 5 YR 6/6) and surfaces, often with grey core, with varying proportions of common inclusions; the surfaces are coated with gold mica plates. More than one fabric/source is probable, and illustrated sherds are individually described in the catalogue (Darling 1984, 88). Two beakers occur, one of which, no 479, is likely to be a Nene Valley product. (Illustrated vessels nos 292, 316, 479, 495, 508)

West Parade, Fig 101, no 2

SPOX (20) Swannopool, oxidized wares, sometimes with a self-slip. The Swannopool fabrics are diverse, ranging from very fine and almost grit-free to quite heavily tempered coarse-textured wares. The inclusions are all of common type, and there is nothing especially distinctive about the fabric (Darling 1977a, 27). (None illustrated)

West Parade, Fig 101, no 12

SPIR (25) Red-brown fabric, occasionally grey; hard, with common quartz and pebbles, rilled externally and slipped slightly micaceous dirty cream; usually with soot/burning externally.

The only form represented at The Park is the triangular rimmed, usually under-cut, jar as Alice Holt Class 3C (Lyne and Jefferies 1979, fig 29); oxidized jars of this type first appeared at the kilns site after about AD 330 (ibid, 35). Despite the resemblance to Alice Holt jars, examination by Mr Lyne suggests that these jars are not from that source, and the fabric does not match Porchester D ware. The source is unknown but seems unlikely to be local to Lincoln. Body sherds were first noted in post-Roman layers on various Lincoln sites, but a number occurred at The Park, always in layers either stratigraphically late Roman and/or well dated by mid- to late-4th century coins. These jars are probably of the same 4th century date-range as the Alice Holt and South Midlands shell-tempered jars. (Illustrated no 544) The only other known is a lid from West Parade, Fig 101, no 11.

OX (16) This is a fabric group covering all miscellaneous oxidized fabrics, in varying red-brown shades and degrees of grittiness. Vessels are individually described. (Illustrated vessels nos 26, 28, 30, 31, 44, 47, 58, 62, 67, 75, 86, 90, 115–17, 151, 157,158, 176, 194, 229, 230, 250, 301, 309, 431, 443–46, 466, 481, 515, 517, 536)

Colour-coated and late fine wares

RDSL (6) As noted above, this is basically CR fabric and occasionally PINK fabric which has been slipped red-brown, the colour varying considerably. This appears in legionary contexts, and may not continue far, if
at all, beyond the end of the legionary occupation. There are, however, one or two vessels from other sites for which later dates, perhaps into the 2nd century, seem likely, and it is difficult to distinguish with certainty from South Carlton ware (SCCC).

It was used for imitations of samian forms, plates, bowls and cups of Dr 24/25 form, but was also employed for beakers and cups, the latter copying closely the pre-Flavian fine ware forms of Lyon ware (Darling 1984, 83). Examples are known with traces of decoration, and rouletted body sherds are likely to belong to beakers, although no drawable example is known. This fabric has been discussed in relation to similar finds from the Longthorpe fortress (Darling 1981). (Illustrated vessels nos 15–17, 74, 85, 88)

West Parade, Fig 101, no 1

SCCC (7) South Carlton colour-coated wares. These are difficult to distinguish from good Nene Valley products, having a very similar fabric, white, fine with sparse tiny quartz and tiny red inclusions/flecks. These seem to be rare and it is possible the main production from the kilns went to the northern frontier (Darling 1984, 71). (Illustrated no 111)

NVCC (9) Nene Valley colour-coated ware (Howe et al., 16). All vessels which can be attributed to the Nene Valley are recorded under this code, although it is possible that body sherds from occasional local or imported vessels with similar fabrics could be mis-identified. Although the Swanpool kilns were apparently using an iron-free clay with colour-coating (Darling 1977a, 23) for late forms, those with iron-free clay from excavations to date have been Nene Valley products. The date of the appearance of Nene Valley pottery in Lincoln is still uncertain, but unlikely to be before the late 2nd or, more probably, early 3rd century. (Illustrated vessels nos 110, 112–14, 143, 144, 146–149, 152–154, 196, 215–17, 227, 241, 256–58, 264–74, 276–283, 285, 291, 305–308, 423, 432–36, 7441, 442, 476–78, 492, 493, 532)

CC (10) This fabric category is used to isolate all colour-coated sherds which have red-brown fabrics, and includes material from more than one source; they are individually described in the catalogue. Certain identification of some late Nene Valley fabrics is difficult, and some sherds may be recorded under this code. (Illustrated vessels nos 97, 109, 145, 197, 275, 284, 286, 437, 438)

RC (10) Fabric category to isolate rough-cast beakers of unknown origin.

SPCC (21) Swanpool, oxidized colour-coated fabrics. The fabric colour and quality varies considerably (see SPOX above). Late Roman colour-coated forms as produced in the Nene Valley etc were made at Swanpool. Occasionally sherds occur which have been slipped cream, and then over-slipped red-brown. Many Swanpool oxidized wares appear to have received a self-slip, as with the painted sherd, Fig 41, no 528. (Illustrated vessels nos 480, 494, 528, 531, 539)

OXRC (26) Oxfordshire red colour-coated wares (26) (Young 1977). As with the SPIR pseudo-Alice Holt and the MHAD Much Hadham fabrics, these seem to occur only in late Roman layers, and probably do not arrive until the mid 4th century. It is difficult to assess the trade from these late industries to Lincoln, although Oxfordshire wares are relatively common in the early post-Roman contexts. (None illustrated)

MHAD (19) Much Hadham red burnished ware. Red-brown fabric, occasionally grey cored; common but tiny quartz and black inclusions, sparse white ?calcitic particles; burnished externally (Orton 1977, 37). This ware occurred only in layers either stratigraphically late Roman and/or well dated by mid- to late-4th century coins. Most of the sherds came from closed forms, although a base fragment was probably from a mortarium (the trituration having been worn away), or from a worn bowl. Rare. (None illustrated)

HADOX (30) A fabric group to record red colour-coated or burnished sherds of probable late Roman date not conclusively from either Oxfordshire or Much Hadham. More than one fabric appears represented, but distinct fabrics cannot yet be differentiated amongst these rare sherds. (None from The Park illustrated)

West Parade, Fig 101, no 4

Imported oxidized and fine wares

LYON (15) Lyon ware, fabric as defined by Greene 1979, 13.

CGCC (15b) Early colour-coated ware, probably Central Gaulish, from Lezoux. (Illustrated no 60)

TN (28) Terra nigra. No sherds from The Park, although a sherd probably from a copy platter (as Camulodunum 16) occurred in Period 1 (MB). Imported terra nigra sherds occurred at 181–3 High Street (Darling 1988a, 11).

IMMC (24) Mica-dusted beaker, as used for the stamped CAMARO beakers, see no 59, and p. 121.

GBWW (29) Cream to light brown slightly sandy fabrics used for butt-beakers, possibly from Camulodunum or other early kilns in the south-east. (None illustrated)

PRW (22) Pompeian red ware of Peacock's fabric 3 (Peacock 1977a) is recorded as fabric PRW3, that of his fabric 2 as fabric PRW2. These are the only fabrics so far noted from Lincoln. (None illustrated)

WIEG (23) A white eggshell fabric, virtually grit-free. Almost certainly an import, possibly from Central Gaul; very rare. (None illustrated)

BLEG (27) Black egg-shell wares, probably imports of beakers from Gaul as Camulodunum type 120 etc. Fine light brown fabric with black burnished surfaces. (None illustrated)

MOSL (11) Rhenish colour-coated vessels from Trier. Nearly all the Rhenish ware known from Lincoln is from Trier, Central Gaulish products (coded as CGBL) being rare (Dr Robin Symonds has kindly examined the sherds from The Park). (Illustrated vessels 287–290)

SACR (17) Sandy cream fabric, possibly an import. The only sherds were from a closed form, probably a flagon. Hard cream fabric; fairly common well-sorted sub-angular quartz, sparse red iron-ore and red streaks; traces of an internal coating; exterior probably self-slipped.

NGCR (18) North French pentice beakers; usually cream to pale orange fabric, sometimes pale grey, and cream surfaces, with common well-sorted sub-angular quartz, sparse red iron-ore; the burnished surfaces are usually streaked with red.

This is the same basic fabric as NGGW which covers the reduced grey beakers (see below). Sherds of earlier butt- or girth-beakers are very similar, and would be difficult to distinguish. These imports have been discussed recently (Richardson and Tyers 1984) and
collections occur in London (Richardson 1986, 107) and at Caister-on-Sea (Darling with Gurney 1993, 161). Very rare. (Illustrated no 439)

Reduced fabrics

IAGR (103) This is a fabric group rather than a discrete fabric. It covers relatively coarse fabrics which appear to have been used primarily for cooking pots in the forms of the local native Iron Age tradition. There is a distinctive pimply fabric (Trent Valley ware), but other less well-defined fabrics fall into this category. The vessels can be wheel-thrown or hand-made and are individually described. Evidence from the site at 181–3 High Street (Darling 1988a) which produced Iron Age pottery suggests that these fabrics first occurred in the early Roman period, and not earlier. Wheel-thrown vessels in such fabrics occur well into the 2nd century, probably up to the Antonine period (Darling 1984, 86). (Illustrated vessels nos 23–25, 178, 185)

BB1 (102) BB1 Fabrics and forms as defined (Farrar 1973; Williams 1977). Attribution to this fabric on small body sherds is usually based on the abundant inclusions of quartz sand, and it is possible that vessels which might have been made at Rossington Bridge or other local kilns have been included with the Dorset fabric. A Hadrianic starting date is indicated by the evidence from Lincoln, and local copies seem to have been made almost immediately. Late BB1 forms are known from Lincoln, but are relatively rare. (Illustrated vessels nos 36, 37, 39, 40, 43, 46, 71, 77, 93, 100–102, 119, 120, 131, 132, 134, 160, 161, 166, 167, 169, 189, 191, 209, 242, 317, 334, 351–53, 410, 419, 456, 462, 475, 509)

PART (104) This is a very fine, almost grit-free grey fabric, which usually has a different coloured cortex, often red-brown, giving it a sandwich effect, and the exterior surface is usually polished, often very finely to a high gloss.

Parisian ware vessels are the most common in this fabric, but due to the difficulty of identifying small body sherds of the ware or from poppy-head beakers (both rare in Lincoln), the fabric category covers such sherds as well. The earliest occurrence of the fabric appears to be in the Antonine period although vessels of later Roman type also occur (Darling 1984, 79). (Illustrated vessels 70, 118, 228, 293–296, 496, 507, 533)

West Parade, Fig 101, no 3

GREY (105) Because of the difficulty of distinguishing clear fabrics among the abundant grey wares, these are all recorded under this number. Only sherds that are distinctive due to fineness, coarseness or finish are described. Since virtually all grey wares are certainly from local kilns, of which only one (the Racecourse kiln, Corder 1950) producing grey wares is known before the late Rookery Lane/Swanpool industry, it seems otiose to describe illustrated vessels individually. Attention is focused on the unusual grey vessels, likely to have come from other areas and, therefore, potentially more informative socially and economically. Swanpool grey wares can only be identified on the basis of vessel form and are not therefore extracted for separate quantification.

NVGW (107) Nene Valley grey wares (Howe et al, 12). Occasional sherds occurred which seemed to fit into the Nene Valley range. Very rare. (Illustrated no 240)

NGGW (109) North Gaulish reduced beakers and bowls. This is a reduced version of fabric NGCR. The fabric is very light grey, with darker surfaces, usually decorated with separate lines of burnishing (Richardson and Tyers 1984). Very rare; sherd from a beaker in part of the late 4th century rubbish deposit group 21.

GROG (106) A distinctive grog-tempered fabric which occurred only once in the lengthening of the early rampart group 11, almost certainly non-local. Hard dark grey fabric with light brown cortex and probably originally dark grey surfaces (much abraded); poorly mixed clay with sparse ill-sorted quartz, and fairly common greyish grog inclusions. (None illustrated)

LCOA (108) Late coarse reduced fabrics, as used for the double lid-seated jars, bowls, dishes, etc. (Darling 1977, 28, fig 4, nos 85–89; fig 6, nos 111–122). This is a hard, coarse fabric, with varying proportions of quartz and pebbles. Thin-sectioning of examples which seemed discrete fabrics macroscopically showed these to be the same basic fabric, the observable variations arising solely from differing proportions of inclusions. (Illustrated vessel no 400)

West Parade, Fig 101, no 10

Shell/calcite tempered wares

IASH (150) A fabric group rather than a clearly defined fabric. All early shell-tempered sherds, most of which are from cooking pots in forms common in the Iron Age in Lincolnshire (as with IAGR fabric) come into this category; as with the grey wares, because of the impossibility of defining distinctive fabrics coupled with the absence of useful evidence such could provide, illustrated sherds are described only when they depart from the norm. Most contain relatively common shell inclusions, and little else of distinction. Early shell-tempered wares from Lincoln have been discussed recently; the finer versions used for a wider range of Iron Age forms as found at 181–3 High Street did not occur at The Park, where all sherds would fit into the fabric divisions 150B and D (Darling 1988a, 12). Usually hand-made, but while evidence of wheel-throwing is not always clear, wheel-thrown vessels occur and are noted. (Illustrated vessels nos 20–22, 54, 82, 95, 96, 404, 405)

DWSH (151) This covers the later shell-tempered sherds which can be almost certainly attributed to Dales ware or lid-seated jars of 3rd to 4th century date. The later fabrics are usually harder. Apart from cooking pots, bowls and dishes also occur in the late Roman period, often burnished. A range has already been published (Darling 1977a). (Illustrated vessels nos 192, 193, 212, 399, 473, 510, 513, 514, 520, 521, 538, 541, 542, 545)

West Parade, Fig 101, no 8

SHEL. Shell-tempered sherds which cannot be conclusively identified as the early IASH or later DWSH.


Amphorae (originally numbered 200 onwards) and mortaria (numbered 300 onwards) are described separately, p 114 and 108.
Coarse Pottery: Catalogue

The catalogue entry reads: fabric code, vessel form, context.

Fig 27 Period 1

1. CR, ringed flagon; QR
2. CR, ringed flagon; NP
3. PINK, ?honey pot; QG
4. CR, ?honey pot; NA
5. LEG, ?jar; MB
6. CR, cup or high footring; OO
7. CR, jar; NP
8. PINK?, jar; QL
9. LEG, rouletted beaker; QL
10. CR, bowl as reeded rim type; MB
11. GREY, ?jar; JW
12. GREY, lid-seated jar; NG
13. CR, bowl as reeded rim type; MG
14. GREY, lid-seated jar; LB
15. CR, small cream bowl; QG
16. GREY, lid-seated jar; MB
17. CR, small cream bowl; QL
18. PINK?,; MB
19. PINK, bowl; QG
20. CR, ringed flagon; QR
21. CR, ringed flagon; NP
22. GREY, jar; MB
23. CR, bowl as reeded rim type; MG
24. GREY, bowl; MB
25. CR, bowl as reeded rim type; MG
26. GREY, bowl; MB
27. CR, small cream bowl; QL
28. GREY, jar; MB
29. GREY, bowl; MB
30. GREY, bowl; MB
31. GREY, bowl; MB
32. GREY, bowl; MB
33. GREY, bowl; MB
34. GREY, bowl; MB
35. GREY, bowl; MB
36. GREY, bowl; MB
37. GREY, bowl; MB
38. GREY, bowl; MB
39. GREY, bowl; MB
40. GREY, bowl; MB
41. GREY, BB type bowl; MB
42. GREY, BB type bowl; MB
43. GREY, BB type bowl; MB
44. GREY, BB type bowl; MB
45. GREY, BB type bowl; MB
46. BB1, BB1 cooking pot; QG
47. OX, flax neck; light red-brown fabric; CU
48. GREY, lid-seated jar; MG
49. CR, bowl as reeded rim type; MG
50. OX, cream jar/bowl; LY
51. LEG, jar; JW
52. GREY, lid-seated jar; MG
53. GREY, grey indented beaker; funnel neck; KZ
54. GREY, BB type bowl; JT
55. GREY, BB type plain dish; JT
56. GREY, wide-mouthed bowl; JU
57. OX, Hofheim type flagon; light pink-brown fabric with fairly common small quartz; ooliths; some mica. Possibly a variant of PINK fabric 2; KE

Fig 28 Pottery from pit KR/KS; LL; PO and interval tower XS, XI

59. IMMC, mica-dusted beaker; stamped CAMARO on underside of base with dimples pushed out from inside. Cream fabric with sparse tiny quartz; red iron-ore; coated externally with gold mica, see p 121; KS
60. CGCC?, indented rough-cast beaker with cornice rim; perhaps from Lezoux. Fine light red-brown fabric; darker colour-coated surfaces; rough-cast externally with clay particles; KS
61. CR, rouletted beaker; KR
62. OX, ?beaker; grey-cored light red-brown fabric with fairly common quartz; smoothed externally and over rim; KS
63. GREY, cooking pot; KR
64. GREY, cooking pot of native tradition form; abundant quartz inclusions; wheel-thrown; KS
65. GREY, wide-mouthed bowl; KR
66. GREY, ?bowl; LL
67. OX, lid decorated with wavy line; light red-brown with fairly common quartz; some yellow to red; PO
68. GREY, beaker rim form; but wide mouthed and with two-ribbed handle; XI
69. GREY, bowl; mis-shapen; XS

Fig 29 Earliest rampart

70. PART?, jar/bkr; typical fine fabric with sandwiched darker grey core; burnished externally and over rim; PX
71. BB1, BB1 bowl/dish; QE
72. GREY, ?bowl; burnished externally only; QE

1st heightening

73. CR, flagon; QB
74. RDSL, bowl; slipped externally and over most of interior. Drawn from non-joining sherds; PY
75. OX, carinated bkr; fine light red-brown fabric; shading to light cream-brown externally; virtually grit-free fabric; occasional iron-ore; cream inclusion; well smoothed externally; PW
76. PINK, lid; PW
77. BB1, BB1 grooved rim dish; PW
78. GREY, jar; rusticated; PW
79. GREY, jar/bowl; PW
80. GREY, jar/bowl; PW
Figure 27  Coarse pottery, nos 1–58
81 GREY, grey cookpot; PZ
82 IASH, shell-tempered jar; wheel-thrown; PW
83 GREY, large bowl; PW

2nd heightening

84 CR, flagon; PV
85 SCC?, final fragment with red-brown slip internally; painted light red-brown externally. The white fabric with red iron-ore is the same as used for the bowl; no 74; and could be from the South Carlton kiln; HE
86 OX, rouletted bkr.; fairly soft red-brown fine-grained fabric with tiny quartz and white inclusions; HE
87 GREY, body sherd from butt beaker form; reddish fabric with dark grey to black surfaces; HE
88 RDSL, slipped plate/dish form; light red-brown fabric (slightly sandier than usual) with slipped red-brown surfaces; HE
89 LEG?, ?platter; HE
90 OX, ?bowl; red-brown fabric with common quartz; some yellowish; traces burnishing inside rim; fabric similar to no 31; PY
91 GREY, bowl; softish fabric with no certain evidence of burnishing; HE
92 GREY, BB type dish; HE
93 BB1, BB1 cooking pot; possibly a Doncaster product; HE
94 GREY, ?bowl; HE
95 IASH, shell-tempered jar; wheel-thrown; HE
96 IASH, shell-tempered jar; wheel-thrown; HE

Gully PR, PQ; Path PN, PP

97 CC, cornice rim beaker; fine light red-brown fabric with sparse tiny quartz and iron-ore; colour-coated darker red-brown; PR
98 GREY, carinated bowl; PR
99 GREY, BB type bowl; PQ
100 BB1, BB1 bowl/dish; grey fabric; ?Doncaster; PQ
101 BB1, BB1 cooking pot; PR
102 BB1, BB1 cooking pot; PR
103 GREY, jar; PR
104 GREY, lid; PR
105 GREY, as 452; bowl/dish; PP
106 GREY, thick body sherd with stabbed decoration; PP

Lengthening PL, PM, PK

107 CR, flagon; PK
108 CR, 2 handled flagon; PK
109 CC, cornice rim beaker; fine cream-brown fabric; with darker; grey-black colour-coating and traces of fine rough-casting of clay particles; PM
110 NVCC, cornice rim beaker with barbotine scale decoration; PM
111 RC, indented rough-cast beaker; fine white fabric with red iron-ore inclusions; colour-coated brown-grey; and originally rough-cast; almost certainly with clay particles. Possibly a South Carlton product; PM
112 NVCC, indented beaker; curved rim; PK
113 CC, base; indented beaker base; probably Nene Valley; which seems to have had firing damage; the external colour-coat having been burnt away in one part; leaving a matt grey surface; PM

Figure 28 Coarse pottery, nos 59–69

114 NVCC?, exceptionally large beaker; probably Nene Valley; light red-brown colour-coat; PK
115 OX, indented beaker; fine light brown almost grit-free fabric with sparse iron-ore; painted externally with cream vertical lines; over-painted with dark brown blobs; burnished shoulder and rim; PL
116 OX, beaker base; fine grained light red-brown fabric with tiny quartz inclusions; PL
117 OX, copy of samian form 33; very fine laminating fabric; light red with lighter cream-brown surfaces; white inclusions and streaks; well burnished surfaces; PM

Fig 30

118 PART, ?bowl body sherd; with burnished line decoration; diameter at cordon probably about 240mm; PM
119 BB1?, mis-shapen; ?BB1 bowl; latticed; greyish fabric; ?Doncaster; PM
120 BB1, BB1 bowl; intersecting arcs; PK
121 GREY, BB type bowl; diagonal lines; PK
122 GREY, BB type bowl; wavy line; PK
123 GREY, BB type bowl; plain; PL
124 GREY, BB type grooved rim dish; lattice; PK
125 GREY, narrow necked jar; PL
Figure 29  Coarse pottery, nos 70–117
126 GREY, large narrow necked jar; burnished wavy line decoration; PK
127 GREY, jar; PK
128 GREY, jar; PK
129 GREY, jar; PK
130 GREY, BB type cooking pot; PM
131 BB1, BB1 cooking pot; PM
132 BB1, BB1 cooking pot; PK
133 GREY, BB type cooking pot; PK
134 BB1, BB1 cooking pot; PK
135 GREY, large bowl; burnished wavy line decoration; PK
136 CR, cream lid; burning/sooting on rim; PM
137 CR, cream ?lamp; probably 2-handled; possibly 2-ribbed form; twin applied ribs half-way between handles; burning on rim inside and externally by set ribs; PM

Fig 31 Rubbish layers JO and SQ

138 CR, flagon; JO
139 OXWS, flagon; mis-shapen. Red-brown slightly streaky fabric with fairly sparse ill-sorted rounded quartz; opaque and clear; iron-ore; slipped matt white; slightly micaceous; JO
140 CR, flagon; TH
141 CR, beaker; JO
142 OXWS, ?beaker. Grey-cored light red-brown fabric; sparse quartz; iron-ore; occasional greyish inclusion; slipped slightly micaceous matt white; JO
143 NVCC, cornice rim plain baggy beaker; JO
144 NVCC, – ditto –; SQ
145 NVCC?, cornice rim baggy beaker; rouletted zone decoration. Fine light red-brown fabric; very sparse quartz; red iron-ore; occasional oolith. Possibly from the Nene Valley; SL
146 NVCC, indented scaled beaker; JO
147 NVCC, as no 146; JO
148 NVCC, constricted girth beaker; JO
149 NVCC?, funnel necked indented beaker with rouletted lines. Light cream-brown fabric with more quartz than usual for the Nene Valley; metallic greyish colour-coating; SQ
150 GREY, beaker. Grey sandwich fabric reminiscent of coarser versions of parisian ware; well burnished externally; TH
151 OX, cornice rim beaker with rouletted decoration. Light red-brown fabric with sparse to common tiny quartz; red iron-ore; and cream streaks; burnished externally and on rim; JO
152 NVCC, ?flagon base; colour-coated both surfaces; JO
153 NVCC, castor box bottom; JO
154 NVCC, flanged bowl; SQ
155 CR, flanged bowl; painted blobs on flange; JO
Figure 31 Coarse pottery, nos 138–176
### Pottery from GT

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>CR, – ditto –; JO</td>
</tr>
<tr>
<td>157</td>
<td>OX, flanged bowl. Light cream-brown fabric with fairly common quartz; exterior well smoothed below flange; no treatment of interior surface; JO</td>
</tr>
<tr>
<td>158</td>
<td>OX, bowl. Light brown fabric; greyish core; fairly common quartz; red iron-ore; occasional white and flint; occasional burnished lines inside and above grooves; burnished rim; JO</td>
</tr>
<tr>
<td>159</td>
<td>GREY, bowl; JO</td>
</tr>
<tr>
<td>160</td>
<td>BB1, bowl; greyish fabric; JO</td>
</tr>
<tr>
<td>161</td>
<td>BB1, as no 160; JO</td>
</tr>
<tr>
<td>162</td>
<td>GREY, bowl; silver-grey burnished surfaces; black polished surfaces; with a line of ‘juddering’ just below the rim; ?accidental or decorative; JO</td>
</tr>
<tr>
<td>163</td>
<td>GREY, – ditto –; pale grey fabric with darker burnished surfaces; possibly from the Nene Valley; JO</td>
</tr>
<tr>
<td>164</td>
<td>BB1, bead &amp; flange bowl; SQ</td>
</tr>
<tr>
<td>165</td>
<td>GREY, – ditto –; TM</td>
</tr>
<tr>
<td>166</td>
<td>BB1?, dish; plain; straight wall. Abundant quartz inclusions; black surfaced; JO</td>
</tr>
<tr>
<td>167</td>
<td>OX, lid; grey fabric with streaky red-brown and grey surfaces (from ?over-firing); common quartz inclusions; JO</td>
</tr>
<tr>
<td>168</td>
<td>GREY, jar; HY</td>
</tr>
<tr>
<td>169</td>
<td>GREY, flagon; GT</td>
</tr>
<tr>
<td>170</td>
<td>GREY, jar with notched cordon; sandy fabric; GT</td>
</tr>
<tr>
<td>171</td>
<td>GREY, wide-mouthed bowl; GT</td>
</tr>
<tr>
<td>172</td>
<td>GREY, beaker; GT</td>
</tr>
<tr>
<td>173</td>
<td>GREY, plain dish; HG</td>
</tr>
</tbody>
</table>

### Robber Trench HG and IG

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>177</td>
<td>GREY, unusual ?plate/high lid; SQ</td>
</tr>
<tr>
<td>178</td>
<td>IAGRBr, jar/bowl; dark grey fabric fired to brownish surfaces; with ill-sorted quartz and occasional shell inclusions; wiped exterior; SP</td>
</tr>
<tr>
<td>179</td>
<td>GREY, jar; pale grey laminating fabric with darker surfaces; probably atypical fabric 3; TM</td>
</tr>
<tr>
<td>180</td>
<td>GREY, jar; JO</td>
</tr>
<tr>
<td>181</td>
<td>GREY, jar; JO</td>
</tr>
<tr>
<td>182</td>
<td>GREY, jar; JO</td>
</tr>
<tr>
<td>183</td>
<td>GREY, ?beaker/jar rim; JO</td>
</tr>
<tr>
<td>184</td>
<td>CASH, jar; lug-handled; sandy fabric with sparse shell inclusions; JO</td>
</tr>
<tr>
<td>185</td>
<td>IAGR, jar; large; coarse; TH</td>
</tr>
<tr>
<td>186</td>
<td>GREY, cooking pot; JO</td>
</tr>
<tr>
<td>187</td>
<td>BB1, (grey BB?):cooking pot; JO</td>
</tr>
<tr>
<td>188</td>
<td>GREY, cooking pot; JO</td>
</tr>
<tr>
<td>189</td>
<td>BB1, cooking pot; a sherd from the same vessel had obtuse latticing; with a burnished line at the edge of the decorated zone; JO</td>
</tr>
<tr>
<td>190</td>
<td>GREY, cooking pot; JO</td>
</tr>
<tr>
<td>191</td>
<td>BB1, cooking pot; JO</td>
</tr>
<tr>
<td>192</td>
<td>DWSH, Dales ware jar; JO</td>
</tr>
<tr>
<td>193</td>
<td>DWSH, shell-tempered lid; decorated incised wavy line; JO</td>
</tr>
<tr>
<td>194</td>
<td>OX, ?lamp frag; fine grained red-brown fabric with few visible inclusions; interior crudely finished; broken edge burnt; no wear to suggest a footing; TM</td>
</tr>
</tbody>
</table>

### Construction trench GH, NZ, IU, OH

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>225</td>
<td>OXWS, pinched necked jug; red-brown fabric; common quartz inclusions; slightly micaceous cream slip; GH</td>
</tr>
<tr>
<td>226</td>
<td>GREY, flagon; fairly fine pale grey fabric; sparse quartz and black iron-ore; darker grey surfaces. ?Nene Valley; GH</td>
</tr>
<tr>
<td>227</td>
<td>NVCC?, flanged bowl; as samian form 38; fine cream fabric with red iron-ore specks/inclusions; and bright red-brown colour-coating. The fabric could fit local production or Nene Valley; GH</td>
</tr>
<tr>
<td>228</td>
<td>PART, Poppy head beaker; GH</td>
</tr>
<tr>
<td>229</td>
<td>OX, hemispherical bowl; fine virtually grit-free grey fabric with light brown cortex and surfaces; the</td>
</tr>
</tbody>
</table>
Figure 32  Coarse pottery, nos 177–214
Figure 33  Coarse pottery, nos 215–251
latter well burnished externally; and decorated with a rouletted zone; NZ
230 GREY?, beaker or bowl; burnt; similar fine grey fabric; the surfaces were probably originally light brown; finely burnished externally; NZ
231 GREY, small bowl; fine virtually grit-free pale grey fabric with darker; well burnished; surfaces; NZ
232 GREY, flange rimmed bowl; burnished wavy line on flange; GH
233 GREY, bead and flange bowl; GH
234 GREY, bead and flange bowl; NZ
235 GREY, diameter as drawn; IU no 235 on Fig 33
236 GREY, diameter as drawn (mounted together); GH
237 GREY, bowl; triangular rim; OH
238 GREY, bowl; GH
239 GREY, dish; GH
240 NVGW?, dish; fine pale grey virtually grit-free fabric; with darker well burnished surfaces; ?Nene Valley grey; NZ
241 NVCC?, dish; GH
242 BB1, dish; GH
243 GREY, dish; NZ
244 GREY, dish; GH
245 NGGW, dish; IU
246 GREY, small cooking pot/beaker; GH
247 GREY, cooking pot; GH
248 GREY, jar; GH
249 GREY, cooking pot; GH
250 OX, lid; light red-brown fabric; sparse quartz; some white; ?calcitic inclusions; burnt on rim; GH
251 GREY, base rings from 2 different ring-vases; GH

Fig 34 Rubbish GI–Gk & SL

252 CR, flagon; GK
253 CR, flagon; GK
254 CR, flagon; GK
255 CR, pear-shaped flagon rim; GK
256 NVCC, flagon; GJ
257 NVCC, flagon; GJ
258 NVCC, pinched-neck jug; GK
259 GREY, narrow-necked ?jar; GK
260 GREY, jug; GJ
261 CR, jar/beaker with notched cordon; GK
262 CR, closed form with painted red-brown decoration; GK
263 CR, closed form base; GK
264 NVCC, cornice rimmed beaker; plain; GK
265 NVCC, – ditto ;– GK
266 NVCC, – ditto ;– SL
267 NVCC, cornice rim beaker with barbotine dolphin; GK
268 NVCC, – ditto – with barbotine phalli; GJ
269 NVCC, sherd from hunt cup with barbotine hare and rouletted zone; SL
270 NVCC, cornice rim beaker with rouletted zones; GJ
271 NVCC, – ditto –; GJ
272 NVCC, – ditto –; GK
273 NVCC, plain beaker with grooved rim; GK
274 NVCC, baggy beaker with diagonal barbotine lines; GJ
275 CC, plain beaker; fine light brown speckled fabric with sparse black iron-ore; identical to the handled vessel no 197 in GT; dark brown-grey colour-coat; GK
276 NVCC, plain beaker; GK
277 NVCC, plain rimmed beaker with curvilinear barbotine; GJ
278 NVCC, baggy beaker with rouletted zones; GK
279 NVCC, curved rim plain beaker; SL
280 NVCC, cornice rimmed indented beaker; SL
281 NVCC, indented beaker; GK
282 NVCC, indented scaled beaker; GK
283 NVCC, constricted girth beaker with barbotine decoration; GJ
284 CC, funnel neck beaker with beaded rim; pale brown fine fabric with tiny voids and sparse red iron-ore; possibly a late Nene Valley product; GI
285 NVCC, beaker base; GJ
286 CC, thick beaker rim; beaded; light brown speckled fine fabric with sparse black iron-ore; as no 275 above; GJ
287 MOSL, Rhenish beaker from Trier; GK
288 MOSL, – ditto –; GJ
289 CGBL, – ditto –; GJ
290 MOSL, Rhenish beaker; GJ
291 NVCC, pentice moulded beaker; SL
292 OX, plain beaker; bright red-brown fabric; fairly common tiny quartz; sparse black iron-ore; surfaces abraded but probably originally mica-dusted gold mica externally; SL
293 PART, parisian fabric everted rimmed beaker; GK
294 PART, Poppy head beaker; plain; GI
295 PART, base parisian fabric beaker/bowl; GJ
296 PART, body sherd; parisian ware beaker with stamped circles and comb impressions; GK
297 GREY, body sherd from ‘girth beaker; dark grey fabric with abundant but tiny quartz; not necessarily an early fabric; GJ
298 GREY, everted stubby rim beaker; sandy fabric; abundant quartz; with rough untreated surfaces; GI
299 GREY, beaker; light grey fabric; sparse quartz and ill-sorted black iron-ore; darker grey surfaces; neatly stabbed and slashed decoration; GJ
300 GREY, ?beaker; GK
301 OX, beaker/jar; fine light brown fabric speckled with fairly common fine inclusions of calcite; ooliths; sparse red and black iron-ore; GJ

Fig 35
Figure 34  Coarse pottery, nos 252–301
Figure 35  Coarse pottery, nos 302–335
316 MICA, bowl/platter; dark grey fabric; light brown cortex and surfaces; densely mica-dusted with gold mica; fairly common but tiny quartz; sparse black iron-ore; SL
317 BB1, bowl; GK
318 GREY, bowl; GK
319 GREY, bowl; GK
320 GREY, bowl; GK
321 GREY, bowl; GK
322 GREY, bowl; undecorated; GK
323 GREY, bowl; GK
324 GREY, bowl/dish; GK
325 GREY, bowl; GK
326 GREY, bowl; GK
327 GREY, bowl; GI
328 GREY, bowl; GK
329 GREY, bowl; burnished internally; GK
330 GREY, bowl; GI
331 GREY, bowl; slight burnish externally; GI
332 GREY, bowl; undecorated; GI
333 GREY, bowl; GI
334 BB1, bead & flange bowl; GJ
335 GREY, bowl; GJ

Fig 36

336 GREY, bowl; GJ
337 GREY, bowl; GJ
338 GREY, bowl; GK
339 GREY, ?bowl; fabric similar to BB2; GK
340 GREY, ?BB2 dish; fine grained fabric with black surfaces; probably from the Thames estuary; GJ
341 GREY, dish; GJ
342 GREY, ?dish; light grey fabric; darker surfaces; relatively little quartz; possibly from the Nene Valley; GK
343 GREY, dish; grooved rim; GJ
344 GREY, – ditto –; GK
345 GREY, – ditto –; fine grained grey fabric with red-brown cortex and black surfaces; near range of BB2 fabrics and finish; GJ
346 GREY, – ditto –; GK
347 GREY, – ditto –; GJ
348 GREY, – ditto –; badly distorted; GK
349 GREY, – ditto –; GK
350 GREY, – ditto –; GJ
351 BB1, dish; plain; GJ
352 BB1, – ditto –; GJ
353 BB1, – ditto –; GI
354 GREY, – ditto –; GK
355 GREY, – ditto –; GK
356 GREY, – ditto –; GK
357 GREY, – ditto –; GK
358 GREY, – ditto –; GK
359 GREY, – ditto –; GJ
360 GREY, – ditto –; GJ
361 GREY, – ditto –; GJ
362 GREY, – ditto –; GJ
363 GREY, – ditto –; GJ
364 GREY, – ditto –; GJ
365 GREY, – ditto –; GJ
366 GREY, – ditto –; GJ
367 GREY, – ditto –; GJ
368 GREY, ?bowl; SL
369 GREY, bowl; GK
370 GREY, bowl; untreated surfaces; GK
371 GREY, bowl; burnished on flange of rim only; GJ

Fig 37

372 GREY, wide-mouthed bowl; GJ
373 GREY, – ditto –; GJ
374 GREY, – ditto –; GK
375 GREY, – ditto –; GJ
376 GREY, – ditto –; GK
377 GREY, – ditto –; GK
378 GREY, – ditto –; GK
379 GREY, bowl; bead and flange rim with burnished decoration internally; black surfaced; GJ
380 GREY, narrow-necked jar; GI
381 GREY, – ditto –; GJ
382 GREY, – ditto –; abundant quartz inclusions; two different vessels; GK
383 GREY, – ditto –; sandy grey fabric with occasional calcitic inclusion; burnished externally and inside rim; GJ
384 GREY, narrow-necked jar; dark grey fabric; red-brown cortex and remains of dark grey surface; abundant quartz; GK
385 GREY, jar; GJ
386 GREY, jar; GK
387 GREY, jar; GK
388 GREY, jar; GK
389 GREY, two different jars; inner jar diam. 130mm; GJ
390 GREY, jar; GK
391 GREY, jar; two different jars; inner jar diam. 140mm; GJ
392 GREY, jar; two views; distorted; GJ
393 GREY, jar; GK
394 GREY, jar; GJ
395 GREY, jar; GK
396 GREY, jar; GJ
397 GREY, two different lid seated jars; similar diameters; GI
398 GREY, – ditto –; GJ
399 DWSH, Dales ware jar; GJ
400 GREY, late lid seated jar; SL
401 GREY, large jar; GJ
402 GREY, large jar; GK
403 GREY, large jar; GJ
404 IASH, shell tempered jar; GJ
405 IASH, – ditto –; unusual form; GK
406 GREY, bead rim cooking-pot; GJ
407 GREY, – ditto –; GJ
408 GREY, – ditto –; GK

Fig 38

409 GREY, cooking pot; GK
410 GREY, – ditto –; GK
411 GREY, – ditto –; GJ
412 GREY, – ditto –; GJ
413 GREY, – ditto –; GJ
414 GREY, – ditto –; GK
415 GREY, – ditto –; GK
416 GREY, – ditto –; GK
417 GREY, – ditto –; GK
418 GREY, – ditto –; GJ
419 BB1, – ditto –; GJ
420 GREY, – ditto –; GJ
421 GREY, – ditto –; GK
422 GREY, – ditto –; GK
423 GREY, – ditto –; SL
Figure 36 Coarse pottery, nos 336–371
Figure 37  Coarse pottery, nos 372–408
Figure 38  Coarse pottery, nos 409–431

424 GREY, –ditto--; GJ
425 NVCC, Castor box lid; GJ
426 CR, lid; GK
427 CR, lid; GK
428 GREY, lid; GK
429 GREY, lid; GK
430 OXWS, tazza; grey fabric; red-brown cortex; fairly common quartz etc; slipped cream; GJ
431 OX, ?egg-cup; red-brown fabric; fairly sparse quartz and flint; burnt internally by rim; a form of ?lamp; GK

Fig 39 Rubbish GR/HY and FM

432 NVCC, pentice-moulded beaker; GR
433 NVCC?, beaker; pale brown fabric; GR
434 CC?, ?beaker; pale brown fabric; GR
435 NVCC, beaker base; GR
436 CC, beaker base; pale brown fabric; GR
437 CC, beaker base; fairly fine light red-brown fabric; grey towards interior; with more black iron-ore than is usual for the late Nene Valley colour-coated wares; GR
438 CC?, beaker; fairly fine light red-brown fabric; grey towards interior; similar but not the same as no 437; FM
439 NGCR, rouletted beaker base; North Gaulish. Pale grey fabric; cream-brown cortex and surfaces; fairly common well-sorted tiny quartz showing up dark against light matrix; sparse red iron-ore; burnished externally; GR
440 GREY, cup or bowl; fairly fine fabric; decorated with burnished lines; GR
441 SPCC?, painted plate; white/cream fabric; fairly common small quartz and red iron-ore; pale pink slip; painted darker pink-brown (stippled) and dark grey-brown (solid black). Crambeck or poss Nene Valley; FM
442 NVCC, bowl/dish; GR
443 OX, flanged ?bowl/lid; red-brown sandy fabric; no treatment of surfaces; GR
444 OX, –ditto--; two different vessels; both in red-brown sandy fabric; one burnished externally and one burnt on the flange; GR
445 OX, –ditto--; red-brown sandy fabric; burnished externally. These vessels are in similar fabrics; often with a grey core; varying amounts quartz; common to abundant. The fabric verges on fabric CRSA; see no 447 below; GR
446 OX, –ditto--; fine virtually grit-free grey fabric with cream-brown cortex/surfaces; ill-sorted red iron-ore; smoothly finished surfaces; FM
447 CRSA, flanged bowl; red-brown fabric with abundant quartz inclusions; exterior surface smoothed; HY
448 GREY, bowl; HY
449 GREY, bowl; GR
450 GREY, bowl; GR
451 GREY, bowl; GR
452 GREY, bead-and-flange bowl; FM
453 GREY, –ditto--; GR
454 GREY, –ditto--; GR
455 GREY, –ditto--; red-brown cortex; dark grey surfaces; GR
456 BB1, –ditto--; GR
457 GREY, ?bowl; HY
458 GREY, ?bowl; HY
459 GREY, bowl/dish; FM
Figure 39  Coarse pottery, nos 432–475
460 GREY, wide-mouthed bowl; GR
461 GREY, wide-mouthed bowl; GR
462 BB1, dish; GR
463 GREY, dish; GR
464 GREY, dish; red-brown cortex; dark grey surfaces; GR
465 GREY, dish; GR
466 OX, narrow-necked jar; fairly fine cream-brown fabric; sparse red iron-ore; GR
467 GREY, narrow-necked vessel; fine almost grit-free fabric; fine iron-ore inclusions; FM
468 CRS?; jar; grey-buff brown sandy fabric with abundant quartz inclusions; no obvious treatment of surfaces; very similar to no 447 above; GR
469 GREY, collar-rimmed jar; Swanpool form; GR
470 GREY, jar with groove inside rim; FM
471 GREY, small jar/beaker; FM
472 GREY, jar; FM
473 SHEL, jar; black fabric; common fine shell inclusions; sooted externally and on rim. Lincoln fine-shelled ware; eleventh century; GR
474 GREY, lid-seated jar; hard brown-grey fabric with common quartz; fired to dark blue-grey surfaces; cf Crambeck; pl IV; 95–99; FM
475 BB1, cooking pot; GR

**Fig 40 Upper Rampart**

476 NVCC, pentice-moulded beaker; large beaker of which fairly large proportion surviving; IF
478 CC, –ditto–; fine grey fabric and dark grey colour-coat; almost certainly burnt Nene Valley colour-coated ware; IH
479 MICA, beaker; fine pink-brown fabric; sparse tiny quartz; red and black iron-ore; white inclusions; coated light red-brown; and then slipped externally (extending slightly into interior) with a gold mica slip. Prob Nene Valley; HR
480 OX, pentice-moulded beaker; bright red-brown fabric and surfaces with common quartz; possibly with a self-slip externally. A Swanpool product; IF
481 OX, ?beaker body sherds; painted; grey cored fabric with red-brown cortex and interior surface; exterior fired dark brown; painted dirty white. Almost certainly a Swanpool product; II
482 GREY, pentice-moulded beaker; probably Swanpool; IF
483 GREY, beaker; GC
484 GREY, beaker; FU
485 GREY, flanged two-handled flagon; II
486 GREY, flagon; IF
487 GREY, narrow-necked vessel; IF
488 GREY, narrow-necked jar; FL
489 GREY, narrow-necked jar; Swanpool form; IE
490 GREY, narrow-necked jar with notched cordon; II
491 GREY, narrow-necked jar; HK
492 NVCC, bowl; II
493 NVCC, bowl; IH
494 OX, flanged bowl as form 38; IF
495 MICA, mica-dusted bowl; red-brown fabric; slight greyish core; common but tiny quartz; sparse red and black iron-ore; occasional white calcitic inclusion; coated with slip containing fine gold mica; FT
496 PART, parian fabric bowl; IF
497 GREY, bowl; two views; HK
498 GREY, bowl; FL
499 GREY, bowl; II
500 GREY, bead-and-flange bowl; HK
501 GREY, –ditto–; IF
502 GREY, –ditto–; HK
503 GREY, –ditto–; IF
504 GREY, –ditto–; IF
505 GREY, wide-mouthed bowl; IF
506 GREY, –ditto–; IF
507 PART?, fine fabric dish or bowl; fabric lies within range of parian ware fabrics; HK
508 MICA, dish; dark grey-buff brown with red-brown cortex and surfaces; common but tiny quartz; red iron-ore; occasional calcitic inclusions; surfaces coated with slip containing gold mica. No signs of burning; GA
509 BB1?, dish; II
510 DWSH, dish; HK
511 GREY, jar/bowl; IF
512 GREY, lid-seated jar; HR
513 DWSH, Dales ware jar; IF
514 DWSH, variant; Dales ware jar; IF
515 OX, castor box lid form; light brown fabric (slight grey core) with common quartz; red iron-ore etc. Possibly a Swanpool product; FL
516 CR, lid; HW
517 OX, tazza; bright red-brown fabric; sparse to common sub-rounded quartz; sparse red and black iron-ore; cream inclusions and streaks. No sign of burning; EZ

**Fig 41 Miscellaneous late contexts**

518 GREY, bowl; KV
519 GREY, bead and flange bowl; KV
520 DWSH, bowl/dish; KU
521 DWSH, bowl/dish; KU
522 GREY, incurved bead and flange bowl; NH
523 GREY, wide mouthed bowl; NH
524 GREY, wide mouthed bowl; NH

**Road surfaces; late Roman deposits**

525 GREY, flagon/narrow necked vessel; fairly fine fabric with sparse ill-sorted quartz; black iron-ore; occasional calcitic inclusion; burnished line decoration. (Post-Roman); EX
526 GREY, flagon or beaker rim (Road VI); CK
527 GREY, narrow necked jar; Swanpool type (late Roman deposit); AQ
528 SPCC, colour-coated painted flask; grey cored fabric with red-brown cortex and surfaces; darkened in places; decorated with thick cream paint. (Late Roman deposit); AQ
529 GREY, beaker; brownish-grey fabric; grey surfaces; common to abundant quartz etc.; streaked with cream/white. Not necessarily a Swanpool product. (Post-Roman); EN
530 GREY, Romano-Saxon bowl; large dimples pushed in after burning. (Late Roman deposit); AJ
Figure 40  Coarse pottery, nos 476–517
531 SPCC, colour-coated small bead and flange bowl; Swanpool (Late Roman deposit); BN
532 NVCC, colour-coated bowl; rim-form uncertain; the break could be at the start of a cordon (as in Howe et al; fig 7 no 78); otherwise typical of late Nene Valley colour coated products (Late Roman deposit); BQ
533 PART, bowl (Late pit cut through KU on berm); KX
534 GREY, imitation form 38 bowl (Late Roman deposit); BO
535 GREY, bowl (?Post Roman); IB
536 OX, bowl; red-brown fabric; sparse angular quartz; probably self-slipped; darkened surfaces externally. Possibly residual (Post Roman); FH
537 CR, cream bowl; painted red-brown along rim externally; GO
538 DWSH, bowl/dish; smoothed/burnished internally (Late Roman rubbish deposit); ZZ
539 SPCC, colour-coated bead and flange dish (Late Roman deposit); BN
540 GREY, dish (Late Roman deposit); AQ
541 DWSH, dish; dark grey fabric with red-brown cortex/surfaces; the latter flaked but probably originally burnished internally; exterior with traces of burning towards base; wheel-thrown (Road IV joining with Road V); GX
542 DWSH, shell tempered cooking pot; BB form; sooted externally; probably wheel-thrown (Late Roman rubbish deposit); ZZ
543 GREY, jar; abundant quartz inclusions (Late Roman deposit); CP
544 SPIR, ribbed jar (from unstrat_sm76 site). Bright red-brown fabric; ill-sorted sub-angular quartz; occasional larger quartz pebble; black iron-ore; cream streaks; slipped cream externally and over rim (Road V); CM
545 DWSH, jar; dark grey fabric with common calcitic crystals; smoothed/burnished on rim; hand-made (Post-Roman); EN
546 GREY, narrow-necked jar; possibly a slug-handled Swanpool type (Post-Roman); HS
547 DWSH?, large jar with notched cordon (Road VI); CK
548 GREY, large jar; heavy rim (Road V); DS

Mortaria
by Margaret J Darling (with K Hartley)

Fabrics

MOMH Mancetter/Hartshill. Hard, white to cream fabrics, usually with sparse quartz and red ironstone inclusions. Trituration grit of black/red ironstone and ‘grog’. These first appear in Period 2, particularly in the lengthening of the original rampart group 11. The main collection is from group 17 GI–GK rubbish layers.

MOMD White to cream fabrics similar to Mancetter/Hartshill but atypical of the range known from the kilns. This includes a group of sherds from Period 2 layers (HE, PV, QM and possibly PR), which are very similar in having a pinkish-cream fabric with sparse common pink quartz, and sparse ironstone and trituration grit of finely crushed fine textured red ‘grog’. These probably came from one vessel (the layers are stratigraphically closely linked), of a similar form to the stamped mortarium of SARRVS, no 552, dated c AD 135–170.

The earliest sherd is from TU, a Period 1 construction level for Building 4.

MOVR Verulamium region. Hard creamish fabric with pink core, and common to abundant quartz inclusions. Only two sherds, from Period 1 (EG) and Period 5 (SP), unillustrated.

MOLO Fabric group for sherds possibly from local sources, Lincolnshire to Northants. See individual descriptions for illustrated vessels.

MONV Nene Valley. Usually fine cream fabric with variable inclusions of red ironstone and quartz, often very tiny grains. The surfaces are often darker through the addition of a slip and/or firing effects. Black slag trituration grit.

Apart from two sherds on the berm (from KX, OC, both probably of late Roman date), all came from the 4th century Period 6, of which five were from group 19 GR, a rubbish layer of conclusively 4th century date, which contained less residual pottery than the rubbish of group 17. None came from the rampart or group 17 rubbish layers where Mancetter-Hartshill mortaria predominate. A sherd was found in group 15, however, the robber trench pre-dating group 17.

MONVC Nene Valley colour-coated. One small body sherd came from Period 6 (BN).

MOSP Swanpool. Hard red-brown fabric often with a greyish core, with common to abundant rounded and sub-rounded quartz, sometimes ill-sorted, occasional red ironstone and ooliths. These are usually slipped cream, the slip being micaceous, sometimes markedly so. Black slag trituration grit. Painted decoration in red-brown paint sometimes occurs, as on no 583. Unusual sherds which may be Swanpool or related kiln products are nos 584, 585, 591, and 593. No 580 probably also came from a local source as its fabric is similar to no 585.

Apart from occurrence in road layers, dated by coins to mid to late 4th century, all sherds from Roman contexts came from Period 6 of late Roman date. A notable quantity was found in post-Roman layers.

MOOX Oxfordshire white ware. Hard white fabric with common but very tiny quartz and sparse ironstone. Rounded white and pink trituration grit, densely packed.

MOOXR Oxfordshire red colour-coated. Only one probable sherd from group 21, late rubbish on the berm.

MORT Fabric group, sherds from various unknown sources. Described individually where illustrated.

Mortaria: Catalogue

Fig 42, all Mancetter/Hartshill

Stamped sherds (see report, p 111):

549 stamp no 1, AD 100–135 (1525) GK
550 stamp no 2, AD 125–155 (1528) GT
551 stamp no 3, AD 150–180 (1547) GK
552 stamp no 4, AD 135–170 (1540) PK
553 stamp no 5, mid 2nd century (1545) SQ

Unstamped sherds:

554 mid 2nd century (1532) IG
555 AD 180–240 (1521) GK
556 AD 170–280 (1509) AT
557 AD 160/180–230 (1517) GJ
558 probably AD 190–230 (1531) HX
559 AD 180–220 (1522) GK
560 AD 180–260 (1534) JO
561 AD 190–230 (1516) GJ
562 AD 190–240 (1520) GJ
563 AD 160–230 (1546) IO
564 AD 180–230 (1533) HJ/IS/IU
565 AD 180–230 (1535) JO
566 AD 170–240 (1539) PK

Fig 43, Mancetter/Hartshill

567 probably 3rd century (1645) SI
568 AD 180–240 (1523) GK
569 AD 220–260 (1515) GH
570 AD 230–340 (1543) SL
571 AD 200–260 (1519) SI/GJ
572 AD 230–340 (1518) GJ

Nene Valley

573 probably 3rd century (1527) GR
574 AD 250–360 (1548) GR
575 Late 3rd or 4th century (1513) EQ
Figure 42  Coarse pottery, (mortaria) nos 549–566
Figure 43 Coarse pottery, (mortaria) nos 567–593
Unillustrated mortaria from miscellaneous sources

Fabric 306 – probably local

NZ (2) Fairly hard pinkish-white fabric and surfaces; sparse quartz, red ironstone and cream ?clay pellets. Very worn, no surviving trituration grit. The fabric is similar to the cream fabric CR used locally for flagons, etc.

GT Two tiny sherds, one a flake, in pinkish micaceous fabric with tiny quartz and red ironstone. Probably fabric PINK as used for local flagons etc.

HK (1a) Base fragment, worn smooth. Softish light brown fabric, greyish at core with pinkish cortex; open texture, common to abundant but tiny quartz, red ironstone and soft cream ?clay pellets. Exterior surface fired yellow-brown. Trituration grit possibly ironstone.

QG Body sherd near bead of rim. Pinkish-brown fabric, surfaces slipped micaceous darker yellow-brown; sparse sub-rounded quartz, red ironstone, occasional oolith, soft white and some mica. Trituration grit probably flint and quartz with some ironstone.


PP (1) Fragment of a mid- to late 2nd century protruding spout (as on Gillam 248). Hard pinkish-brown fabric with surfaces fired to a light red-brown; sparse sub-rounded quartz, ooliths and white inclusions, red ironstone and some mica.

PP (2) Fragment of a similar protruding spout. Hard light brown fabric and surfaces; common tiny quartz, occasional larger fragment, ill-sorted red ironstone, black ironstone and occasional flint.

Fabric 313: unknown sources


HI Battered base, very large, c 18–19 cm diameter. Light brown to cream fabric; very fine with scattered flint inclusions and some mica. No surviving internal surface. ?Gallic.

KS Hard dark cream body sherd with micaceous yellow-brown slip on both surfaces; ill-sorted sub-rounded quartz, flint and red ironstone.

Mortarium stamps by K F Hartley (revised 1996)

1: Fig 44 This stamp is from one of at least six dies used by the potter Victor. Another stamp from the same die is recorded from Wall and stamps from his other dies are known from Chester; Hartlepool; Holditch; Leicester (2); Little Chester (2); Hartshill; Mancetter (7); Melandra Castle; Ribchester; Rocester (3); and Wall. Five of the Mancetter stamps are from a kiln clearly used by him. His rim-profiles together with his complete absence from Scotland point to a date before AD 140, perhaps AD 100–135. The two mortaria associated with the die in question probably belong to the second half of this period. Fabric 300. From GK, Fig 42, no 549.
2: Fig 45 The die used gives GRATINI in the genitive; this was the most commonly used of Gratinus's dies. Two kilns used by Gratinus have been excavated at Hartshill, Warks. His mortaria had a wide distribution in the Midlands, northern England and in Scotland. His dates may be placed at c AD 125–155 and neither of the two Lincoln mortaria are amongst his earliest work, so that AD 130–155 is probable for them. (The second stamp, also from the same die, was found at the Holmes Grainwarehouse site, HG 72 (HL), Darling and Precious, forthcoming). Fabric 300. From GT, Fig 42, no 550.

3: Fig 46 The rim fragment is stamped twice close together, the stamps only being covered with brown slip. Both stamps, which are incomplete, give the reading MA – and are from the same die as stamps found in association with a kiln of Maurius and Sennius at Mancetter, Warks. (Hemley 1959), fig 6, no 5; it can be read the same either way up). These are almost certainly the work of Maurius, though no complete specimen has yet been found. Maurius worked c AD 150–180 and the die in question can be regarded as contemporary. Fabric 300. From GK, Fig 42, no 551.

4: Fig 47 This is a stamp from one of the eight dies of Sarrius, the most important mortarium potter of the 2nd century who is known by name. He had at least two workshops, his most important one in the Mancetter-Hartshill potteries and another at Rossington Bridge near Doncaster which was run simultaneously during part of his career. This mortarium is from the Warwickshire potteries. His mortaria are common on sites in the Midlands, northern England and in Scotland (see MacIvor, Thomas & Breeze 1978–80, 260, no 217 for further details of his work).

The large number of his stamps from Antonine deposits in Scotland leave no doubt of his primarily Antonine date and the evidence as a whole supports activity c AD 135–165/170. Fabric 300. From PK, Fig 42, no 552.

5: Fig 48 In hard cream fabric with core varying from light grey to drab brown and heavily tempered with grit. There is a yellowish-cream slip discoloured to pale brown in places, and much hard black or very dark brown angular trituration grit. The two stamps impressed close together are difficult to interpret; VKIVN | or AKIAN | retrograde are possible readings. No other examples of this potter’s work are known and the letter K is very rarely recorded in personal names. If the stamp is literate, some such name as Vikiunus or Akianus might be intended; Akiana and Acianus are recorded by Holder (Alt-celtischer Sprachschatz I, 19). The fabric indicates manufacture in the Midlands; the grit resembles that mostly used in the Mancetter/Hartshill potteries but the yellowish-brown slip and certain characteristics of the stamp would better fit manufacture in the Lincoln area. The rim-profile would fit a date in the mid 2nd century. From SQ, Fig 42, no 553.
Discussion
by Margaret J Darling

The mortaria can be viewed in two ways: firstly as a simple analysis of the sources of coarse pottery mortaria, and secondly to include the samian mortaria. This is the first Lincoln site to have the samian fully recorded and therefore there are no figures against which to compare the analysis including samian. Both analyses are given.

The mortaria from Period 1, the rampart groups 10 and 11, consisted of MOVR, MOLO and MOMD/ MOMH sherds. Apart from a single MOSP vessel (Fig 43, no 588), all the mortaria from the dump group 17 were MOMH vessels, including hammerhead types. The bulk of the mortaria from the site came from the dump group 17, the next largest group being from the lengthening of the rampart, group 11. MOSP only occurred otherwise in the top of the upper rampart group 20B and the late rubbish group 21.

Mancetter/Hartshill and Midlands score heavily on weight (average sherd weight 109g, against 68g for Swanpool etc, and 86g for the Nene Valley). The 62–69% Mancetter/Hartshill reflects the generally 3rd century bias of the pottery from the large rampart layers, when those potteries supplied Lincoln almost exclusively. Mrs Hartley suggests that the Mancetter/Hartshill potters, who competed with local suppliers in the 2nd century, probably had a stranglehold on the Lincoln market in the first half of the 3rd century.

The vessels from both Swanpool and the Nene Valley were from exclusively 4th century deposits, and this confirms the view that they probably shared the mortaria market between them in that period.

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Table 31 Analysis of sources of mortaria, including samian mortaria, from The Park

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<th>Source</th>
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<th>VE</th>
<th>%</th>
<th>Weight</th>
<th>%</th>
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<td>Mancetter/Hartshill</td>
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</table>
perhaps because the Mancetter/Hartshill kilns could no longer compete effectively. Apart from the local potters, the Nene Valley potters had the advantage of lower transport costs (in view of the quantity of Nene Valley pottery going to the northern frontier, it is conceivable that supplies to Lincoln were shipped rather than carried overland). The strength of the Swanpool industry is indicated by the relatively poor quantitative showing of the Nene Valley, larger, heavier and more robust vessels. If the two kiln areas are taken as being the main suppliers in the 4th century, the Swanpool kilns contribute 63% on both count and vessel equivalent, and only drop to 59% on weight, understandable due to the heavier sherd weight of the Nene Valley vessels.

It is possible that the Nene Valley potters were competing with the Mancetter/Hartshill potters in the later 3rd century and, about then or somewhat later, had to face competition from the local Swanpool kilns. In view of the quantity of Swanpool mortaria appearing in post-Roman deposits, it seems likely that the Nene Valley either stopped trading mortaria outside their region and/or were unable to compete successfully with Swanpool. The emergence of a strong pottery in Lincoln would effectively exclude them from the market, and may not necessarily reflect their trading success in the 4th century elsewhere. Mrs Hartley has not noted any examples of Nene Valley mortaria of undoubted 4th-century date from Lincoln.

The inclusion of samian sherds gives a truer idea of the mortaria in use, although the smaller, lighter sherd (average weight 30g, against 109g and 60g for the probably contemporary Midlands and local respectively) must be borne in mind. It is debatable whether the smaller rim diameter (?more inherent strength) could lead to an over-evaluation of the vessel equivalent figures. Only samian vessels known to have trituration have been included, i.e., forms 43, 45 etc, but it may be remarked that many of the flanged rims have trituration have been included, i.e., forms 43, 45 etc, and a direct comparison shows samian accounting for 11.7% of VEs and 11.2% weight. It is, however, questionable whether samian mortaria should be directly equated with the coarser versions (their smaller size and the confined spout aperture suggests otherwise). While their function may be similar, it is possible they were used for the preparation of different food. Their period of use is very limited, from at the earliest c AD 170, and analysis of the Lincoln samian shows that mortaria accounted for only 3% (based on count) of the Central Gaulish samian, against 14% mortaria from East Gaul.

### Amphorae

**by Margaret Darling (with D F Williams)**

**Catalogue (Fig 49)**

<table>
<thead>
<tr>
<th>No.</th>
<th>Handle</th>
<th>Fabric</th>
<th>Description</th>
</tr>
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<tr>
<td>594</td>
<td>Dr 20.</td>
<td>IG</td>
<td></td>
</tr>
<tr>
<td>595</td>
<td>Dr 20.</td>
<td>GT</td>
<td></td>
</tr>
<tr>
<td>596</td>
<td>Dr 20</td>
<td>body sherd with circle &amp; cross incised pre-firing. GK</td>
<td></td>
</tr>
<tr>
<td>597</td>
<td>Gauloise 4</td>
<td>rim and handle. GJ</td>
<td></td>
</tr>
<tr>
<td>598</td>
<td>Gauloise 4</td>
<td>base. GR</td>
<td></td>
</tr>
<tr>
<td>599</td>
<td>Rim, very sandy red-brown (2.5YR 6/6 to 10R 6/8) with pink-cream slip (7.5YR 7/4); fabric with abundant quartz and black inclusions (black augite crystals?), mica; abrasive feel. Probably from a Dr 2–4 of Italian or North Campanian origin. IX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>600</td>
<td>Rim, fabric NA1, bright red-brown with creamish external slip, common sub-angular brownish quartz, iron-ore, small white limestone inclusions and reaction rings. GK</td>
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<td></td>
</tr>
</tbody>
</table>

This appears to be Keay's fabric 1 (Keay 1984, 447) which he states to be very similar to fabrics 1 and 2 identified by Peacock (in Fullord & Peacock 1985, 16) assigned to Northern Tunisia (the 'Carthage-Nabeul' group). The form is Keay's form III (Dressel 27/Africana Piccolo/Africana I/Beltran 57/Vegus 58: Keay 1984, fig 37; Peacock & Williams Class 33) and would have been from a relatively narrow cylindrical amphora which divides into two types, this example approximating to type IIIA (Africana IA/Ostia III. fig 262; Ostia O.V. fig 432/433), found in fabric 1 only. They are thought to have contained olive oil (Panella 1983, 174 confirmation from chemical analysis), although Peacock and Williams suggest fish products as the principal content. The form is dated approximately late 2nd to early 4th century by Keay; Peacock and Williams consider the form to be mainly 3rd and possibly 4th century (1986, 154).

| 601 | Handle, fabric NA3; rather finer than the above rim, but seemingly a variant on the same fabric. North African. IG |
| 602 | Rim, fabric MRRA. HV. Thin sectioned by Dr Williams (1984), who reports: 'Thick, hard very sandy fabric, light red (2.5YR 6/6) throughout. Handle and rim sherd from amphora. Petrology: Frequent inclusions of quartz grains, average size 0.20–0.60mm, and some limestone. An origin in an area of sedimentary rocks is suggested.' |
| 603 | Rim, fabric MRRA. GJ |
| 604 | Body sherd, fabric MRRA. GJ. Nos 603–4 Thin sectioned by Dr Williams (1984), who reports: 'Moderately thick, hard sandy fabric, dark buff throughout. Two bodysherds and a rim of a ribbed amphora type. Petrology: Frequent quartz grains, average size 0.20–0.60mm, some of which appear to be well-rounded, and a little cryptocrystalline limestone and calcite. The petrology agrees fairly well with the thin sections of certain vessels known to have been made in Palestine: a ribbed amphora from Avenches containing carbonized dates (Callender 1965, fig 20, no 4), carrot-amphora from various sites (Camulodunum, form 189).' |
| 605 | Handle, fabric MRRA. GJ. Thin sectioned by Dr Williams (1984), who reports: 'Moderately thick, hard sandy fabric, light reddish-brown (2.5YR 6/4) throughout. Four body sherds and a handle from a ribbed amphora type. Petrology: Scattered of quartz grains, average size 0.30–0.60mm, and a little |
cryptocrystalline limestone. An origin in an area of sedimentary rocks is suggested.'

606 AMPH. Thin-walled body sherd in hard, fine light cream-brown (7.5YR 5/4 surface, 5YR 7/6 fabric; some sherds redder at 5YR 6/8). Fine dense textured fabric with occasional sub-rounded quartz (some clear rounded), sparse white streaks and specks, mica, occasional black ?glassy, and sub-rounded brownish inclusions. The sherd, probably from the shoulder, bears a fragment of a depinto inscription in dark brown-black paint. This has been read by Professor R. Rodriguez-Almeida as: [...] / OLIV[...] / PIC[...] / SAL[...], perhaps oliv[ae...] pic[...] sal[itae...], '...salted olives...'. He tentatively suggests that PIC in the second line may indicate an origin for the produce, as, eg, from Picenum. Mark Hassall notes that the letters also call to mind *picatus*, pitch-flavoured, or *picatum*, specifically, pitch-flavoured wine, which would, of course, be inappropriate if the restoration given above is correct (Hassall & Tomlin 1988, 501–2). From GJ. A similar sherd from GK.

The sherd was examined by Dr D F Williams, who reported on the petrology (1984): 'Fairly clean clay matrix containing a groundmass of quartz grains under 0.10mm in size and a scatter of larger grains. Also present is a little limestone, plagioclase felspar and flecks of mica. An origin in an area of sedimentary rocks is suggested.'

607 Hard light red-brown fabric (5YR 6/6), with sparse quartz, and common limestone inclusions. GK

608 Hard light brown (7.5YR 7/4), with occasional quartz, and sparse limestone (calcareous) inclusions. GJ

609 Greenish-cream with occasional quartz, fairly common black iron-ore and specks of red. Granular texture. PK

610 Hard fine light cream-brown (7.5YR 7/6 with lighter surface) fabric with occasional quartz, black inclusions, mica, red ?sandstone, and sparse limestone. GJ

611 Hard light brown (7.5YR 7/6) fabric with greyish core, common fairly well sorted sub-rounded quartz, occasional black and red inclusions. Not certainly an amphora stopper. GJ

Unillustrated

ABIV Fabric ABIV. One sherd only of cream-brown (fabric 5YR 6/6, surface 5YR 7/4) thin-walled ribbed amphorae; micaceous, softish fabric with occasional red and black specks. This is identical to a single-handled small amphora from Colchester (from a post-Roman context at the Culver Street site, 181 G 306) which would appear to be a possible Biv amphora with atypical colouring (Peacock & Williams 1986, 188, Class 45).
Contents probably olive oil (Tomber & Williams 1986).

From GT.

EMED24 Cream micaceous, origin unknown. Five sherds only of the same fabric as a rim found at East Bight where the fabric first occurred in the 1st century legionary rampart (Darling 1984, 73, fig 14, no 32).

EMED? A fairly fine textured red-brown (5YR 6/6–6/8) fabric with common calcareous inclusions, occasional clear quartz and mica occurred as a single sherd in Period 1 pre-defences, the remaining sherds being from Period 6 deposits.

EMED? Hard micaceous red-brown fabric (10R 6/6–5/6), common limestone inclusions. Dr D F Williams’ (1984) thin-section results were:

Thin sectioning shows plentiful flecks of mica, together with quartz grains, quartzite, potash felspar and a little limestone. The range of secondary inclusions and the texture of the fabric is different, for example, to that normally associated with the highly micaceous Biv amphora thought to have been made in Asia Minor (Peacock & Williams 1986, Class 45). However, given that this sherd came from a 3rd/4th century layer, an eastern Mediterranean source is still perhaps quite likely. These sherds were only found in the rubbish of Period 2–3, JO and the main rampart rubbish, GJ.

Unknown sources

AMPH Fabric 214A. Five thin-walled (c 6mm) sherds, two of which are ribbed, of cream-brown fabric (fabric 5YR 6/6, surface 7.5YR 7/4); hard lime-rich fabric, one of the sherds containing common black glassy inclusions (from GT); sparse mica. Form, origin and contents are unknown. One sherd from GJ has possible traces of red paint above traces of a handle-scar. Two sherds from Period 2–6 rubbish in GT, three from Period 6.

AMPH Fabric 209. A very distinctive hard lime-rich greenish white (5Y 8/2) surfaced, pinkish streaked fabric, with common sub-rounded quartz. All from Period 6.

Amphorae stamps (Fig 50)

1. Dressel 20; stamped MIM (Callender 1965, 185, no 1114, cf fig 11, nos 16–18), M. I[luii] Mopsi; many examples known from Britain noted by Callender as excellent evidence for the early and widespread trade from Baetica (Camilon, Cirencester, Colchester, Exeter, London, Newstead). Callender dates these stamps c AD 30–80/90, and a stamp with stops between the letters came from an early Flavian context at Southwark (Bird et al 1978, fig 90, no A4). PI

2. Dressel 20; stamped LIT retrograde (Callender 1965, 158, no 878, cf fig 9, nos 18–19; L.I[iii] T[halli or -]hesel); many examples including retrograde stamps from Corbridge, Sturry, near Canterbury, Verulamium. c AD 150–198. Unstrat.

3. Dressel 20; stamped SAV, ligatured AV (possibly as Callender 1965, 217, no 1395, cf fig 14, no 2); second half of 1st century. The full stamp of no 1395 starts with a P, for P S Avitus. IF

4. Dressel 20; stamped probably M ?E ?S. The nearest stamp (Callender 1965, 182, no 1090) reads M. FN (M.F[abi] N[epotis]?, and the last letter in some exam-
North African fabrics were otherwise concentrated in group 16 (44%) and group 17 (26%), the construction trench for the widened wall, and the closely associated major dump GI–GK, both containing quantities of 3rd century and earlier pottery, despite deposition in the 4th century. Most of the sherds assigned to NA2 came from the construction trench (group 16), and could represent a single vessel.

**MRRA ribbed amphorae (Fig 49, nos 602–605)**

The earliest stratified sherds of the red-brown ribbed amphorae (MRRA) were two from a Period 1 deposit (CO), but these were dissimilar in fabric to the others, having a higher calcareous content, as did the single sherd of the Camulodunum 189 'carrot' type. Possibly two vessels are represented, one being noticeably thin-walled (c 4–6mm). All the sherds of the main group of sandy ribbed amphorae came from Period 6, most from the associated groups 16 and 17 (Fig 49, nos 603–5) with outliers in groups 19 and 20 (no 602). There are textural variations in the fabrics of the relatively thin-walled sherds which suggests that they were made in more than one centre, working in the same tradition. Sherds from other Lincoln sites have been examined, and some thin-sectioning has been undertaken by Dr Williams (Williams 1984). Although it is possible to distinguish three groups, the division is based mainly on

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**Table 32 Amphorae from The Park: quantities by source and date**

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<thead>
<tr>
<th>Type</th>
<th>Code</th>
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<th>%</th>
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**Figure 50 Amphora stamps.**
### Table 33  Incidence of amphorae by stratified group

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</table>

| Amph. Wt | 2180 | 865 | 1075 | 2450 | 4620 | 190 | 750 | 1985 | 2655 | 12210 | 800 | 1140 | 2930 | 1750 |
| % all pot | 17.5 | 13.3 | 15.7 | 16.7 | 23  | 2.4 | 6.5 | 36.6 | 17.5 | 12.7  | 9.4 | 10.6 | 9.3  | 4.1  |

### Table 34  Main amphorae from The Park by group, based on weight percentage

![Graph showing amphorae distribution by group](image_url)
the proportions of inclusions, and sherds tend to merge between groups. Moreover, the fabric of the handle (no 605) differs from that of the attached body and spans two of the groups. The handle type is akin to, despite its small size, the handle on no 602. This suggests that fine-tuning of fabric differentiation is otiose.

The heavy rim of no 602 has a much higher content of quartz sand, and there is no evidence as to the form of the body or whether it was ribbed. Despite the similar fabric, it is obviously a very different vessel from the thin-walled vessel of no 603 with the implication of differing contents. No 602 is similar to the rim of an amphora from Avenches which contained carbonized dates (Callender 1965, fig 20, no 4; Peacock & Williams 1986, 216, Class 65); the similarity between the handles is particularly striking. An example is also known from Colchester, from a 4th century context, associated with a footring base (pers comm, Dr Robin Symonds). The type and attachment of the handle and simple rim-form are similar to the late Bii amphorae (Keay LIII, Peacock & Williams Class 44), which have a known variability of fabric (Tomber & Williams 1986, 44, 47; Keay 1984, 459, fabric 18; Peacock & Williams 1986, 187). This Lincoln vessel appears to be of the same tradition but earlier in date. Its context preceded the last rampart layers in Trench III of mid- to late-4th century date.

The other ribbed amphora, nos 603–605, is even more problematical since this thin-walled vessel is unparalleled. The use of a different clay for the handle is a common phenomenon, also occurring on flagons (as at Kingsholm; Darling 1985, 80, fig 24, no 15). The fabric and wall-thickness recall the footring base found at East Bight (Darling 1984, 74, fig 18, no 153). Sherds of the same fabric were found in the rampart at East Bight dated to the latter part of the 3rd century (ibid, 91, layer 9/2). Although the rubbish in which it was found (GJ, group 17) must have been deposited in the 4th century, the bulk of the pottery fits into the 3rd century.

The rim form is virtually identical to the Benghazi MR amphora 1 (Peacock & Williams 1986, 175, Class 40) which has a footring, but is not ribbed. Comparison of the thin-sections by Dr Williams showed them

| Table 35 Incidence of Dressel 20 and Gauloise 4 amphorae from The Park |
|----------------------|------------------|------------------|------------------|------------------|
| **Period** | DR20 | GAU4 | **Period** | DR20 | GAU4 | **Period** | DR20 | GAU4 | **Period** | DR20 | GAU4 | **Period** | DR20 | GAU4 | **Period** | DR20 | GAU4 |
| 1 | 10 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Class 34 | NA4 | 16 | 3.22 | 625 | 1.69 |
| Class 35 | NA1 | 7 | 1.41 | 180 | 0.49 |
| Class 35 | NA2 | 59 | 11.87 | 1530 | 4.13 |
| Class 35 | NA3 | 8 | 1.61 | 375 | 1.01 |
| Class 35 | NA5 | 1 | 0.20 | 45 | 0.12 |
| Total | 91 | 18.31 | 2755 | 7.43 |

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| Class 35 | NA1 | 7 | 1.41 | 180 | 0.49 |
| Class 35 | NA2 | 59 | 11.87 | 1530 | 4.13 |
| Class 35 | NA3 | 8 | 1.61 | 375 | 1.01 |
| Class 35 | NA5 | 1 | 0.20 | 45 | 0.12 |
| Total | 91 | 18.31 | 2755 | 7.43 |
to be of different fabrics. The fabric of the East Bight footprint seems marginally different, the inclusions being less well-sorted and scattered, and the possibility of a footprint base does not exclude a more normal amphora base, as can be seen in the only similar vessels traced, two amphorae found in Israel (Zemer 1978, pl 21, nos 58 and 59), both of the Byzantine period, one having a parallel in the early Byzantine period in Samos, and a similar jar to the other having been found at Salamis dated to the 4th century. Both are described as of 'coarse yellow clay, well fired, metallic'. Rim and handle forms are similar, as is the wall-thickness and size.

Occasional sherds which may be from similar vessels are known from other sites, but few provide evidence of form. A handled vessel (possibly two-handed), however, survived more completely at Vindolanda (Bidwell 1985, fig 73, no 171) in a late 3rd century context. A further vessel in a similar fabric was unstratified (ibid, no 172). Dr Williams suggested on the basis of the thin-section and typology that the clay would indicate a number of sources from Cyprus, through south-west Asia Minor to northern Syria and central Greece. Although the rim is dissimilar to the Lincoln vessels, the handle form is identical, the size similar, and the footing base is reminiscent of that from East Bight (Darling 1984, fig 18, no 153).

A further amphora of possibly the same type is published from Verulamium (Wilson 1984, fig 81, no 1919) from a 5th century context. The fabric is likened to that of a carrot amphora (ibid, no 1917), but no handles survived. A similar amphora (ibid, no 1918) came from a 2nd century context, but the handle differs; this may be yet another ribbed amphora type, and recalls three unusual rims from Fishbourne (Cunliffe 1971, fig 100, nos 154 1, 2), also with ribbed necks.

Given the conservatism inherent in amphora typology, once a form suitable for the contents and transport evolved, it persisted. The geographical extent of trade would vary chronologically, and it is possible that these containers are early examples of a tradition which continued into the Byzantine period. The handles of the two very different amphorae from The Park are typologically alike, and their similarity to the handles on Bii amphorae, the Avenches amphora and that from Vindolanda suggests they were made in an area sharing the same potting tradition, a probability strengthened by the ubiquitous ribbing of the bodies, a tradition which had probably continued unbroken since the early carrot amphorae (the source now considered to be Egypt), and possibly also the larger early ribbed type, first recognized in Britain at Kingsholm (Darling & Timby 1985, fig 28, nos 116–118; Peacock & Williams 1986, Class 66), but which also occur at Sheepen (Sealey 1985a, fig 60, no 125; Sealey 1985b, 89, fig 15), Wroxeter (Darling forthcoming) and possibly at Cirencester (Rigby 1982, fig 58, no 291). Although the ribbing could have a non-slip function, it could equally reflect a tradition derived from prehistoric pottery, made (and fired) in baskets, resulting in a ribbed surface. Since amphorae travel widely, the tradition is likely to have been widespread, which may explain not only the varying clays recognized in thin-section, but also the diversity of the rim forms. Ribbing was in widespread use on other vessels in the Eastern Mediterranean (Charleston 1955, pl 95).

The differing sizes suggest more than one commodity. The Avenches amphora contained carbonized dates; Bii amphorae are considered to have carried olive oil, their attribution to the Antioch region being related to that area's known export trade quite apart from the petrology of the fabric; an example of the 'Kingsholm 117' (following Sealey's nomenclature) was found containing dates in the shipwreck at La Tradeliere (Fiori & Joncheray 1975, 62, pl 1, no 8), and an origin in the area of Egypt is probable for the Camulodunum 189 carrot amphorae. A depinto on a 'carrot' amphora from Carlisle indicates the contents were dates (Tomlin 1991, 301, fig 7; Hird 1992, 61, fig 8, no 12), as for the Kingsholm 117. Since the earliest appearance of these ribbed amphorae in Britain is on early military sites (as on the continent, Reusch 1970, 61) where a Mediterranean taste could be expected, the use of the smaller amphora for dates is probable. The larger vessels could have been used for olive oil, but the ribbed Gaza wine-jar indicates that other contents are possible. Apart from the famous wine, olive oil, sesame oil and fish sauce are also feasible, since examples with fish remains have been found in Israel (Zemer 1978, 61, forms nos 49–51).

Amphora potters were undoubtedly conservative, and it is probable that similar styles of vessels were in use not only over a comparatively long period, but also over relatively wide areas with differing geology. Thus, despite the dissimilarities between the fabrics of the Lincoln vessels and the Benghazi MR and Bii amphorae, the origins of the Lincoln sherds are likely to lie within much the same area.

Less common amphorae

Of the less common amphorae, a sherd of a possible Biv amphora came from group 14 (GT), the fabric of which is identical to that of a single-handed small amphora from Colchester (from a post-Roman deposit, Culver Street, 181 G 306), which seems to have atypical colouring (Peacock & Williams 1986, 188, Class 45; I am grateful to Dr Robin Symonds for showing me this vessel). The single-handed version appears in the late 1st century, and examples from Bath and Ospringe came from pre 4th-century contexts. These amphorae may originate in Turkey, and the contents have been analysed as olive oil (Tomber & Williams 1986).

The rarest amphora find is the body sherd Fig 49 no 606 with depinto from GJ, group 17 rubbish dump, including a fragment of a painted inscription which has been read as possibly indicating the contents to
be salted olives. This is discussed in more detail above, p 115. The sherds were examined by Dr Williams, but unfortunately the fabric gives no clues as to its origin.

Painted, decorated and stamped ware by M Darling and V Rigby

The Camaro beaker (Fig 28, no 59) by V Rigby

Stamp


Camaro die 1A1. From the same die as a stamp on the underside of a complete bobble-pot, with undefined bosses, found in Lincoln, and presumably from an early Roman cremation burial (British Museum 66, 12–13, 49; Richmond 1946, 46). A third stamp on a mica-coated beaker is known from Lincoln, but this bears the name of a different potter; it reads VIROCI (publication forthcoming).

The workshop of Camaro has not been identified. One source of mica-coated bobble-pots is known and that is at Braives in Belgium (Brulet 1985, 72–86, figs 26–8 & 30). Perhaps three different dies were used to stamp fifteen vessels; however, none is remotely related to Camaro in name or shape of die, although Viroci is a possibility. The potters at Braives produced bobble-pots with both defined and undefined bosses. The concentration of mica-coated vessels between the rivers Lys and Sambre suggest that Camaro worked somewhere in this region if not at Braives.

No stamps on mica-coated wares, or sherds from bobble-pots, have been identified in pre-conquest contexts in Britain. A date of manufacture in the Neronian period is suggested by the presence of sherds from an identical beaker, but with no stamp surviving, in the Fort Ditch at Cirencester (Rigby 1982, fig 58, no 289).

Decorated sherds

612 SPOX? (Fig 51)

Body sherd from the lower wall of a closed form, girth diameter probably in excess of 24 cm; hard red-brown fabric with varying grey core according to thickness, red-brown surfaces varying from 2.5YR 5/6 at the top to the darker shade 2.5YR 2.5/2 at the base (colour variations both external and internal); inclusions of fairly common sub-rounded quartz; the exterior surface has a sheen indicative of either a self-slip or burnishing, and is decorated with a painted design in cream paint, overlaid by red-brown painted details; at the very bottom of the sherd are traces of probable rouletting, underlying the painted decoration (from GJ).

Since the sherd is unique, the fabric undistinguished and the form unknown, its origin is impossible to determine although it is reminiscent of painted wares from the late Swanpool industry. Simple painted decoration occurs on Swanpool vessels, notably on plates and on the flanges of form 38 bowls, and also on rare closed forms, as the flask, Fig 41, no 528. It may be noted, however, that painted decoration is usually governed by the vessel form, and only occasionally departs from simple running scrolls, floral designs, etc., as with late painted flagons from the Nene Valley (Howe et al 1980, fig 6, no 68).

The central motif could be part of a candelabrum, with its base and curving projections on the shaft (although it does not closely resemble any of those appearing on samian or on wall paintings); equally it may be simply a branched ornament used as a division between other decorated zones, as with the samian motif, Dech 1115. The central position of the motif on the sherd tends to focus attention upon it, but there are traces of other motifs on either side; the fragment towards the bottom left of the sherd resembles the ‘foot’ of the central motif, but the spraying out of the painted blobs would seem to preclude another such design so close. The swirl of paint with its overpainted detail at the top left suggests that there was an adjoining design of entirely different type, possibly figurative. The fragment of the adjoining motif at the bottom right is equally enigmatic.

Similar floral patterns occur on Oxfordshire ware of 4th century date (for instance Young 1977, fig 56, C38.2). Since the sherd came from one of the large
rampart rubbish layers of group 17 (GJ), a 4th-century date is possible despite the quantity of earlier pottery in those layers.

613 SPOX (Fig 52)

Body sherd probably from the upper wall of a vessel, of unknown form, in light red-brown (2.5 YR 6/6) fabric and surfaces, the fabric containing sparse to common quartz; the exterior surface has a self-coloured slip. Traces of rouletting survive at the top of the sherd, beneath which is part of a circular rosette stamp, the vessel wall having been pushed out into the stamp from the inside to form a boss (from BN).

The fabric and finish suggest that this came from a Swanpool vessel and therefore belongs to a late Roman pottery tradition. The sherd is too small to determine the vessel form or its size, although the absence of slip internally suggests a closed form. Although the stamp may be termed a rosette, it is more like a star, and does not closely resemble those used by Oxfordshire potters (Young 1977, fig 39). Many of the smaller late Roman pottery industries used the same forms and decoration as the Oxfordshire potters, and the combination of rosette stamp and rouletting would suggest a bowl form. The Nene Valley, however, made closed jar forms decorated with rouletting and circular stamps (Perrin 1981, fig 27.2, no 22), and the Much Hadham potters also contributed different forms. The so-called ‘Romano-Saxon’ wares from Lincoln all seem to have been made by the Swanpool potters, but the use of rouletting with other decoration on those vessels is unknown, although dimples and rouletting occur on Oxfordshire necked bowls (Young 1977, fig 63, type C79), considered to be of later 4th century date.

Such a small sherd with a fragment only of a stamp provides little new information beyond the fact that the Swanpool potters were probably copying late Nene Valley or Oxfordshire forms and decoration, and since there is little evidence to suggest that the Oxfordshire red colour-coated wares were arriving at Lincoln much before the mid 4th century (most of the Oxfordshire wares at Lincoln occur in post-Roman contexts), this would appear to be a very late local development. Moreover, if the vessel concerned was a closed jar form, its date could be late 4th century, on the basis of the evidence of the Great Casterton destruction deposit (Perrin 1981). Despite its small size, this sherd adds important information relating to the late Roman pottery industry at Swanpool, Lincoln, with the implications that has for the socio-economic conditions prevailing in the 4th century.

Lamp chimney fragments from The Park (Plate 29)

All fragments except for no 5 were in normal tile fabric, and were usually moulded rather than thrown. All probably came from cylindrical objects, although the curvature of the wall of no 2 may indicate an angular type. Unfortunately the fragments are temporarily missing.

1 Pl 29a. Fragment with the remains of two arched knife-cut openings separated by an incised St Andrew’s cross and pierced holes; below is a crudely notched applied cordon, above a roughly cut circular opening. GK
2 Pl 29b. Fragment with parts of two knife-cut circular holes, separated by a heavy applied cordon, crudely fingered into a wavy frill. The interior is rough and crudely finished. The strong curve on the right side may indicate a corner. GH
3 Pl 29c. Thinner walled (c 11mm) fragment, the upper part having a cut circular opening over an applied cordon fingered into a wavy frill, with the top of a cut triangular aperture on the left and the side of a similar opening on the right. Finer fabric. FU
4 Pl 29d. Fragment probably from the top of a lamp chimney, possibly wheel-thrown. The exterior is deeply incised with a rough diagonal ladder-motif. LM
5 Pl 29e. Wheel-thrown in a fairly sandy grey-cored pottery fabric with light brown surfaces. Fragment of a top, with a notched cordon. There are signs of burning internally in the form of flame-scorching rather than sooting. GI

No 2 came from the construction trench of the widened wall group 16, sealed by the main rubbish dump on the rampart group 17 in the 4th century which produced nos 1 and 5, later covered by upper rampart dumps group 20, containing no 3. No 4 was the earliest stratified fragment from an indeterminate Period 2 layer, with 2nd century pottery.

A quadrangular finial, unique in Britain but with parallels in the Danubian area, has already been published from a tile kiln at Heighington, south-east of Lincoln (Darling 1977b). These objects vary greatly in their styles of decoration and aperture type etc. The fragments from Lincoln not only add to the known range (Lowther 1976), but also include one (no 5) with unusual evidence for burning internally, perhaps significantly in a pottery fabric. As at Lincoln, many occur in normal rubbish deposits.
giving no evidence for their use, but the cumulative evidence suggests that these were connected with religion, whether as adornments for roofs or for some ritual purpose in a temple or shrine. A full discussion will be included in the report on the Heighington tile kiln (Darling forthcoming).

**Discussion of selected groups by period by Margaret J Darling et al**

Several groups were identified in the Introduction to this pottery report as being most worthy of study. Their content and dating are discussed in some detail here.

**Period 1: Structures/deposits predating the construction of the earliest defences around the lower town**

Only one layer of any size reflected an early date, despite the sporadic occurrence of early samian and pottery of the legionary period, and even this (QL) layer can be dated only to the late 1st to early 2nd century (samian stamp, no 36, of c AD 50–65), and is contaminated (see below). The spread over natural (west of the north tower: MH, NC, TU, ID, CO, EG, KI) contained mostly sherds of BB1 or grey wares of that tradition, later 2nd century samian (EG) and the occasional colour-coated sherds which may be from the South Carlton kilns of Antonine date (CO), or from the Nene Valley potteries (NC). The sherd from NC is the base of a bowl form with the internal wear often found on imitations of the samian form 38, generally considered to date to the late 3rd century or later. An imitation of a Dr 37, however, occurred in the Water Newton 1956 kiln considered to have a medial date of c AD 220–230. Since the layer was apparently a lens in the overall layer MH, there is the possibility of contamination (illustrated, Fig 27, nos 11, 23, 24, 42, and 43).

Features sealed by QL produced only four cream flagon type sherds, which could have been 1st or 2nd century in date. The pottery from QL is mostly of forms/fabrics likely to be current in the legionary period, although two oxidized vessels, Fig 27, nos 26 and 30, could be later in date (illustrated, Fig 27, nos 8, 9, 12, 14, 16, 17, 19, 20, 26, and 30). Unfortunately the layer was contaminated with later Roman glass, and a post-medieval small find. The foundations QP produced only one sherd, a stamped samian base (no 35) of c AD 150–180, and QK contained Antonine samian. The first layer of reasonable size sealing QL and QP was QG (261 sherds) which, apart from much residual pottery including Lyon ware, produced later 2nd century samian (including stamp no 11 of c AD 130–155), a number of BB1 vessels and their local copies and sherds from a Parisian type fabric beaker with barbotine dots. This would appear to date to the Antonine period at the earliest. There was a notable...
Absence of Nene Valley or other colour-coated wares (illustrated, Fig 27, nos 3, 10, 25, 27–29, 31, 32, 36–41 and 44).

Timber Structures

The fourteen sherds associated with the Phase I timber structure features (PD, PB, OR, OP, PC) in Area III are barely datable, although no definite 2nd century sherds occur. The sealing layer, MB, contained a jar of BB type, no 33, of post-Hadrianic date (illustrated, Fig 27, nos 5, 13, 15, 18, 21, and 33).

Phase II timber structure features (OO, NR, NQ) produced only four sherds of 1st century date, and its sealing layer, MA (Period III), is not closely datable beyond late 1st–early 2nd century.

Phase III timber structure features (NL, NP, OM, NG, Oj, OK) were more certainly of 2nd century date, containing a BB1 dish with a grooved rim (Gillam 1957, 316–318) and grey sherds of BB type. A narrow-necked jar in NG could also be of 2nd century date, but none of the sherds are closely datable.

The only sherd from the Phase V timber structure was a samian stamp (no 18) dated AD 160–200 (from IO).

Other structural features and deposits

The sill wall, LZ, produced Antonine samian, and the samian from the associated LW and LX was 2nd century. The coarse pottery from MX included a colour coated rim from either a plain rimmed baggy beaker or a funnel-necked beaker and also sherds from a grey indented beaker. The occurrence of grey ware indented beakers appears to be in the 3rd century, although these may start earlier in the late 2nd century. A 3rd century date may also be in question for LW which contained an indented scaled colour-coated beaker (rim form unknown), and beaker sherds with rouletted zone decoration in LX could be of similar date. If these layers can be shown to be stratigraphically pre-defences, they probably provide the best evidence for date. They are comparatively small layers (c 80 sherds) and all contained colour-coated sherds of types dated, at earliest, late 2nd century, and more prevalent in the 3rd century. Conservatively a late 2nd to early 3rd century date is applicable, but a 3rd century date is probable. These layers are, however, not necessarily earlier than the defences.

The intervening sand layer, JW/LY, between the features MX, LW, LX and the sill wall, LZ, produced little dating evidence, but a colour-coated beaker sherd is likely to be late 2nd century at the earliest (Fig 27, nos 50 and 51, probably residual sherds).

The two layers on the berm with pottery, NA and NW, both produced 1st century samian but also a BB1 bowl or dish from NA and a possible wide-mouthed bowl, which suggests a mid 2nd century date at the earliest.

Cremations: Two cremations were found, one in a BB1 cooking pot (Fig 27, no 46), and the other in a grey ware jar (Fig 27, no 45). The BB1 vessel is not a particularly early form, and a date of mid to late 2nd century would seem appropriate. The grey jar could conceivably be of slightly earlier date since, although it appears to be influenced by the BB1 style, it is closer in form to the rusticated jars of Trajanic and later date. These jars, however, continue into the Antonine period (Darling 1984, 83), so that both cremations could have been buried in the mid to late 2nd century.

Summary

Rubbish of the legionary period occurred in the area, but without any certain structures of that period. The Period 1 timber structure could be of 1st century date but was certainly out of use when MB was laid in the Hadrianic or later period. The later timber structures were therefore certainly of 2nd century date, Period V structure post-dating AD 160–190. The cremations are most likely to be of mid to late 2nd century date.

Possibly important evidence for the dating of the earliest defences comes from MX, LW, LX and perhaps also from NC, although this is limited by stratigraphic uncertainty as to their relationship to the defences. The ceramic evidence relies upon colour-coated sherds of beakers more likely to be of 3rd century date from MX, LW and LX, and on a bowl base from NC which, if not a contamination from above and correctly identified, is probably from a flanged bowl of the samian form 38, and could imply a rather later 3rd century date.

There is also the question of the Dales ware rim from LP which, if not a contamination from above, suggests a later 3rd century date for the layer, although this may not be certainly stratigraphically earlier than the defences.

Rampart, primary & early additions, group 10

Primary rampart (Period 2a)

Only 69 sherds came from the initial rampart layers (QE, QA, QB, PX). The samian was of Antonine date (as the underlying pottery, including the stamp no 35 of AD 150–180), as were the few illustrated vessels, Fig 29, nos 70–72. No colour-coated sherds came from these layers.

Heightening of early rampart (Period 2b)

It was only in the subsequent heightening (PW/PZ, PY, PV, HE) that a reasonable quantity of pottery
occurred, and that only from HE at the top. There were several joining sherds between these layers, suggesting contemporaneous deposition. The gully (PR, PQ) also had joining sherds between the layers, most of the pottery coming from the lower layer (PR). The samian was mostly Hadrianic–Antonine, although the gully (PR) produced a stamp (p 78, no 48) of mid to late Antonine (PR) and other Antonine sherds.

All the relevant vessels from these layers are illustrated together with sherds from the ?path (PP, PN) (Fig 29, nos 73–106), the only unillustrated sherds of interest being five sherds from rough-cast beakers and a cream tazza fragment, possibly from the South Carlton kiln (from PV and HE); a further rough-cast colour-coated beaker sherd possibly from Colchester occurred in HE. Two vessels from the lower fill of the gully (PR) were represented by over 60% of their rims, the carinated vessel, no 98 and the cooking pot, no 102.

The colour-coated beaker, no 97 (PR) could span the late 2nd–early 3rd century, and the oxidized rouletted beaker, no 86 (HE) is similar to colour-coated beakers which may be dated to the early 3rd century. A late 2nd–early 3rd century date is likely for the cooking pot, no 102 (PR). Apart from residual sherds, the rest of the pottery would fit the late 2nd century. Although the evidence is not strong, it is possible these heightening layers were laid down in the early 3rd century. The sample for quantification is relatively small, but shows higher proportions of both flagon fabrics and BB1 than found in the subsequent lengthening layers.

No 85 is unusual and would appear to be possibly the top of a cream finial, with painted red-brown decoration. The fabric suggests this may be a South Carlton product (as may also be the case with the bowl, no 74), which would be consistent with the range of unusual vessels from the kiln site, including tazza, unguent pots etc. Although smaller, both fabric and the use of painted decoration recall the possible finial fragment from East Bight (Darling 1984, fig 18, no 154).

**Lengthening of the early rampart, group 11**
*(Period 3)*

These three layers (PM, PL, PK) represent the first of the large rampart layers; there is no certain correlation with the rubbish layer JO. Group 12, although part of SQ with its underlying layers TH and TM, and group 13 may be contemporary. The samian from PM–PK extended to the Antonine period, including decorated ware (p 79) and stamps nos 8, 24, 33, 34, 47 and 48 (pp 77–8). The mortaria were from the Mancetter/Hartshill potteries, including a stamp of SARRIVS (Fig 47, no 552) of AD 135–170, and no 566, dated AD 170–240.

Better evidence for an early to mid 3rd century date occurred in these layers, particularly from the colour-coated indented beakers nos 112 and 113 (two other beakers as no 112 came from PK; the rough-cast beaker, no 111, could be earlier), and perhaps the oxidized indented beaker decorated with cream painted stripes with red-brown blobs, although this is an unusual vessel, and not easily datable. Six other cornice-rimmed beakers as no 110 occurred. A two-ribbed colour-coated handle fragment came from PK, probably from a flagon. Further work is necessary on the dating of colour-coated flagons but it is likely that some forms occur in the 3rd century (such as the spouted jug form, Howe *et al*., fig 6, nos 64, 65; also fig 2, no 14 in grey ware, considered to be 3rd century; see below fig 8, no 258 from GK) although whether with two-ribbed or sub-rounded handles is uncertain. A 3rd century date seems certain; since PK is contiguous with GK above, however, an intrusion is possible.

The extremely large colour-coated beaker, no 114, is probably a Nene Valley product; although unparalleled, a 3rd century date seems probable (two body sherds are marked GK, the overlying deposit). The oxidized imitation samian form 33, no 117, is a rare form at Lincoln, and is unlikely to have been a local product. A sherd from probably the same curious cream handled ?amp with applied ribs, no 137 occurred in JO rubbish layer; this is unparalleled and could easily be a South Carlton product.

Again, many of the coarse wares would fit a late 2nd to early 3rd century date, and include forms common at Torksey and Cantley (a wide-mouthed bowl of the form of Fig 36, no 370 is unillustrated). Both cooking pots, nos 133 and 134 seem more likely to be of 3rd century date, and the BB type bowls and dishes may be late versions of their respective forms, but not necessarily much later than the late 2nd century. An early 3rd century date may be suggested, bearing in mind the difficulties of dating colour-coated flagons if the handle fragment is not viewed as intrusive. A notable feature is the absence of Dales ware, which does not seem to occur until after the mid–3rd century. Sherds were, however, found in the rubbish layers JO and GT, groups 12 and 14 (see below, pp 127–9), the sherds from JO probably representing one vessel. The known contamination of GT is also a problem, and some of the pottery assigned to it belongs more properly to later periods.

**Period 2: colonia wall**

CU, ?foundations of narrow colonia wall in Area III produced a BB1 cooking pot body sherd, and also a grooved rim BB type dish, probably of mid to late 2nd century; the only drawn sherd was a small flask neck (Fig 27, no 47: type example) in oxidized fabric.

Only three sherds came from KQ, construction trench for the narrow wall in Area IV, including grey wares of BB type for which only a 2nd century date is possible. The footings, EW, contained a plain-rimmed BB1 dish too fragmentary for closer dating than 2nd century onwards.
Periods 2–4: various features

In the area of the road, the east–west gully TR contained a BB1 grooved rim dish, probably of mid to late 2nd century. TO, possibly the demolition layer of wall 4, produced a body sherd from an indented colour-coated beaker of 3rd century rather than earlier date.

The pit MP/MQ sealed by GR/HY had little of dating value but was probably of late 2nd to 3rd century date (a plain-rimmed BB type dish, and a plain-rimmed colour-coated beaker). A 2nd century or later date applies to the pit ND, and NN pit produced only a sherd of 1st century samian.

The pit JT-JS-KG (Area III, Phase IV) contained an indented scale-decorated beaker (rim form unknown, in KG) and also a wide-mouthed bowl indicating a 3rd century date (Fig 27, no 55, grey 349; Fig 27, no 56, grey plain-rimmed dish, Fig 27, no 54, and a shell tempered jar with curved rim). The related layer JU had two grey plain-rimmed dishes, and a wide-mouth bowl (Fig 27, no 57) probably of late 2nd to 3rd century date. These bowls are extremely difficult to date closely. The three sherds from JP, also related to this pit, can only be broadly dated as 2nd century.

Only two sherds came from the retaining wall, LO (Area III, Period V), a colour-coated beaker sherd and grey body sherd. The pottery from LV and LU was of little use for dating, although LU had a jar of probable Hadrianic–Antonine date (Fig 27, no 52). KZ, ?construction debris from LO was probably of 3rd century date on the basis of a grey indented beaker (Fig 27, no 53), and also contained a possible colour-coated flagon sherd and a BB1 cooking pot sherd with fairly obtuse latticing. A secondary building level for the wall LO, JQ and JV, can only be dated mid to late 2nd century.

The pit layers KE and KF deposited during the construction of LO, had little pottery to date them closely although KE contained a colour-coated indented beaker (rim form unknown), and Rhenish ware, both indicative of a 3rd century date. This layer also produced a Hofheim type flagon neck (Fig 27, no 58), probably residual but in an oxidized fabric which is unusual for the legionary period in Lincoln.

The pit KR/KS cut into EG of mid to late 2nd century date, contained some residual earlier material, notably the mica-dusted beaker stamped by CAMARO (Fig 28, no 59), but also pottery of later 2nd-century date, including a fragment of a folded-necked flagon in a parisian type fabric, and a wide-mouth bowl which might be more 3rd century. (Fig 28, nos 59–65). Layer LA, stratigraphically later than KR/KS pit contained a Constantinian coin.

PO, the fill of the robber trench of QP (the wall having a samian stamp (no 35) of AD 150–180) had pottery of late 2nd to 3rd century date, but also a sherd possibly from a colour-coated flagon which could suggest a later 3rd century date. The only illustrated sherd is a lid (Fig 28, no 67).

Period 3: insertion of interval tower into the *colonia* wall

The pottery from the interval tower foundations, XI, included only residual earlier pottery and indeterminate body sherds (Fig 28, no 68). The flag-stones around the well, XS, had samian of late 2nd to 3rd century date, and a grey bowl (Fig 28, no 69) of similar date. The well, XT, contained early 2nd century samian and three indeterminate sherds. See also group 11 above.

Period 4: insertion of two L-shaped flanking walls, the earliest gate structure with ?contemporary berm and road surfaces

The flanking wall foundations of pitched limestone, XJ, produced only two sherds, neither closely datable.

The other layers in this area (IY, LM, LA, EF, LL, LK, IX, KL) contained relatively little pottery mostly of mid to late 2nd century date, but HN included a wide-mouthed bowl and a possible Dales ware sherd, which might indicate a later 3rd century date. The stratigraphically earlier layer LA (see above, Period 2) contained a Constantinian coin, which supersedes the pottery dating.

Period 5: Gate phase II: modification and re-building of gate towers and contemporary road surfaces

North tower

The construction layers relating to the north tower, ED, MI and MC produced pottery which may be considered mostly residual of 3rd century date, although MC had a BB1 cooking pot sherd with fairly obtuse latticing, and a fragment of a possible plate of a 4th century form.

The construction layer SP has joining sherds with SQ below, which layer has itself joining sherds with the layer over SP, SL. The pottery is broadly of 3rd century date, but a better date comes from the underlying SQ which contains a BB1 flanged-rimmed bowl with prominent bead likely to be of late 3rd century, if not later.

South tower II

BK, sealed by the building spread CR, produced an indented colour-coated beaker of 3rd century date, and also a flanged-rimmed grey bowl with prominent bead which would suggest a late 3rd or 4th century date. CS, a mixed layer cutting through CR and BK, produced a more conclusively later 4th century date with a Swanpool colour-coated bead-and-flange bowl (as Darling 1977a, no 8 from AK) and a cream flagon (not illustrated).
HI, a building spread south of the tower unfortunately contained only a sherd of mortarium of unknown type and origin.

JB (Berm area) representing the first stage of the robbing of the colonia wall contained only three sherds including a shell-tempered body sherd probably of the later fabric (3rd–4th century) and a sherd from a BB1 bowl or dish of uncertain date. The stratigraphically earlier layer NH contained later 4th century pottery, including a shell-tempered dish, late bead-and-flange bowl and wide-mouthed bowl.

The berm

Berm, Period 2(?)

MF, possibly the berm metalling for the narrow colonia wall in Area I (1970), contained a fragment of colour-coated Castor box lid which is barely datable, although more common in the 3rd century. The underlying layer, MG, produced only one diagnostic sherd for dating (Fig 27, no 48), a lid-seated jar, similar to an example from East Bight 9/11 ash layer (Darling 1984, 86, fig 15, no 58), and of Hadrianic–Antonine date; the type appears at the Antonine Roxby kilns and also in Antonine deposits at Winterton. The only other drawn sherd from the layer MG was a residual reeded rim bowl in cream fabric (Fig 27, no 49).

Neither the possible Berm 1, RD or the silt below the berm, XG, produced good dating evidence, RD containing only a fragment of a Mancetter/Hartshill mortarium of 2nd century or later date.

CX identified as the earliest berm metalling in Area III, is unlikely to have been so. The pottery includes a colour-coated bowl or dish sherd, a body sherd probably from a pentice moulded colour-coated beaker (as RPNV, fig 27.2, no 17), and two shell-tempered sherds more likely to be of 3rd–4th century date. This combination suggests at the earliest a late 3rd century date, and on the basis of the beaker, the 4th century is more likely.

The two layers over Berm 1 in Area V, NT and OD, both produced colour-coated beakers, that from NT, an indented form, being more likely to be of 3rd century date. The first berm here, OE contained an indented grey beaker with an offset on the underside of the base, a feature possibly copied from Rhenish beakers, which may be considered of late 2nd to mid 3rd century date. A 3rd century date applies also to the Berm 1 layer, MT, which produced a colour-coated indented scale-decorated beaker, rim form unknown.

Berm area, Period 4(?)

MS, overlying the 3rd century metalling of MT (Period 2) contained plain indented and scale-decorated indented colour coated beakers of 3rd century date, but also a colour-coated imitation samian form 38, a possible colour-coated flagon sherd, Rhenish ware and a BB1 flanged bowl with a pronounced bead, which indicates a late 3rd to 4th century date. The metalling of Berm II, KW, yielded only three sherds including a colour-coated indented scale-decorated beaker (rim form unknown), but OC had a possible colour-coated flagon sherd, Dales ware, Nene Valley mortarium and a sherd probably of Much Hadham ware. This combination seems more likely in the 4th century rather than earlier and, if the sherd from OC is correctly identified as Much Hadham ware, this would suggest a later 4th century date.

The overlying layers KV, KU and NH of occupation debris (rubbish including oyster shells) had more abundant pottery showing a stronger 4th century dating, including pentice moulded beakers, probable colour-coated flagon sherds, late bead-and-flange bowls in both BB1 and grey ware, including the late incurved type, Dales ware, late wide-mouthed bowls, shell-tempered dish/bowls, a shell-tempered 4-ribbed handle with applied pellets, and a sherd from a cream Oxfordshire mortaria of rare occurrence in Lincoln (Fig 41, nos 518–524). This rubbish would fit the same late Roman date as the late group already published from the berm outside the gate (Darling 1977a), and would appear to belong in a later phase, eg, Period 6.

Berm area, Periods 5–6

Berm III layer, KT has the same assemblage as the underlying layers (KV, KU, NH) and includes in addition a sherd from a colour-coated bowl or dish, a flanged bowl of the samian form 38 type, and also one of the rare sherds of ribbed fabric SPIR similar to Portchester D or the late jars from the Alice Holt industry (Lyne & Jeffries 1979, type 3C, fig 29). The pottery from the drainage gully QY with its coin of AD 364 is a similar late Roman group with Swanpool products, late shell-tempered and sandy lid-seated jars, an imitation samian form 38 in grey, and an Oxfordshire red colour-coated bowl (the last two already published in Darling 1977a, nos 123 and 128 respectively).

The occupation layer ME overlying the metalled berm of MF contained only 12 sherds but included a 2-ribbed handle from a colour-coated flagon which, at the earliest would date to the 3rd century, and possibly rather later. The levelling layers above this, MD and MK, were less helpful with nine sherds but a colour-coated samian form 38 suggests a 3rd to 4th century date.

Pottery from rubbish JO, group 12

There was a possible joining sherd connection between the rubbish of JO and that in SQ, group 13, and although there are no direct stratigraphic
relationships, it can possibly also be equated with the upper layer of the rampart lengthening PK in group 11. A sherd from the curious ?lamp found in PK (Fig 30, no 137) occurred in JO, and although certainty is impossible, colour-coated flagon sherds in JO were very like some appearing in GK. Since there are no certain stratigraphic links, the JO and SQ rubbish layers (with underlying layers TH, TM) have been kept separate from the definite rampart layer PK. Whether stratigraphically equal or not, they differ in pottery content, emphasized by the animal bones from JO which formed a very distinctive group with a high proportion of smashed cattle limb bones (p 173). Illustrated vessels from SQ and related layers in Trench III are nos 140, 144, 145, 149, 150, 154, 163, 166, 169–171, 177–179, 185, 194 (Figs 31–2).

**Rubbish layer JO**

The samian is mostly of Antonine date and includes four stamps (p 77, nos 3, 5, 14 and 52) dating up to AD 160–200, but an East Gaulish sherd is of late 2nd to mid 3rd century date. The mortaria were all from the Mancetter/Hartshill potteries, and includes two illustrated vessels (Fig 42, nos 560 and 565, of the period AD 180–250/260.

Colour-coated beakers accounted for an exceptional 11.9% on weight of the group (excluding amphorae and mortaria); compare with 7.7% for group 17; 8.7% for group 12. The only layer with a comparable high proportion of beakers is group 19 which is dissimilar in its content, date range, and fragmentation, with very few joining sherds. The comparative figure for beakers from group 13 at 28.9% highlights the peculiarity of that deposit.

Twenty-six individual beakers were identified on the basis of rims alone, of which 15 were of the cornice-rimmed type, as no 143; two were plain-rimmed beakers as Gilliam 77, 79 etc, seven were indented types with curved rims, either plain or decorated with scales, as nos 146, 147, and one waisted beaker, no 148, occurred (Figs 31–2). Apart from the scale-decorated indented beakers which may start a little later, all of these could be current in the late 2nd to mid 3rd century. Only one fragment from a possible funnel-necked beaker of later date was found in colour-coated ware, although a fragmentary grey rim, no 183, may have come from a coarse ware copy (Fig 32). Some sherds from colour-coated mica-dusted beakers also occurred, one of which had a plain rim from either a plain or funnel necked beaker; one of the mica-dusted sherd had a rouletted zone, possibly from a plain rimmed beaker (as Howe et al, fig 3, no 34).

The only other colour-coated sherds, apart from fragments of two boxes and three box lids, consisted of the large base, no 152 which, being colour-coated internally may have come from a large beaker (as in PK, no 114), but a jug cannot be excluded (compare the grey Nene Valley, Howe et al, fig 2, no 14), two body sherds from a flagon with a grooved body very similar to one from GK, and a jug base (Howe et al, fig 6, nos 64, 65). Meagre though the evidence is, the number of beakers with a date range ending about the middle of the 3rd century suggests that jugs may appear about that period. A fragment of a probable cream jug occurred, and grey jugs in the Nene Valley may support an earlier date for colour-coated versions.

The cream bowls with painted flanges, nos 155 and 156, with the oxidized version, no 157, seem to occur fairly commonly in Lincoln in layers running into the 3rd century. The unusual grey bowl, no 159, a unique example, is curiously like bowls imported from North Gaul, several examples of which are known from Caister-on-Sea (in layers with more 3rd century pottery; Darling 1993, fig 138) and New Fresh Wharf, London (Richardson 1986, 1.31–4), but differs both in fabric and the absence of the burnished decoration characteristic of the Gaulish ware. Also unique is the bowl, no 165, again a type well known at Caister-on-Sea, frequently in fabrics consistent with BB2, and the bowl or dish, no 175, which could be a later form.

The other bowls and dishes of BB type are similar to the forms in the rampart heightening group 11, although the forms of the dishes, nos 171, 172 and 174 may be viewed as more 3rd century (Fig 32). Bowls and dishes, where decorated, mostly had intersecting arcs. Of the 20 bowls of BB type 17 were the flanged rimmed variety, as nos 160–162; of the 20 dishes identified on rims, 16 were plain types including five showing a thickened rim, as no 174.

The jars include three examples of a type with undercut rim, nos 180–182, the last being rather distorted. Of the 20 identifiable jar rims, twelve were of BB type as nos 186, 188–191, several of which seem to be 3rd century types. The heavy handled jar, no 184, is also common in 3rd century layers.

The rubbish from JO group 12 is also distinguished from that in group 11 in having Dales ware, which accounted for 6.5% on weight of the pottery (excluding amphorae and mortaria), although most of the sherds probably came from a single jar. An unusual form in the same fabric is the lid, no 193, decorated with a burnished wavy line. If the rubbish was appreciably after the mid 3rd century, more Dales ware could be expected, together with sandy grey copies.

The latest rubbish appears to date to about the middle of the 3rd century, although most seems earlier in date, and very similar to the rubbish in the main rampart heightening layers, group 17.

**Group 13 (SQ, TM, TH)**

The samian from both the underlying layers, TM and TH, both included Antonine sherds, as did that from SQ which also produced two East Gaulish sherds dating into the 3rd century. A stamped mortarium came from SQ (p 108, no 5, Fig 42, no 553, of mid 2nd century date.

These layers together produced only just over 300
forms were from indented beakers. Evidence for beaker sherds 60% which could be attributed to sherds alone were of funnel-necked type. Of the eras, where 13 of the 21 beakers identifiable on rim rubbishlayersoccurredwiththecolour-coatedbeakerto only 9.4% (weight). A further contrast to other rampart layers, late shell-tempered sherds amounted 17 at 1.7% and group 19 at 4.6%. Even in the upper freak figure since only one jar was involved), group be contrasted with 6.5% in group 12 (probably a sherdseventy-two). Among the coarse pottery included a sherd of Much Hadham ware, no550, stamp no 2). Mancetter/Hartshill pottery was also found (Fig42, mid 3rd century. A stamped mortarium from the 160–90, and nine East Gaulish sherds of late 2nd to Antonine sherds, with a stamp (p 77, no 23) of AD below that ingroups 12, and 17, but much the same group 12, the average sherd weight being only 14.7g. The rubbish here was less fresh and very few joining sherds occurred. Joins were recorded with group 19, which immediately overlay GT, and the site records suggest that under-exavication caused contamination of GT. There were also sherds of the same vessel (no 197) in IU, the widened wall construction trench, group 16. The dated content links this group with groups 16 and 20A (p 58).

The samian formed only 7.8% of the total pottery (excluding amphorae and mortaria), considerably below that in groups 12, and 17, but much the same as in group 19. This included Central Gaulish Antonine sherds, with a stamp (p 77, no 23) of AD 160–90, and nine East Gaulish sherds of late 2nd to mid 3rd century. A stamped mortarium from the Mancetter/Hartshill potteries was also found (Fig42, no 550, stamp no 2). More importantly for the dating of the layer, the pottery included a sherd of Much Hadham ware, almost certainly from a handled beaker or similar necked vessel, with vertical burnishing. Hadham ware usually occurs in Lincoln in layers either stratigraphically late Roman or dated by other late pottery and/or coins, although arrival of some types in the 3rd century is suspected. Moreover the layer contained a high proportion of late shell-tempered sherds (11% weight), including at least six Dales ware jars and the late bowl form, no 212. This may be contrasted with 6.5% in group 12 (probably a freak figure since only one jar was involved), group 17 at 1.7% and group 19 at 4.6%. Even in the upper rampart layers, late shell-tempered sherds amounted to only 9.4% (weight). A further contrast to other rubbish layers occurred with the colour-coated beakers, where 13 of the 21 beakers identifiable on rim sherds alone were of funnel-necked type. Of the beaker sherds 60% which could be attributed to forms were from indented beakers. Evidence for

**Rubbish layer GT, group 14**

This was a comparatively large layer (734 sherds; 11.544 kg) but was notably more fragmented than the rubbish layer on the other side of the wall, group 12, the average sherd weight being only 14.7g. The rubbish here was less fresh and very few joining sherds occurred. Joins were recorded with group 19, which immediately overlay GT, and the site records suggest that under-exavication caused contamination of GT. There were also sherds of the same vessel (no 197) in IU, the widened wall construction trench, group 16. The dated content links this group with groups 16 and 20A (p 58).

The samian formed only 7.8% of the total pottery (excluding amphorae and mortaria), considerably below that in groups 12, and 17, but much the same as in group 19. This included Central Gaulish Antonine sherds, with a stamp (p 77, no 23) of AD 160–90, and nine East Gaulish sherds of late 2nd to mid 3rd century. A stamped mortarium from the Mancetter/Hartshill potteries was also found (Fig42, no 550, stamp no 2). More importantly for the dating of the layer, the pottery included a sherd of Much Hadham ware, almost certainly from a handled beaker or similar necked vessel, with vertical burnishing. Hadham ware usually occurs in Lincoln in layers either stratigraphically late Roman or dated by other late pottery and/or coins, although arrival of some types in the 3rd century is suspected. Moreover the layer contained a high proportion of late shell-tempered sherds (11% weight), including at least six Dales ware jars and the late bowl form, no 212. This may be contrasted with 6.5% in group 12 (probably a freak figure since only one jar was involved), group 17 at 1.7% and group 19 at 4.6%. Even in the upper rampart layers, late shell-tempered sherds amounted to only 9.4% (weight). A further contrast to other rubbish layers occurred with the colour-coated beakers, where 13 of the 21 beakers identifiable on rim sherds alone were of funnel-necked type. Of the beaker sherds 60% which could be attributed to forms were from indented beakers. Evidence for

**Robber trench of wall LO, group 15 (HF, HG, IG, LT)**

Only 173 sherds came from these deposits. The exceptional quantity of samian in proportion to coarse pottery from IG is largely due to the vagaries of the small sample, particularly three East Gaulish sherds. These included two stamps (p 78, nos 43 and 44), both late 2nd or early 3rd century. The small sample also produced exceptionally high figures for colour-coated wares, largely due to the beaker, no 216, 55% of whose rim survived. The same group also contained a single Dressel 20 rim, Fig 49, no 594. The mortaria included a Mancetter/Hartshill vessel, Fig 43, no 554 from IG, and a Nene Valley vessel from HG, Fig 43, no 576.

HG was the only layer with other pottery worth illustrating. The colour-coated beaker, no 216, is one of the latest of that form, probably slipping into the 4th century; the bowl, no 219, can be paralleled at the Rookery Lane kiln (Webster 1960, fig 3, no 31); the bead-and-flange bowl, no 220 and the dish, no 221 would both appear to be of 4th century date. Only a few sherds of late shell-tempered ware occurred, probably from Dales ware jars. A fragment of an oxidized closed form with painted decoration, almost certainly from the same vessel as the painted sherd from GJ (Fig 51) came from IG.

**Construction trench for widened wall, group 16 (NZ, IU, GH, OH)**

Extensive joining sherds occurred between the layers of this trench, and the pottery is therefore considered
as a group. It had joining sherds with groups 17, 18 and 20A, and probably also with group 14.

This group comprised 873 sherds, 15,163 kg. The samian amounted to 1,117 kg of which only 40g (4 sherds) were East Gaulish, dated to the first half of the 3rd century. Two Central Gaulish stamps dated to c AD 135–175 occurred (p 78, nos 45 and 49). Mortaria sherds were from the Mancetter/Hartshill potteries, or possible local sources.

There was a significant quantity of indented colour-coated beakers, apart from cornice-rimmed types, several sherds from penticne moulded beakers, and two beakers decorated with white contrasting barbotine. Flagons and/or jugs (one decorated with white paint) occurred, although the only rim was from a jug. Later colour-coated forms were represented by the imitation samian form 38, no 227 and the dish, no 241. The quantity of colour-coated beakers and/or flagons, boxes etc was low at only 7.4% weight, 10.4% EVEs, being comparable with the material from the upper rampart.

Many of the reduced fabric vessels are types seen in the large rampart dump layers, but include late 3rd to 4th century bowls, as nos 233 and 234, and the heavy rimmed bowls, nos 235, 236 and 238 are fairly rare (see Rookery Lane kiln, Webster 1960, fig 3, nos 28–32). Sherds from grey indented beakers occurred as well as beakers with notched cordons (as no 206 from GT). Late shell-gritted Dales ware jars accounted for 3.6% of the pottery (excluding amphorae and mortaria); a sandy copy also occurred. Sandy red-brown flanged vessels, as in GT and GR (Fig 39, nos 443–445) were also found. Although some late beaker forms occur, there is little evidence to take the date of this fill far into the 4th century.

**Rubbish dump group 17 (GI–GK)**

The potential value of these three layers which, although excavated as separate layers, were considered during excavation as contemporary dumping, was obvious. Analysis suggests that the pottery was dumped over a short period, as one operation, and derived probably from a rubbish deposit of comparatively restricted date-range. The bulk of the pottery fits a range of late 2nd to mid–late 3rd century, although the rubbish was undoubtedly deposited on the rampart in the 4th century. This dating is confirmed by the glass from these layers (p 139). The lack of information about 3rd century pottery in Lincoln, the large size of the sample, its apparent ‘freshness’ and low fragmentation suggested that it should be fully recorded, and published as a group.

The average sherd weight showed it to be less fragmented than the published late group from The Park (Darling 1977a), particularly significant in view of the more numerous fragile colour-coated beakers. The average sherd-weight of samian was also higher than in other layers, and its proportional occurrence was closer to that in the earlier rampart layers below than to the later deposits above (see glass report, p 138). Similar distinctions were obvious when the colour-coated wares from various rampart periods were compared both in terms of the proportion of the total pottery and fragmentation. Stratigraphically it is possible that this deposit was merely the start of renovation work on the rampart; the redeposition of a rubbish dump as an entity onto the rampart would seem to be a practical way to start the heightening process, to which would be added later, and perhaps more contemporary, rubbish as the work proceeded. This also demonstrates the particular hazards of dating defences from single sections across them. But these layers, GI–GK, are unique ceramically and the remarkable character of these layers is also borne out by the animal bone report, which suggests that much of this rubbish must have come from a dump used by a slaughteryard (p 173), and its deposition was comparatively rapid.

**Comparisons with other deposits**

The large size of the sample from group 17 makes comparisons with other layers difficult. The distinctive content of the group in terms of date, fabric and function has been demonstrated (p 58), and the animal bone report has highlighted the distinctly different nature of groups 17 and 12. The group is closer in date and content to the earlier deposits, but clearly came from a different source.

**The pottery content**

The bulk of the pottery came from GJ and GK, the latter being the lowest layer. Joining sherds were recorded between these layers and there does not seem to be any appreciable difference in their content. Stratigraphically the layers are equated with SL (group 18) in Area III, and there was a joining sherd connection with GJ; drawn vessels from SL have therefore been included. The sample from group 18 is relatively small, and some disturbance is suspected in that area on ceramic grounds. Although group 18 contained more reliably 4th century pottery, including a sherd of Much Hadham ware, two pentine colour-coated beakers (see no 291), a stamped bossed sherd (Fig 52), and a late lid-seated jar (no 400), most of the pottery was similar to that from GI–GK, and only occasional vessels have been illustrated from this layer (illustrated vessels from SL: nos 266, 269, 279, 280, 291, 292, 316, 368, 400 and 423).

Cream flagon rims occurred only in GK which produced nine separate rims, all of the same type as nos 252–254. The colour-coated flagons, nos 256 and 257 of 4th century date came from GJ, and the jug no 258 which may be an earlier form was from GK. A minimum of 90 colour-coated beakers were recorded (based on rim sherds), of which approximately 40% were cornice-rimmed types (as nos 264–272), 10%
were plain-rimmed types (as nos 274 and 276), and indented beakers with curved rims (as nos 281, 282) accounted for over 31% (see p 97). The later types of colour-coated beakers with funnel necks (as nos 283, 284) were barely represented at about 10%. Plain beakers as nos 275, 276, 278 are likely to be of similar later date. Apart from the pentice beaker from SL, no 291, the relatively thick rim no 286 may be one of the later types. Over 80% of the colour-coated beakers were therefore of types which can be broadly dated from the late 2nd to the mid 3rd century, although some could be viewed as later examples of their types, as no 269 (from SL). The coarse ware beakers, nos 298–304, reflect the same basically 3rd century dating, no 304 being the only later type with its funnel neck.

The colour-coated bowls, nos 305–308, are all types which can be expected to start in the 3rd century, and the flanged bowls such as nos 310 and 311 appear to be relatively common 3rd century types. The bowls of BB type, whether in BB1 fabric or local copies, are similar to the beakers in their consistently 3rd century date range. A count based on separate vessels identified from rims produced approximately 138 bowls, of which 79% were of the flange-rimmed type as nos 317–330 (the EVEs figure based on all the pottery is 11.6%, a high proportion not paralleled by any other layer). The only bowl of BB type likely to be later in date is a single example from GJ, no 334, although nos 332 and 333 appear to be types which occur in later 3rd to 4th century layers in Lincoln. Although the occasional example of lattice decoration occurred, nearly all were decorated with intersecting arcs, common in the later 2nd century.

The dishes, of which approximately 120 could be identified on the basis of rim sherds, were mostly of the plain variety as nos 351–360, accounting for over 53%. The rest of the dishes were almost equally divided between those with thickened rims, as nos 361–367, and the grooved-rim variety, nos 343–350, although the latter were commoner here than in other layers, and the type may not extend much beyond the early 3rd century. Where decorated, it was mostly with intersecting arcs, and basal decoration was consistently spiral-scribbles.

The wide-mouthed bowls seem mostly of 3rd century types, although no 379 has an exceptional rim-form and internal decoration, which is often a later feature.

About 148 different jars/cooking pots were identified, of which over 60% were of consistent BB type as nos 409–424 (as with the BB type bowls/dishes, these layers produced unequalled quantities, the EVEs totalling 16.5% of all the pottery). Most of the rest of the jars occurred as single examples, the only appreciable single types being relatively simple rims as nos 386, 387, 391 (about 7%), and curved rims as nos 393–395 (over 10%). The earlier type of lid-seated jar such as no 397 was represented by six examples (4%), and two jars of Dales ware type in sandy fabrics came from GJ. No examples of the late lid-seated jar came from GI–GK, and the illustrated example, no 400, is from SL. It may be emphasized that this is the only example of these jars from deposits pre-dating the late rubbish group (Darling 1977a) at The Park. The unusual painted sherd from a closed form and the stamped sherd (Figs 51–2) could be contemporary with the deposition of the group.

Shell-gritted wares were barely present, and apart from eleven Dales ware jars (from GI and GJ), the only other rims were the simple types of nos 404 and 405. Shell-gritted sherds accounted for less than 2% of the total pottery from GI–GK (whether measured on count, vessel equivalent or weight), which would seem abnormally low for a group of late 3rd to 4th century date, further emphasizing the earlier date bias.

All the mortaria, apart from a single sherd from the Swanpool kilns (Fig 43, no 588) came from the Mancetter/Hartshill potteries. These included two stamped mortaria (pp 111–12, nos 1 and 3; Fig 42, nos 549, 551) of 2nd century date, and most of the other mortaria (Fig 42, nos 555, 557, 559, 561; Fig 43, nos 568, 571 and 572) were of 2nd to 3rd century date, with only one, no 572, likely to be appreciably later, running into the 4th century. No mortaria from the Nene Valley was present.

The amphorae include several unusual sherds of sandy red-brown ribbed type (MRRA) which are rare and consequently difficult to date precisely (Fig 49, nos 603–5). There is, however, no reason to believe that these are necessarily later than the 3rd century, since very similar sherds have been recognized elsewhere in Lincoln in late 2nd to 3rd century layers (Darling 1984, 73, fabrics 204A & B). There is a North African amphora (Fig 49, no 600) and an unusual amphora was represented by body sherds with a painted depinto inscription (see Fig 49, no 606).

The pottery, as discussed above, strongly suggests that this rubbish deposited on the rampart probably came from a single rubbish accumulation of relatively confined dating. The evidence from the animal bones and glass supports this view. There is very little that can be securely dated to the 4th century from group 17 where, apart from one sherd of a Swanpool mortarium and the painted sherd (Fig 51), there are few sherds which could not be of 3rd century date. In broad terms, the dating is 3rd century, probably more early to mid rather than late, although there are problems at both ends: the quantity of samian, mostly of Antonine/late 2nd century date, further emphasizing the earlier date.

The scarcity of Dales ware seems consistent with the rest of the coarse pottery. Dales ware usually occurs in Lincoln in layers which would, on the basis of the other pottery, particularly colour-coated wares, be dated from the mid 3rd century. Most of the colour-coated wares in these layers can be viewed as early to mid 3rd century, and similar dating applies to the large quantities of BB types. The...
common appearance of quantities of 2nd century samian in early 3rd century contexts suggests that the probable disparity between the ‘lives’ of samian and coarse pottery vessels is relevant (Darling 1984, 50).

Rubbish layers group 19 (GR/HY)

Group 19 and FM have been illustrated together to avoid duplication, because they were of similar composition and probably stratigraphically related. They are, however, discussed separately since the stratigraphic relationship is not proven; GR/HY has been kept apart for quantification purposes from FM which fits the upper rampart group 20A.

Rubbish from GR

The ceramic composition and proportion of samian to coarse pottery of this layer is similar to that of group 14 (with which joins occurred probably due to underexcavation). It was less fragmented, and its date content is clearly later (p 58).

The decline in the quantity of samian proportionately is evident in this layer, and although mostly Antonine Central Gaulish sherds, East Gaulish wares accounted for 26.8% (on weight) and included a form 37 from Rheinzabern of AD 200–260 and two stamps, nos 14 and 41 (pp 77–8 nos 15 and 40). Remarkably, apart from one sherd from the Mancterter/Hartshill potteries, all the mortaria, including four rims, were from the Nene Valley potteries (Fig 43, nos 573, 574, 578). The range of beakers included more obviously 4th century types, some with painted decoration, and a large proportion from indented types; funnel-necked beakers accounted for an exceptional 83% EVEs. The only drawable sherd from a North Gaulish pentice beaker came from GR (Fig 39, no 439). Several sherds from colour-coated flagon occurred, included one sub-rounded handle fragment.

The number of fragments of flange-rimmed sandy red-brown vessels with non-functional bases, as seen in group 14 above, was notable. These seem to be unique to Lincoln and although vaguely related to copies of samian form 38 (also occurring in the same fabric, see no 447), their function is unclear, whether as small bowls resting on their flanges or lids.

The BB1 wares and their derivatives include late bead-and-flange bowls (accounting for 7.2% EVEs of all pottery; cf 9.6% EVEs from group 20), dishes, and cooking pots, particularly no 475 (including sherds with obtuse latticing). The bowls, nos 448–451 and the collar-necked jar, no 469, can be closely paralleled at the Rookery Lane kiln (Webster 1960, fig 3, nos 15 and 28–32) and the wide-mouthed bowl, no 461, could also be from that kiln. Three Dales ware jars and a sandy copy (as made at Rookery Lane, Webster 1960, fig 3, nos 44–47) occurred. The variable nature of late shell-gritted fabrics led to the erroneous inclusion of the jar, no 473, an intrusive 11th century vessel in Lincoln fine-shelled ware. This came from a post-Roman pit cutting GR. The percentage of shell-tempered fabrics is close to that from the lower part of the upper rampart, group 20A but well below that from group 20B. No sherds from the late lid-seated jars etc were found in group 19. Although the layer is undoubtedly 4th century in date, there would seem to be no evidence to take it much beyond the early 4th century. If FM is stratigraphically the same layer, the evidence from there would also support a later date.

Rubbish from FM

The size of FM was similar (at 463 sherds, 8.072kg); the only joining sherds were with groups 17 and 20A. The proportion of East Gaulish ware was exceptionally high at 37% of the samian; hardly any samian came from later layers above. Due to its position in the stratigraphic sequence, the quantification for FM is included in the overall figures from the upper rampart (group 20A). The number of colour-coated beaker sherds is proportionately lower than in the earlier groups, and the rims indicate they are mostly of the funnel-necked variety. The painted plate, no 441, is a notable late vessel, and may be from the Crambeck kilns. The footring base of a bowl probably from the Swanpool kilns occurred in the unillustrated pottery, as did a sherd of Much Hadham ware, and a probable sherd of the late fabric CRSA was also found. Late shell-gritted ware was confined to three Dales ware jars, and accounted for 4.2% of the pottery on weight (excluding amphorae and mortaria). This low percentage and the absence of shell-gritted lid-seated jars, dishes and bowls is notable and suggests an early to mid 4th century date.

The upper rampart, groups 20A and 20B

Due to the impossibility of relating rampart layers between separate trenches, the only layers to be examined separately are the extraordinary large layers, GL–GK group 17 (associated with SL, GR and FM) and GR group 19 and SL group 18 as outliers from the main excavated sequence. Group 17 is unusual in size and content, but FM fits into a sequence and, despite being examined separately above, is considered in any statistics with the upper rampart. These upper rampart layers produced 1501 sherds, 31.4 kg, and therefore represent a reasonable sample for comparison. It has been split into two sub-groups, 20A and 20B.

Three main features can be discerned: the declining occurrence of samian and colour-coated beakers, and increasing finds of late shell-gritted wares. If the samian and shell-gritted wares are expressed as percentages of the total pottery based on weight (excluding amphorae and mortaria), it appears as under, listed from the bottom upwards:
The average sherd weight of the samian does not vary significantly between these layers, so the decreasing quantity based on weight is genuine, and a useful guide to the residual content of layers. The increased proportion of shell-gritted ware is notable in the last layers, particularly when compared to the quantity from the large group 17 where Dales ware sherds accounted for only 1.7% and from group 19 at 4.6%.

The colour-coated beakers are less easy to assess since the presence of a single beaker base can distort weight figures. The percentage based on EVEs of beakers from earlier deposits as groups 12, 13 and 14 was 18–19%; the lower group 20A contained 10.7%, which declined further in group 20B to 7.8%. Despite some residual sherds (cornice- and curved-rimmed types account for 11.4% weight, 28% EVEs), the quantity of beakers is clearly decreasing and the figures confirm earlier guesses (Darling 1977a, 24).

Where forms can be identified from rims and/or body sherds, these layers produced mostly indented types and a higher proportion of pentice beakers; painted sherds and those with contrasting colour barbotine were also evident, and a feature of bases was the small offset on the underside as seen in Rhenish beakers and their copies. This feature does not seem to appear at Lincoln until definitely 3rd century (perhaps mid 3rd) or later layers. Many of the sherds are thicker walled and the fabrics less clean, often more light brown than the white to cream of the earlier beakers. The analysis of the beakers changed between the two groups, the upper group 20B containing 60% pentice beakers, against a more varied range from group 20A. This leads into the later 4th century range, as seen in the late rubbish group 21 (Darling 1977a, and below, this page) where the depleted beaker assemblage is divided between funnel-necked types and pentice beakers.

The appearance of coarse ware copies of beakers may also be a useful dating feature (see no 480, from a pentice beaker, from IF); a conservative date for sherds from grey indented beakers should be late 2nd to early 3rd but these seem commonest about the mid 3rd century. It is worth noting that the limited range from the Rookery Lane kiln contained no beakers, but the Swanpool potters were producing coarse copies, probably of pentice beakers (Webster and Booth 1947, fig 3, nos C13–15; fig 5, no 6).

The rest of the coarse pottery from these layers is as would be anticipated from fairly late Roman layers, but the dating emphasis would seem to lie in the mid 4th century (although analysis of the forms suggests quite a high residual content, as seen with the colour-coated beakers, flanged bowls still accounting for 5.6% EVEs of all pottery). The late shell-gritted wares are all Dales ware jars except for a deep dish, no 510 from HK. This layer produced a noticeable number of bead-and-flange bowls (which represented 9.6% EVEs of all pottery from the group), as was also the case with another good late group from IF, where they accounted for a relatively high proportion of the vessel equivalent figure, the sherds being comparatively large, fresh and with many joins. Only one sherd of Much Hadham ware occurred (in GA, probably from a beaker).

Some curiosities occurred: mica-dusted vessels such as the bowl, no 495 (FT), the dish, no 508 (GA), which are assumed to be residual from the late 2nd to early 3rd century; parian fabric, occasional sherds and the bowl, no 496 (IF), which emphasizes the continued use of the fabric but for later forms (Darling 1984, 80). Because of the variability and lack of distinction in the Swanpool fabrics, the attribution of vessels to that kiln group rests on form and finish, rather than fabric. It is probable that some of the bead-and-flange bowls, for instance, came from the Swanpool kilns, but other sources are possible. There are some probable Swanpool products in these later rampart layers, but it is becoming increasingly possible that much of the production was later than had been thought. Most of the pottery from these layers would be dated, on various criteria, mid to late 4th century, and yet, Oxfordshire ware (fairly common in immediately post-Roman layers) does not appear, the identifiable Swanpool products are not numerous, late lid-seated jars are absent etc. As a group, it occupies the middle-ground between the large group 17 and the late rubbish group 21 (Darling 1977a, and below), but regrettably would seem to have a higher residual content. Accordingly, although it provides useful pointers for future work and possible dating features, more large groups of this period are needed, particularly for the assessment of the major Swanpool industry and its date range.

### Late rubbish dump group 21

The pottery from this dump on the berm outside the gate was published (Darling 1977a) before present quantification methods had been formulated, and the publication relied upon estimates of vessels.
based on rim sherds, and simple sherd counts (ibid., 20). The opportunity has been taken to bring this group into line with the rest of the pottery from the site, so that it can be used comparatively.

This group is approximately half the weight of the main dump group 17, and turns out to be less ‘fresh’, with a lower sherd weight and higher brokenness measure. High EVEs resulting from strong flagon necks should, however, be borne in mind, since flagons are barely represented in the late group, whereas they accounted for 8.2% on EVEs of group 17.

Some of the changes in the pottery assemblage in the late period can be observed from the fabric analysis (p 61), such as samian, flagon and BB1 fabrics virtually disappearing as residual sherds, and increased occurrence of late shell-gritted wares. The figures for colour-coated fabrics mask a greater incidence of late bowls/dishes and the decline of beakers (see p 64), and here local colour-coated bowls/dishes from the Swanpool industry (accounting for a further 2.6% weight and 3.6% EVEs) emphasize one of the differences between this late group and earlier deposits. Definitely identified oxidized Swanpool vessels come to 1.6% weight, 2.4% EVEs. Identification of grey Swanpool vessels depends upon form but it is clear that the share of the assemblage taken by ordinary grey vessels has decreased, not only because of the increased number of shell-gritted vessels, but also due to the appearance of coarser grey vessels of LCOA, which accounts for 10% weight and 13% EVEs. Rare late wares such as Much Hadham, Oxfordshire red colour-coated and Alice Holt types are also represented.

This is a very different assemblage in terms of fabric to those from earlier contexts, including the upper rampart layers, and its value as a pottery ‘datum’ is established. The group has been fully discussed elsewhere (Darling 1977a), although the opportunity has been taken to include four further vessels, nos 528, 530, 538 and 542, to extend the information.

The grey Romano-Saxon bowl, no 530, is notable. A number of Romano-Saxon vessels are known from Lincoln, all from either late Roman or post-Roman contexts, and nearly all necked bowls, as here, although a closed jar form and a handled beaker also occur (the author’s drawings from various sites are conveniently published in a survey of these vessels, Roberts 1982, pl 14, nos A30.3, 30.6, 30.8, pl 17, no B19.2, pl 18, nos B30.4–30.6, pl 19, nos B30.8–10, 30.14 & 18; pl 20; nos B36.1–2, pl 29, no C30.4 necked ?jar, pl 35, no D20.1, possibly a handled jar rather than a Romano-Saxon vessel; pl 40, no D26.1 jar, p147, no I30.1 & 2, handled jugs/beakers). Virtually all the known vessels from Lincoln are in standard grey fabrics, likely to have come from the Swanpool industry (ibid., pl 14, no A30.7 and pl 18, no B30.7 from the kilns area), although one oxidized sherd (which is not a Much Hadham fabric) is known, (ibid., pl 18, no B30.4). The restricted range of forms is notable when compared to other sites, particularly those to the south of Lincoln. No Much Hadham Romano-Saxon vessels are known but this may be simply due to the rarity of the wares, occurring only in late layers. The painted flask fragments, no 528, are in a fabric attributable to the Swanpool industry (Webster and Booth 1947, fig 3, nos B4–11; some of these may not be kiln products).

The remaining vessels on Fig 41 came from the road layers (see below), miscellaneous late Roman and post-Roman contexts. Most can be regarded as of late Roman date, but the thin-walled cream painted bowl, no 537, came from an unphased layer and should be of much earlier date; this might fit into an earlier fine vessel production period, as for instance, the early to mid 2nd century when micadusted wares, etc, were being made. It could, for instance, be from a copy of a samian form 38 (as an example in mica-dusted fabric from Verulamium, Wilson 1984, fig 100, no 2367, dated c AD 75–130).

Similarly the bowl, no 533, came from a pit dug into the berm (KK) and, despite its late context, should belong to probably the late 2nd to early 3rd century (this is form H at the Roxby kilns, Rigby and Stead 1976, fig 67, nos 40–42; stratified at Winterton with Severan and later pottery; ibid, fig 85, no 127). This is, however, in a fine parianisi type fabric, and adds to the range of unstamped vessels in this fabric.

The colour-coated bowl, no 532, is an unparalleled form, almost certainly from the Nene Valley, and came from a late Roman context. The sherd suggests that the fracture is at the rim, which was possibly just rounded; there is no evidence to suggest an upward continuation of the vessel. The flanged colour-coated dish, no 539, is an addition to the known Swanpool repertoire and, as with other colour-coated vessels from the kilns, copies exactly the late Nene Valley form, although these dishes are comparatively rare, and rim sherds would easily be confused with the deeper bowl form.

The range of vessels in shell-gritted wares increases in the late Roman period and some are illustrated here to supplement those already published (Darling 1977a, figs 5 and 6, fig 7, nos 135–139). The heavy deep dish, no 541, is unusual, as are the jars/cooking pots, nos 542 and 545.

The rilled jars in SPIR fabric, originally thought to have been from the Alice Holt kiln area, occur only rarely in late Roman and post-Roman deposits; the only drawable rim came from a late road layer, and a more complete example from the St Marks site (unstratified) has been used for illustration. A body sherd also occurred in the late rubbish group. These are certainly not locally-made, and the source is unknown. Nearly all the known examples from Lincoln come from post-Roman contexts and apart from one body sherd, were all in oxidized fabrics with dirty cream external slips. It is thought that the use of oxidized fabrics for the Alice Holt jars started after AD 330 (Lyne and Jefferies 1979, 35). These jars are a standard late Roman form, directly comparable to the shell-gritted jars known from the Harrold kilns.
Road layers

Only 275 sherds, weighing 2.85kg came from the various road layers, the average sherd weight of about 10g demonstrating the high fragmentation of the sherds, most of which were very abraded, as were the animal bones (p 169). This sample is too small to produce significant results quantitatively, but the content of forms and fabrics is of interest, particularly since the road layers produced a quantity of late Roman coins. Swanpool colour-coated wares and sherds from Much Hadham and ?Alice Holt occurred, together with Swanpool mortaria, late lid-seated jars, shell-gritted jars and bowls/dishes etc. The shell-gritted wares accounted for between 11 and 12% of the pottery on weight and EVEs, whereas Nene Valley colour-coated wares formed only 7.5% on weight (beakers representing 45% of the fabric) and 2.6% EVEs, the latter attributable to bowls etc. No Oxfordshire red colour-coated wares occurred, and the samian, although representing only 3.9% on weight, produced an unusually high EVEs figure at 10.9%.

(6) Post-Roman pottery (Figs 53–4)

by Sarah Jennings and Christine Jones

A total of 4,076 sherds of pottery was recovered from the post-Roman deposits on the site, of which over half were Roman. The earliest post-Roman pottery contemporary with its deposition dated to the 11th century, and the latest surviving pottery to the 18th century (material of post-1800 date was discarded at the time of excavation). Much of the assemblage was residual, with Roman sherds being found even in post-medieval deposits. The residual Roman sherds have not been considered in any quantitative analysis of the pottery which has been based on a sherd count only. Many of the vessels were represented by single body sherds, and there were very few joining sherds either from the same or associated deposits. Although the amount of pottery in many of the post-Roman deposits was relatively large, many of the sherds of local wares cannot be closely dated; they are known to have been in production for a long period of time, often with little change in their basic fabric.

Despite the uninformative nature of much of the pottery the assemblage does provide some useful information and a number of unusual vessels which cannot be directly paralleled elsewhere in Lincoln.

Period 7: Saxo-Norman and medieval

A total of 3,575 sherds of pottery was recovered from this period, three-quarters of which were Roman. Some of the deposits in this period from Areas I (1970), III, and IV (1972) were of a similar nature. These consisted of pits, some of which were found overlying the rampart (Fig 18), and fills in the Roman ditch, and contained assemblages of very similar date. Although the individual groups did not contain many sherds, the pottery was typical of the 11th century, with a high percentage of Lincoln Fine-Shelled and Stamford wares (fabrics AO, D4, Kilmurry 1980, 205) and several sherds of Torksey ware. In Area III (1972), pit TP, containing one sherd of Lincoln Fine-Shelled ware, had been cut directly into the Roman road surface. The series of pits in Area II (1972) each contained five sherds or less, but these were typical of a 12th century date. Again Stamford wares (fabrics B3, G1, Kilmurry 1980, 205) were well represented, as were Lincoln Fine-Shelled ware and Local Early Medieval Shelly ware. In pit FV, apart from some Roman material, were five sherds of a Stamford ware spouted pitcher (Fig 53, no 1), fabric G, glaze 1 (Kilmurry 1980, 205). The robbing behind the north tower (RK) contained one of the larger assemblages of pottery, some 85 sherds in all, a quarter of which were Lincoln Fine-Shelled ware and a quarter Local Early Medieval Shelly ware. Several medieval rubbish pits in Area IV (1972), above the later rampart, contained a few sherds of pottery of 14th century date, which included some Potterhanworth ware and 14th to 15th century Lincoln Glazed ware. Above these rubbish pits in Area IV were several layers containing 14th century and 15th century material.

The later deposits yielded sherds of Late Lincoln Glazed ware and later Potterhanworth ware. The latest deposit in this sequence was UY, which underlies US, the wall of the building which is discussed below under Period 8. Included in this group of 14th/15th century deposits were two interesting sherds, one from layer WF: a sherd of Potterhanworth ware jar (Fig 53, no 5), with three lines of square roller-stamping on the exterior, parallels for which are not yet known. The other sherd, from cesspit WE, was from a Crowland Abbey-type ware bowl (no 6), in a pale pink fabric with a glaze and exterior stamp similar to those found in 10th to 11th century deposits from Lurk Lane, near Beverley Minster (Watkins 1991). Layer WM yielded two sherds of Paffrath-type ware which, although residual in this context, is not a common find in Lincoln; another sherd was also found residually in AY, Period 8, Area I (1970).

Local Saxo-Norman

An unusual residual sherd of Lincoln Late Saxon Sandy ware (Fig 53, no 2) from layer JL is in the form of a zoomorphic face which has not been paralleled elsewhere. The fragment has a finished edge at both the top and bottom, and as there is no sign of an attachment scar, it may have formed part of a handle or spout. The decoration comprises three elements, an applied strip, stamped ring-and-dot motif, and deeply incised lines; the surfaces have a light burnished appearance.
Period 8: Post-medieval

Of the 1,947 sherds of pottery from this period, over a third were Roman.

Five deposits overlying the heightened Roman rampart in Area II/V (1971) contained pottery of a similar date to those discussed in Area IV (1972) Period VII, although the sequence in this case continued to the late 16th century. These layers (JJ, JH, JL, JK, JC) relate to the construction levels of the early post-medieval wall (JM). Although only two of the five deposits contained more than five sherds, there were examples of early Glazed Red Earthenware and local early post-medieval wares, as well as local 16th century wares in the latest deposit (JC).

In Area IV (1972) were a number of deposits associated with the building which overlay the medieval pits cut into the rampart north of the gate (Fig 18). Of these only US contained any pottery: one sherd of Lincoln Fine-Shelled ware, which must be residual. Sealed below US was layer UY, which contained the handle of a Raeren mug. Since this is very unlikely to date before the last quarter of the 15th century, the construction of the building cannot be earlier than the late 15th century. Layer UT,
above US, had accumulated during the lifetime of the building, and contained pottery of mid to late 17th century date. Layer UX, the destruction layer of wall UD, yielded a sherd of Local Blackware, which is likely to date to before the late 17th century at the earliest. Therefore, the date of the construction of the building must be after the late 15th century, with occupation ceasing in the late 17th century.

In Area I (1970), the deposits associated with the robbing of the north tower contained an unusually large amount of pottery, all dating to the 16th century. Among the wares present in these layers were Local Post-medieval fabrics, and Toynon/Bolingbroke wares, as well as a number of German stonewares including Raeren-type, Langerweh-type, and Frechen-type. Amongst the material from layer QT was a fine example of a Bartmann jug (Fig 54, no 24).

Also from Area I were the two latest fills of the Roman ditch discussed in Period 7. The earlier of these, layer BW, contained pottery of a 15th century date, including an overfired rim of a jar in Late Lincoln Glazed ware (Fig 53, no 18), and a lid in a Local fabric (Fig 53, no 19). From AW, the latest of the ditch fills, came sherds of an early 17th century date, including iron-glazed Red Earthenware and Late Cistercian ware.

The latest deposits on the rampart in Area IV (1972), overlying both the medieval rubbish pits of Period 7 and the Period 8 structure, contained a wide range of pottery, dating from the 16th to mid 18th centuries. These dates are based on the presence of a number of wares, including Copper Bichrome, Glazed Red Earthenware, and Blackwares, with the later date being provided by Local Slipwares and Staffordshire Slipwares.

Layer UN, which although not related stratigraphically, was also in Area IV, and contained part of a handle from a chafing-dish (Fig 53, no 12) in a Local Post-medieval Fine ware. Parallels to this have been found elsewhere in the city, notably at the site of the School of Art, Monks Road, Lincoln. A similar chafing-dish from there has been compared by Hurst (1966, 55–6) with examples from south-western France, and is believed to be a local copy of these, dating to perhaps the middle of the 16th century. A similar date could be expected for the example from The Park.

The latest deposits from the site, IW and JD, were associated with the robbing of the colonia wall and date to the first half of the 18th century. Both contained sherds of Glazed Red Earthenware, with 42 examples in IW (Fig 54, nos 28–30, 32, 33). Also in this deposit was an unusual Staffordshire speckled manganese fluted bowl (Fig 54, no 35). The 18th century date for these layers is based on this and the presence of the local wares. Associated with these deposits, but not assignable to a stratigraphic sequence, was layer IB, which contained a sherd of a Local Post-medieval Fine ware small strainer (Fig 53, no 15), with a bright copper-green glaze. It represents the first example of such a vessel to be found in Lincoln.

A number of intrinsically interesting sherds occurred in unstratified deposits on this site. These included a basket handle in a Bourne D fabric (Fig 54, no 22; Healey, 1975, 105) and the spout of a face-jug in Late Lincoln Glazed ware fabric (Fig 53, no 9). Also found in unstratified contexts were two badly burnt vessels, one a lid (Fig 53, no 7) in a Lincoln Glazed ware of uncertain date. The other vessel was the handle of a north-western French jug (Fig 53, no 8; pers comm A Vince). The handle was a wheel-made, folded-over strip, pierced on the front; a 13th century date is likely for this vessel.

Conclusions

The limitations of the pottery recovered from the site make it difficult to draw many conclusions from the assemblage. It does, however, seem clear that there was intermittent activity on the site between the 11th and 18th centuries. This is further discussed in Part IVb (p262, below). The pottery evidence relating to the building in Area IV is slender, although a date for the life of the building is indicated as being between the late 15th century and the 17th century.

Catalogue of post-Roman pottery (Figs 53–4)

1. Stamford ware fabric G pitcher. Glaze 1 on exterior, patches on interior. Period 7 (FV)
2. Lincoln Late Saxon Sandy ware, possibly part of a handle. Decorated with applied thumbed strips, stamped ring-and-dot motifs and deeply incised lines. Period 8 (JL)
3. Local Early Medieval Shelly ware bowl. Sooted exterior. Period 7 (FV)
4. As no 3. Period 7 (FV)
5. Potterhanworth ware cooking pot. Unusual square roller-stamping; sooted exterior. Period 7 (FV)
6. Crowland Abbey-type small bowl. Pale pink fabric with small subrounded quartz inclusions and small iron flecks; yellow-brown to dark brown glaze on both surfaces. Unusual stamped motif, similar to examples from Beverley (Watkins 1991). Period 7 (FV)
7. Lincoln Glazed ware lid. Overfired dark green glaze on the dome. Unstratified
9. Late Lincoln Glazed ware face jug bridge spout. Reduced green glaze on exterior. Unstratified
10. Splash Glazed ware jug, probably not local. Period 8 (UZ)
11. 14th to 15th century Lincoln Glazed ware jug. Yellowish green copper glaze on exterior. Period 8 (FV)
12. Post-medieval Fine ware chafing-dish handle. Fine pale orange fabric; some copper-green glaze as the chafing-dish found at the School of Art, Monks Road, Lincoln (Hurst 1966, 55–6). Unstratified (UN)
Figure 54 Medieval and post-medieval pottery, nos 22–35

13 Lincoln Glazed ware jar. Spot of orange glaze on rim. Period 7 (EU)
14 Local post-medieval fabric. Reduced olive-green glaze on exterior. Period 8 (AT, RH)
16 Post medieval red ware bowl, unglazed. Period 8 (WF)
17 Late Lincoln Glazed ware bowl. Glaze with copper spots on lower part of interior. Period 8 (BW)
18 Late Lincoln Glazed ware jar, overfired. Unglazed. Period 8 (BW)
19 Lid, probably local. Unglazed. Sooted on rim edge and lower part of sides. Period 8 (BW)
20 Late Lincoln Glazed ware bowl. Glazed internally. Period 8 (BW)
21 Low Countries Red Earthenware bowl, 16th century. Glazed internally, score marks in glaze; sooted exterior. Period 8 (AT)
22 Bourne D ware. Slipped exterior and top 5 cm of interior, patchy glaze. Unstratified
23 Cistercian ware. Glazed exterior; parts of two applied white clay pads survive, one on either side of the handle. Period 8 (AL)
24 Frechen-type stoneware. Period 8 (QT)
25 Tin-glazed earthenware. London style decoration of blue and light purple on a white ground. Period 8 (IW)
26 Glazed Red earthenware (GRE). Period 8 (AC)
27 GRE. Glazed on both surfaces. Period 8 (FI) 28–30, 32, 33 GRE. Period 8 (IW)
28 GRE. Period 7 (RH)
29 GRE. Period 7 (UD)
30 Staffordshire manganese speckled ware fluted bowl, probably oval. Period 8 (IW)

(7) Roman glass (Figs 55–57)
H E M Cool and Jennifer Price

Authors’ note: this summary report was drafted in 1986. References have been updated where appropriate. (* denotes fragments not illustrated)

The excavations at The Park produced 527 fragments of glass from a minimum of 96 vessels. The assemblage includes forms that were in use at various times during the whole Roman period but is dominated by those of the later 2nd and earlier 3rd centuries. Of the vessels identified 32% were types
only in use at the time, and a further 15% were ones whose use ran into that period. By contrast, types that had gone out of use by the mid 2nd century or which were of late Roman date are much more sparsely represented (13% and 16% respectively). The remaining vessels cannot be closely dated. The assemblage is a very useful one not only for showing which forms were current in the late 2nd and early 3rd centuries, but also for demonstrating how numerous cylindrical colourless cups (Isings Form 85b) were in comparison to other forms.

A full report on the assemblage will be found in the site archive. This summary is concerned mainly with the more diagnostic fragments. A fuller treatment of the Roman glass from Lincoln is in preparation (Price et al forthcoming).

Nos 1*, 6, and 12 (Fig 55) would have been in use during the mid 1st century or soon afterwards. No 1 is a polychrome pillar moulded bowl (purple and white) and no 12 may have come from a green Hofheim cup. Both of these forms are relatively common on Romano-British sites. The mould blown fragment no 6 appears to have come from a much rarer vessel. It is difficult to make a secure identification as the fragment is very small but it seems possible that it came from a beaker with mythological scenes, a form not hitherto identified from Roman Britain.

Forms in use during the Flavian period and earlier 2nd century include three colourless cast vessels (nos 3–5). No 3 came from a wide plate or shallow bowl, while nos 4 and 5 came from the relatively more common range of bowls with wide rims and footrings. Other tablewares in use at this time were tubular rimmed bowls and conical and globular jugs, represented here by nos 75, 76 and 81* and the handle fragments nos 84 and 84b* respectively (Fig 56). A slightly later form of tableware, the colourless wheel-cut beaker, is represented by no 11. These were most popular in the early to mid 2nd century.

Various of the blue/green containers would also have been in use during the later 1st and 2nd centuries. These include the bottle fragments nos 105–111 and the bath flask no 102 (Figs 56–7).

The different forms in use during the later 2nd and earlier 3rd centuries include cylindrical colourless cups (nos 12–43 & 65), stemmed and footed beakers (no 49), beakers with honeycomb trails (no 66), trailed and wheel-polished bowls (no 10), spouted jugs (nos 52, 53 & 82) and colourless wheel-cut bottles (nos 59, 60* & 62*). No 69, from a facet-cut bowl, may also belong to this period.

In the north-western provinces there was clearly a major expansion in the production of glass drinking vessels during the later 2nd century as colourless cylindrical cups occur in numbers that are unprecedented amongst comparable vessels in the late 1st and early 2nd centuries. This is demonstrated very well here; not only does the assemblage show the large numbers of cylindrical cups in use, but also how greatly they outnumber all of the other drinking vessels of the period. At The Park at least 25 of these cups were found, whereas only one example of each of all the other beakers and bowls could be recognised.

One of the cylindrical cups was decorated with a turquoise trail on the upper body (no 65). The use of polychrome decoration has rarely been observed in the cups found in Roman Britain. It may be related to the use of polychrome trails on the contemporary vessels with snake thread decoration, fragments from two of which were also found. One (no 63) was colourless with a blue trail obliquely scored in the normal manner. The other (no 64) was colourless with a self-coloured, leaf-shaped trail impressed with a waffle iron pattern. This type of decoration is much rarer than that using scored trails such as no 63. It occurs on a group of vessels decorated with bird and flower snakethread motifs thought to be of eastern origin, though the combination of the waffle iron impressions and the leaf-shaped motif has only previously been noted in Iberia.

The 4th century material includes at least six conical beakers (nos 51, 51b*, 113, 114, 115b* & 117), one hemispherical cup (no 112), one indented truncated conical bowl (no 50) and several rim fragments which could also have come from these forms of vessels (nos 115, 115c*, 116 & 118). All of these forms had cracked-off rims. Cups and beakers with fire-rounded rims from the 4th century are represented by nos 119 to 120b*. The presence of 4th century jugs or bottles is indicated by nos 123 and 124 but the forms cannot be identified.

Much of the glass found at The Park had been incorporated into the Periods 2 and 6 ramparts. The composition of the assemblages in these deposits is interesting. That in the Period 2–3 rampart seems to be made up of types that were in use at the time when the rampart was being erected, as if contemporary rubbish was being incorporated. By contrast, the assemblage in the Period 6 rampart contains very little material that would have been in use during the mid 4th century when it was being built. It is very similar to that in the Period 2–3 rampart though it contains a few later forms. This is presumably the result of earlier material being redeposited when the Period 6 rampart was being erected.

Catalogue of the Roman glass (Figs 55–7)

Cast

Colourless

All surfaces ground and wheel-polished

3 Rim of shallow bowl or plate. Straight side sloping in very shallowly with rounded rim edge. Wide wheel-cut groove on interior of rim. P70 G214 Period 8 (AL)

4 Lower body and base of bowl. Side sloping in steeply to wide lower body, flat base and base ring. P70 G374 Period 6 rampart? (SL)
Figure 55  Roman glass (selected) nos 3–53
**Blown**

**Mould Blown**

6 Body fragment of sports cup. Blue/green. Moulded pattern in high relief – part of head, upper torso and right arm of human figure with irregular indentations between arm and torso. P70 G344 Period 1 ground level for rampart (QG)

5 Base of bowl. Wide lower body; flat base with high base ring. P70 G276 Period 2 rampart lengthening (PK)

Blown

**Colourless**

39 Lower body and complete base of cylindrical bowl. Wide lower body; intermittently tubular pushed-in base ring; concave base, circular trail with pontil mark on underside. Base ring worn. P70 G174 Period 3 rampart lengthening (JO)

38 Lower body and complete base of cylindrical bowl. Wide lower body; intermittently tubular pushed-in base ring; concave base, circular trail with pontil mark on underside. Some wear on base ring. P70 G173 Period 3 rampart lengthening (JO)

37 Lower body and complete base of cylindrical bowl. Wide lower body; pushed-in tubular base ring; slightly concave base; circular trail with pontil scar on underside. P70 G62 Period 6 construction trench of widened wall (GH)

36 Lower body and complete base of cylindrical cup. Straight side with rounded carination to wide lower body; intermittently tubular pushed-in base ring; concave base, circular trail with pontil scar on underside. Side grozed. Base ring worn. P70 G1 Period 6 rampart heightening (GK)

35 Lower body and complete base of cylindrical cup. Vertical rim with fire-thickened edge; straight side. P70 G101 Period 6 rampart heightening (GK)

34 Rim of cylindrical cup. Out-turned rim, edge fire-rounded, perhaps from spouted jug. P70 G101 Period 1 (EG)

33 Rim of cylindrical cup. Out-turned rim, edge fire-rounded; straight side. P70 G57 Period 6 construction trench of widened wall (GH)

32 Rim of cylindrical cup. Out-turned rim with fire-thickened edge; straight side. P70 G106 Period 6 rampart heightening (GJ)

31 Rim of cylindrical cup. Slightly out-turned rim with fire-thickened edge; straight side. P70 G117 Period 6 rampart heightening (GJ)

30 Rim of cylindrical cup. Convex-curved lower body curving in steeply; short cylindrical stem applied to lower body producing pronounced dome on the inner surface; part of foot applied to stem with high pointed kick. Pontil scar with additional glass attached. P70 G2 Period 6 rampart heightening (GK)

29 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with thumb rest; simple lower attachment; convex-curved beneath handle attachment with 1 horizontal trail extant. P70 G104 Period 6 heightened rampart (GB)

28 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with pinched thumb rest. P70 G261 Period 6 rampart heightening (GK)

27 Rim of jug? Assymetrical funnel mouth with rim edge fire-rounded, perhaps from spouted jug. P70 G101 Period 1 (EG)

26 Handle of jug. Curved ribbon handle; broken, folded upper attachment with thumb rest; simple lower attachment; convex-curved beneath handle attachment with 1 horizontal trail extant. P70 G104 Period 6 heightened rampart (GB)

25 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with pinched thumb rest. P70 G261 Period 6 rampart heightening (GK)

24 Handle of jug. Curved ribbon handle; broken, folded upper attachment with thumb rest; simple lower attachment; convex-curved beneath handle attachment with 1 horizontal trail extant. P70 G104 Period 6 heightened rampart (GB)

23 Rim of jug? Assymetrical funnel mouth with rim edge fire-rounded, perhaps from spouted jug. P70 G101 Period 1 (EG)

22 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with pinched thumb rest. P70 G261 Period 6 rampart heightening (GK)

21 Rim of jug? Assymetrical funnel mouth with rim edge fire-rounded, perhaps from spouted jug. P70 G101 Period 1 (EG)

20 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with thumb rest; simple lower attachment; convex-curved beneath handle attachment with 1 horizontal trail extant. P70 G104 Period 6 heightened rampart (GB)

19 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with pinched thumb rest. P70 G261 Period 6 rampart heightening (GK)

18 Rim and handle of jug. Funnel mouth with fire-rounded rim edge; curved ribbon handle; folded upper attachment with thumb rest; simple lower attachment; convex-curved beneath handle attachment with 1 horizontal trail extant. P70 G104 Period 6 heightened rampart (GB)

17 Rim of bowl. Wide out-turned rim with fire-thickened edge; straight side sloping in; horizontal trail on exterior at rim/body junction. Outer surface wheel-polished. P70 G11 Period 6 rampart heightening (GK)

16 Upper body fragment of beaker. Slightly convex-curved upper body curving out to (missing) rim. 1 wheel-cut line below rim edge, 2 similar lines on upper body. P70 G293 Period 3 rampart lengthening (PL)

15 Rim and body fragments (many joining) of cylindrical cup. Vertical rim with fire-thickened edge; straight side with curved carination to wide lower body. P70 G125 Period 6 rampart heightening (GK). Also rim fragments from 6 similar cylindrical cups

14 Lower body and base of bowl or beaker. Rounded carination to wide lower body; intermittently tubular base ring; flat base. Pontil scar. P70 G123 Period 6 rampart heightening (GJ)

13 Rim of cylindrical cup. Convex-curved lower body curving in steeply; short cylindrical stem applied to lower body producing pronounced dome on the inner surface; part of foot applied to stem with high pointed kick. Pontil scar with additional glass attached. P70 G2 Period 6 rampart heightening (GK)

12 Lower body and complete base of bowl or beaker. Wide lower body; pushed-in tubular base ring; flat base with central thickening; circular pontil scar. P70 G84 Period 6 rampart heightening (GI)

11 Upper body fragment of beaker. Slightly convex-curved upper body curving out to (missing) rim. 1 wheel-cut line below rim edge, 2 similar lines on upper body. P70 G293 Period 3 rampart lengthening (PL)

10 Rim of bowl. Wide out-turned rim with fire-thickened edge; straight side sloping in; horizontal trail on exterior at rim/body junction. Outer surface wheel-polished. P70 G11 Period 6 rampart heightening (GK)
Figure 56 Roman glass (selected) nos 54–104
towards base convexly. Post technique scars on interior of hollow edge. Base slightly worn. P70 G54 Period 7? (GD)

59 Rim of bottle. Wide funnel mouth, rim edge bent down and up. P70 G203 Period 6 construction trench of widened wall (GH)

60 Rim and neck of flask or bottle. Horizontally outbent rim, edge rolled in and flattened; cylindrical neck. P70 G183 Period 2 building level of rampart ‘retaining wall’ LO (KZ)

63 Body fragment. Polychrome snake-thread decoration. Colourless straight-sided body, opaque blue curved trail scored diagonally. P70 G221 Period 7 ditch fill (BG)

64 Body fragment. Monochrome snake-thread decoration. Straight side. Trail of leaf-shaped outline impressed by tool that has left a diagonal cross-hatched pattern in relief. P70 G74 Period 6 construction trench of widened wall (GH)

65 3 joining body fragments. Polychrome. Colourless straight-sided body curving out and thickening slightly at broken upper edge; horizontal opaque turquoise trail. P70 G382 Period 7 (SM)


67 Body fragment. Straight side. Trailing and pinched-up decoration in an arced pattern. P70 G16 Period 6 rampart heightening (GR)

68 Body fragment. Part of straight side with cut-out horizontal fold. P70 G82 Period 6 rampart heightening (GI)

69 Lower body fragment. Facet-cut in 2 rows. The upper row consisting of large oval facets (2 extant) alternating with 2 horizontal facets joined by short vertical wheel-cut. The lower now contains one large facet cut. P70 G128 Period 6 rampart heightening (GR)

71 Body fragment. Straight-sided body with very wide abraded horizontal band. P70 G69 Period 6 construction trench of widened wall (GH)

72 2 body fragments. Straight side. 2 horizontal wheel-cut lines. P70 G205, 363 Period 6 construction trench of widened wall (GH)

74 Body fragment. Convex-curved side. Fragment retains 4 vertical ribs in shallow relief above a more pronounced horizontal one. P70 G150 unstratified

Blue/Green

75 Rim of tubular-rimmed bowl. Horizontally outbent tubular rim, rim edge bent down and in; straight-sided upper body becoming convex-curved. P70 G318 Period 3 rampart lengthening (PM)

76 Rim fragment of tubular-rimmed bowl or plate. Double tubular rim, edge first bent in, then out and down, wide rim outbent horizontally. P70 G31 Period 6 rampart heightening (GK)

77 Rim of bowl or plate? Rim bent over and down, edge fire-rounded; wide convex-curved upper body beginning to curve down to lower body. P70 G127 Period 6 heightened rampart (GL)

78 Base of beaker? Side sloping in steeply to flat base. P70 G48 Period 6 uppermost rampart (EZ)

79 Rim of large jar. Wide rim bent out and down, edge rolled up and in. P70 G304 Period 3 rampart lengthening (PK)

80 Rim of jar. Funnel mouth with fire thickened rim edge. Horizontal trail on upper body. P70 G297 Period 3 rampart lengthening (PL)

82 Handle of jug with fragments of neck and shoulder. Curved ribbon handle; simple lower attachment with deep indentation; folded upper attachment. Funnel mouth probably with rolled in rim, rim edge now broken; convex-curved shoulder. Neck retains 1 and shoulder retains 2 narrow, probably spiral trails. Shoulder and neck fragments probably deliberately broken off around edges of handle attachments. P70 G310 Period 3 rampart heightening (PL)

83 Rim and handle fragment of jug. Funnel mouth, rim edge rolled in; curved ribbon handle with side ribs; folded upper attachment with pinched thumb rest. P70 G85 Period 2 pit fill (JS)

84 Handle of jug. Straight ribbon handle with central rib, one side broken. P70 G49 Period 6 uppermost rampart (EZ)

85 Handle and shoulder of jug. Rod handle with simple lower attachment; convex-curved shoulder grozed around edge of attachment. P70 G177 Period 3 rampart lengthening (JO)

86 Handle and shoulder of jug. Simple lower attachment of rod handle broken as it curves over – probably the lower attachment of 1 strand of a chain handle; convex-curved shoulder carefully grozed around edge of attachment. P70 G406 Period 7 robber trench, rear of north tower (RK)

87 Handle of jug. Straight ribbon handle with pronounced angular side ribs; simple lower attachment with scars from shoulder. P70 G330 Period 2b gully at tail of rampart (PR)

88 Handle and shoulder of jug. Side rib of ribbon handle with 2 or more rounded ribs; simple lower attachment. Convex-curved shoulder carefully broken around attachment. P70 G191 Period 2 pit fill (MP)

89 Rim of flask or jug. Rim outbent almost horizontally, edge rolled in. P70 G226 Period 8 (AL)

90 Rim of flask or jug. Funnel mouth, rim edge fire-rounded. P70 G303 Period 3 rampart lengthening (PK)

91 Neck and shoulder of globular flask or jug. Part of cylindrical neck curving out to wide convex-curved shoulder. Horizontal trail with overlapping ends on shoulder. P70 G93 Period 2 pit fill (JS)

92 Lower body and complete base of bowl or jug. Convex-curved body; tubular pushed-in base ring; thickened base with small central kick. Circular pontil scar. P70 G260 Period 6 rampart heightening (GK)

93 Lower body and base of bowl. Side sloping in steeply to pushed-in tubular base ring; concave base with central kick. Pontil scar. P70 G277 Period 3 rampart lengthening (PK)

94 Lower body and base of bowl or jug. Side sloping in shallowly to outspayed tubular pushed-in base ring; flat base broken near base ring. P70 G326 Period 3 rampart lengthening (PK)

96 Base of bowl or jug. Tubular pushed-in base ring; concave base. Pontil scar. Side grozed. P70 G30 Period 6 rampart heightening (GK)

98 Base of bowl or jug. Intermittently tubular pushed-in base ring; flat base. Side grozed. P70 G15 Period 6 rampart heightening (GK)

100 Lower body and base of bowl or jug. Wide lower body; solid pushed-in base ring; flat base broken near base ring. P70 G279 Period 3 rampart lengthening (PK)
101 Base of bowl, jug, jar or flask. Part of concave base with central kick curving down at broken outer edge to base ring. Pontil scar retaining small fragment of additional glass. P70 G9 Period 6 rampart heightening (GK)

102 Approximately two-thirds of body and all of base of a bath flask. Squashed globular body; small concave base with pontil scar. Rounded lower end of attachment of 1 handle. P70 G385 Period 2 gully (TR)

104 Body fragment. Straight side with horizontal mould blown corrugations with plain body sloping out above. P70 G65 Period VI construction trench of widened wall (GH)


108 Base of prismatic bottle. Base design – 2 concentric circles. P70 G403 Period 6 uppermost rampart (UF)

109 Base of prismatic bottle. Base design – 1 circular moulding with arcs of circles inside, arcs intersect at points on outer circle – parts of 2 arcs and their point of intersection extant. P70 G199 Period 2 lower building level of wall LO (JV)

### Late Roman Green

112 Rim of hemispherical cup. Light yellowish-green. Curved rim, edge cracked-off smoothly but not ground; convex-curved side. 1 horizontal abraded band below rim and another on upper body. P70 G250 Period 8 (CB)

113 Rim of conical beaker. Pale green-tinged colourless. Curved rim; edge cracked-off and now chipped; straight side sloping in. Horizontal abraded band on upper body. P70 G234 Period 6 rubbish deposit on latest berm (AK)

114 Rim of conical beaker. Greenish colourless. Curved rim, edge cracked off smoothly but not ground. Horizontal abraded band on upper body. P70 G227 Period 8 (AU)

115 Rim of beaker or cup. Green-tinged colourless. Vertical rim, edge cracked-off and possibly smoothed. 3 horizontal abraded bands. P70 G228 Unphased (AM)

116 Rim of segmental or truncated conical bowl. Yellowish-green. Curved rim, edge cracked-off and possibly smoothed. Horizontal abraded band on upper body. P70 G245 Period 8 (CB)

117 Lower body of conical beaker. Yellowish-green. Straight-sided body sloping into edge of concave or flat base. P70 G219 Period 6 rubbish deposit on latest berm (AK)

118 Base of beaker or cup. Very pale green-tinged colourless. Edge of side curving into concave base. P70 G83 Period 6 rampart heightening (GI)

119 Rim of bowl. Yellowish-green. Out-turned rim, edge fire-rounded; slightly convex-curved upper body. P70 G211 Period 6 Above road surface VI (AQ) 121 Rim of bowl? Green-tinged colourless. Tubular rim, edge first rolled in, then out and down. P70 G237 Period 8 (BA)

121 Rim of bowl? Green-tinged colourless. Tubular rim, edge first rolled in then out and down. P70 G237 Period 8 (BA).

122 Lower body and base of bowl, jug or flask. Pale green. Convex-curved side sloping into very slightly concave thick base. P70 G373 Period 6 rampart? (SL)

123 Handle and shoulder of bottle or jug. Pale greenish colourless. Ribbon handle with wide central rib and narrow edge ribs; simple lower attachment; horizontal shoulder curving over to side. P70 G213 Period 8 (AE)

124 Handle and shoulder of jug or bottle. Green-tinged colourless. Ribbon handle with 3 thick ribs; simple lower attachment; convex-curved shoulder deliberately broken around edge of attachment. P70 G408 Unstratified
(8) Post-medieval glass (Figs 58–9) by Julian Henderson

No medieval glass was found during excavations at The Park. The catalogue for the post-medieval glass is to be found in the site archive. (* denotes fragments not illustrated.)

The post-medieval glass from The Park reflects the existence of a taste in Lincoln for highly decorated, though not unusual, tablewares in the second half of the 16th and early 17th centuries. Fragment nos 1, 2 and 3* are all colourless cristallo glasses decorated with opaque white (lattimo) canes of glass embedded in the glass surface (known as vetro di trina). The fragments from The Park are too small to ascertain the shapes of the vessels of which they originally formed a part: nos 1 and 3* are possibly parts of goblet bowls. Although striking in appearance these cane-decorated vessels are not unusual in northern and western Europe, and were manufactured in these areas in the Venetian (Muranese) tradition known as Façon de Venise.

The examples of the use of white canes from The Park are relatively simple in their execution. The glassworker probably lined the sides of the mould with opaque white canes, and a paraison of glass inserted in the mould would pick up the canes upon its outer surface. The canes would then be marvered into place. Twisted white canes in the form of a helix within a matrix of colourless glass (a retorti) are sometimes used, or, alternatively, separate white canes may be crossed to form a network (a reticello).

Examples of cane-decorated glass from British archaeological contexts come from London (Hume 1962, figs 5, 6), Ludgershall Castle, Wiltshire (Henderson forthcoming), and Southampton (Charleston 1975, nos 1151, 1152), and indeed are found in museum collections such as the British Museum (Tait 1979) and the Fitzwilliam Museum (Cambridge Catalogue 1978).

No 5 (Fig 58) is the base of a goblet bowl in a smoky brown translucent glass. This colouration suggests that it might have been made in the Mansell glasshouse in London in the first half of the 17th century, in the northern European tradition (Godfrey 1975 and Charleston 1984, 83).

The use of a green or yellow-green metal to manufacture beakers with mould-blown decoration in the late 16th and 17th centuries was common in northern England (Crossley and Aberg 1972; Hogan 1970) and in other parts of the country, as at the Woodchester glasshouse, Gloucestershire (Daniels 1950) or Bagot’s Park, Staffordshire (Crossley 1967).

Nos 15*, 16 and 17 (Fig 59) are fragments of glass in the typical metal used to make such vessels. Their bases were formed by pushing in a bulb of glass until a foot-ring was formed from a double thickness of glass where the pushed-in glass met the vessel sides. The vessel fragments from The Park might easily have been manufactured at the Hutton or Rosedale glasshouses in North Yorkshire (Crossley and Aberg 1972).
The bottleneck (no 18*) is unlike the later sack bottle forms (nos 19–24*) and probably dates to the earlier 17th century. It is in a green glass metal (Waldglas) which was manufactured during this period in the Surrey Weald (Kenyon 1967, pl XVI, no 2). The other bottle fragments (nos 19–24*) are thicker and typical of the sack bottles which began to be introduced in the mid 17th century (Ruggles-Brise 1949).

The window glass of 16th to 19th century date is, as expected, mainly muff glass, with one possible exception (no 32*) which might be crown glass. The variation in thickness and the greater total thickness of no 28*, when compared to the other fragments of window glass, suggest it is crown rather than muff glass.

Catalogue

Vessel glass

Colourless (cristallo)

1 Concave fragment decorated on outer surface with vetro di trina. Paraison blown into mould picking up opaque white canes on outer surface. Canes stand proud of surface and diverge at one end of fragment. Possibly part of a bowl. Light iridescent weathering. Th: 1mm. Second half of 16th century; technique in northern Europe à façon de Venise. G216. Period 8. Pit? (AO)

2 Concave glass fragment with badly weathered remains of opaque white vetro di trina on outer surface. White cane decoration wider than no 1. Iridescent surfaces. Second half of 16th century. Th: 17mm. P70 G233. Period 8 (AL)

5 Base of goblet bowl with top of wide hollow stem attached to underside. Smoky brown crystal glass; probably made in England and possibly by Mansell glasshouse. Typically 17th century glass metal. P71 G163. Period 8. Disturbance cutting robber trench of colonia wall. (JD)

Green glass

6 Rim of bowl in pale green, probably potash, metal with weathered dark brown and iridescent surface. Rim is turned over forming a flattened tube. Apparent differential weathering of green colourant producing some colourless glass. D bowl: C 100mm; Th: 1.3mm. P70 G410. Period 8. Pit? (AO)

11 Fragment of flaring vessel in green glass with incipient brown weathering on both surfaces. Green frill of glass applied to outer surface. Metal probably 16th/17th century. Th: 1.5mm. P70 G407. Unstratified

16 Beaker base fragment with hollow foot resulting from base being pushed in creating a double thickness of glass. Pale green with dark brown patchy weathering. Th: 1.4mm. Form late 16th/early 17th century. P72 G407. Unstratified

17 Top of pedestal base of beaker with part of flaring foot and stub of vessel wall. Pale green metal with dark brown weathering. Th foot: 2.1mm P72 G399. Period 8. Pipe trench (UE)

9) Other artefacts (Figs 60–85) by J E Mann

Almost 1,400 registered finds were recovered from this site, mainly of copper alloy (29.8% of the total, including almost 200 coins: see above, pp 51–2), glass (30.5%, see above, pp 138–46) and iron (23%). Bone artefacts form a substantial proportion (10.2%) of the remainder, while other materials such as lead, stone, jet or shale and fired clay occur only in small quantities. No organic materials survived. All the metal, particularly the ironwork, was heavily corroded. Most (73%) of the material was stratified in Roman levels, but a considerable number of Roman finds occurred residually in later contexts. Very few pieces are of Late Saxon (‘Anglo-Scandinavian’) type, and the remainder are of medieval or post-medieval date.

Only a small proportion (14%) of the finds is presented in this report; many items were selected as a representative sample, and generally are the better preserved examples. Most of the remainder are fragmentary or unidentifiable; details of these are lodged with the site archive. Detailed discussion of individual pieces, or of groups of objects, is within the catalogue.

The value of the artefacts presented below in the catalogue for dating and interpretation purposes was limited. Important points are incorporated into the site discussion (below, p 179).

Catalogue

This remains in its original format, organised primarily by material and subdivided by period (Roman, medieval, etc); within each period, the objects are listed by type. For those who are more familiar with a finds catalogue arranged to reflect object function, the following key may serve as a guide. Notes to this section can be found on pp 168–9.

<table>
<thead>
<tr>
<th>Category</th>
<th>Catalogue No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal ornaments</td>
<td>1–5, 36, 39, 50, 66, 68–82, 85, 106–12</td>
</tr>
<tr>
<td>Costume fittings</td>
<td>37–8, 40–1</td>
</tr>
<tr>
<td>Toilet implements</td>
<td>6–9, 86, 116</td>
</tr>
<tr>
<td>Textile implements</td>
<td>10–11, 42, 87–91, 113</td>
</tr>
<tr>
<td>Domestic utensils</td>
<td>114</td>
</tr>
<tr>
<td>Furniture/structural fittings</td>
<td>12–23, 43–4, 51–8, 63, 65, 92</td>
</tr>
<tr>
<td>Locks</td>
<td>62</td>
</tr>
<tr>
<td>Tools</td>
<td>93–6, 101, 103–4, 117–18</td>
</tr>
<tr>
<td>Military fittings</td>
<td>24–7</td>
</tr>
<tr>
<td>Weapon</td>
<td>115</td>
</tr>
<tr>
<td>Trade</td>
<td>45, 67</td>
</tr>
<tr>
<td>Writing</td>
<td>28–9</td>
</tr>
<tr>
<td>Horse furniture</td>
<td>46–9, 59–61, 64</td>
</tr>
<tr>
<td>Pastimes</td>
<td>97–100, 120–2</td>
</tr>
<tr>
<td>Figurine</td>
<td>119</td>
</tr>
<tr>
<td>Waste</td>
<td>105</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>30–5, 83–4, 102</td>
</tr>
</tbody>
</table>
Catalogue numbers follow consecutively, and for ease of reference, are used in both text and illustrations. Measurements are given thus: L = length, W = width, Th = thickness, H = height, D = diameter, (Int = internal, Ext = external), Wt = weight. The description also gives the inventory number (eg P70 Ae94) which was allocated to each find on excavation; this will be retained when the material is transferred to the City and County Museum, Lincoln. The structural period and context of each object follows the description; context codes are in brackets.

**Copper Alloy: Roman**

**Personal ornaments (Fig 60)**

**Brooches**

1 Penannular. Circular-sectioned ring with tapering terminals, each coiled back along surface of ring. Rectangular-sectioned pin wrapped loosely round ring, slightly humped in profile. Pre-conquest type, current throughout the 1st and 2nd centuries. Int D: 20mm. P70 Ae84. Period 1 ground level for sill wall (JW)

2 Trumpet, fragment. Bow and catchplate heavily corroded and cracked, head and pin missing. Waist-knop with petalled centre flanked by triple mouldings which continue round back of bow. Lower bow with central ariss. Mid 1st to mid/late 2nd century type. L: 43 mm. P70 Ae175. Period 6 construction trench of widened wall (GH)

3 Disc, enamelled. Heavily corroded; pin missing, catchplate broken. Circular plate with recessed field in which is reserved a central dot and sexfoil. Outer field of enamel, now decayed; inner field probably of red enamel. Remains of (two-coil?) spring on reverse. Type current between AD 125 and 225. D: 21mm. P70 Ae 15. Period 5/6 rampart heightening (GJ)

Another, so corroded that the design is visible only by X-ray but with traces of blue enamel in the outer field, was found in the rubble spread above the latest road surface.²

4 Disc; tinned.³ Central field with repoussé ornament (obscured by corrosion): running scrolls encircled by oblique pellets, the whole enclosed by broad, flat raised lip. Pin missing; long, projecting catchplate. 4th–early 5th C. D: 29mm P70 Ae35. Period 3–6 accumulation during life of ‘rampart retaining’ wall. (GT)

This brooch is of a type rarely found in Britain and suggested (D Mackreth, pers comm) to be of Free German origin. It is therefore unfortunate that it appears to be an intrusive find in a context that the pottery also suggests (see above, p 129) to be contaminated.

**Bracelets**

5 Strip, decorated. Fragment. Central line of punched dots flanked by incised crossed obliques within opposed rectangular notches along edges. Rectangular zone at one end with central punched dot but otherwise plain, may represent division between ornamental panels or junction with terminal. 4th century; cf bracelets with repetitive ornament and notched edges from Lydney (Wheeler & Wheeler 1932, fig 17) and Lankhillscemetery (Clarke 1979, fig 37). Int D: 70 mm. W: 7 mm. Th: 3 mm. P70 Ae154. Period 6 rubbish deposit on latest berm (AD).

Fragments of two decorated strips, both with notched edges, may also be from late Roman (4th century) bracelets although too little remains for certain identification. Both were found in the 4th century road surfaces.⁴

**Toilet implements (Fig 60)**

**Spoon-probes**

6 Circular-sectioned shaft, upper end terminating in short probe. Slender V-sectioned bowl, extreme tip broken, separated from shaft by double-collared moulding. L: 136 mm. Probe L: 12mm. Bowl L: 38 mm. P70 Ae103. Period 6 uppermost rampart (EZ)

7 Fragment, both ends broken. Shaft of sub-square section, separated by double-collared moulding from tapering, circular-sectioned upper end (probe?). Lower shaft with series of collared mouldings, altering to thin rectangular section (spoon?). L: 87 mm. P70 Ae4. Period 5/6 rampart heightening (GI)

8 Fragment, both ends broken. Circular-sectioned shaft with trace of spiral grooving, separated from upper end by collar moulding. Slight expansion of upper end at break suggests this terminated in probe. Lower end with series of mouldings, broken across base of spoon. L: 109 mm. P70 Ae11. Period 5/6 rampart heightening (GJ)

Spoon-probes could serve as surgical as well as toilet instruments (Milne 1970, 62); spiral grooving of the shaft (as no 8) is a fairly common ornament, and was occasionally inlaid (cf Crummy 1983, fig 65, 1927).

**Cosmetic grinder**

9 Boat-shaped, slightly curved, with grooved inner face and suspension loop at one end. Corroded. L: 60 mm. W: 8.5 mm. P70 Ae133. Period 2 earliest rampart (QB).

A recent survey of complete sets and individual components, of end-looped and centre-looped varieties (Jackson 1985), has shown a predominantly south-eastern British distribution, concentrated on East Anglia, and particularly Colchester. Most appear to be of 1st or 2nd century date (ibid, 175–6).

The only other toilet implement recovered was an extremely corroded, fragmentary pair of tweezers from the heightened rampart of Period 6.⁶ These are of common type, with constricted loop head and slightly expanded arms having inturned terminals.

**Textile working implements (Fig 61)**

**Needles**

10 Fragment, cast. Large circular eye; shaft broken. L: 114.5 mm. P70 Ae104. Period 1 sealing timber structures I (MB)
11 Head grooved above and below rectangular eye, which is cut/punched into the metal. Lower shaft fractured and bent, point broken. Type suggested (Crummy 1983, 67) to be late Roman. L: 138 mm. P70 Ae13. Period 5/6 rampart heightening (GK)

12 Large globular head; rectangular-sectioned shank bent. Head D: 9 mm. L: 40 mm. P70 Ae205. Period 5/6 (SI)

Figure 60 Roman personal ornaments and toilet implements (copper alloy) nos 1–8

Furniture/structural fittings (Fig 62)

Tacks
13 Biconical head, sub-rectangular shank. Head D: 6.5 mm. L: 25 mm. P70 Ae6. Period 5/6 rampart heightening (GI)
14 Flat disc head, rectangular-sectioned shank; point broken. Head D: 8 mm. L: 21 mm. P70 Ae23. Period 5/6 rampart heightening (GR)
15 Convex-topped disc head, rectangular-sectioned shank; point broken. Head D: 8 mm. L: 16 mm. P70 Ae129. Period 3–5 rampart lengthening (PM)

**Studs**

16 Flat disc head, edges bent; rectangular-sectioned shank. Head D: 8.5 mm. L: 12 mm. P70 Ae32 Period 5/6 rampart heightening (GR)
17 Flattened convex disc head; rectangular-sectioned shank bent and broken. Head D: 12 mm. L: 15 mm. P70 Ae106. Period 1 sealing timber structures I (MB)
18 Convex disc head; rectangular-sectioned shank bent and broken. Head D: 15 mm. L: 15 mm. P70 Ae39. Period 3–6 accumulation during life of ‘rampart retaining’ wall (GT)
19 Concave, flanged disc head; flange partly bent under. Stump of shank remaining. Head D: 13 mm. P70 Ae44. Period 3–6 accumulation during life of ‘rampart retaining’ wall (GT)
20 Disc head, ornamented with raised spiral moulding. Rectangular-sectioned shank bent. Head D: 8 mm. L: 11 mm. P70 Ae68. Period 3–5 rampart lengthening (JO)
21 Disc head, ornamented with two concentric mouldings around central dot; edge broken. Shank rectangular-sectioned. Head D: c 7mm. L: 20.5mm. P70 Ae76. Period 3–5 rampart lengthening (JO)

A number of tacks and studs found mostly in the rampart (Period 3–5 lengthening and Period 5–6 heightening), are generally of common types, as illustrated in Fig 62. The tacks with globular (no 12), biconical (no 13), or convex-topped disc (no 15) heads could have been used in furniture upholstery (cf Crummy 1983, 115–16). The disc heads of some of the studs may have been flat originally, although their edges are now bent downwards to present an angled (nos 16, 17) or smoothly convex (no 18) profile, while the head of another (no 19) has a concave centre and flanged rim. The effect of such shaping could have been to fasten the studs more securely. Two studs (nos 20, 21) have decoratively moulded heads; the recessed fields between the mouldings of no 21 may have held enamel, although none remains (cf Frere 1984b, fig 18, 56–7).

**Mounts**

22 Fragment, thin sheet with hollow convex boss. Part of box-mount? 13.5 x 9.5 x 0.5 mm. P70 Ae102. Period 1 slot associated with timber structures III (OK)
Military Fittings (Fig 63)


25 ?Scale from lorica squamata, tinned. Thin, flat tongue-shaped sheet with two small uneven perforations adjacent to upper (straight) edge. Somewhat flimsy and lacking side and lower linking holes for attachment to neighbouring scales. Tinning of scales could have a functional as well as decorative purpose, in that it inhibited corrosion (Robinson 1975, 156). L: 21 mm. W: 13 mm. Th: 0.5 mm. P70 Ae27. Period 5/6 rampart heightening (GR)

Strap-end fittings

26 Openwork; butt broken; decoratively moulded terminal with remains of integral rivet on reverse. Similar fittings from the Upper German-Raetian Limes are of late 2nd/3rd century date (cf Oldenstein 1976, fig 41). L: 39 mm. W: 11.5 mm. P70 Ae34. Period 3–6 accumulation during life of ‘rampart retaining’ wall (GT)

27 Decoratively moulded with split butt, one terminal of which is broken. Remaining terminal with rivet. Similar fittings from the Upper German-Raetian Limes (cf Oldenstein 1976, fig 36). L: 36 mm. W: 6 mm P70 Ae26. Period 5–6 rampart heightening (GR)

Writing (Fig 64)

Seal boxes

28 Lid, pear-shaped; enamelled. In form of stylised lamp, with terminal representing nozzle. Upper body with central circular panel bearing ?altar in high relief; surrounded by series of enamelled panels, of which only half now remain. Panels alternate thus: red/eight-rayed ‘sun’ in copper alloy against ?green ground/red/?blue and white chequer against blue ground. V-shaped patch below, possibly enamelled. Similar lid from 1st century context at Colchester (Hawkes & Hull 1947, pl C, 7), another illustrated in Selbye 1939 (pl XV, 30); Frere 1984, fig 13, 101). L: 27 mm. W: 12 mm. P70 Ae120. Period 4–5 in/under roadsurface I.

No other objects associated with writing were found although a short, bent length of tapering tube made from thin folded sheet is possibly part of a stylus case. This was found in a Period 1 slot associated with the third phase of timber buildings.9

Miscellaneous (Figs 65–6)

30 Fragment of curved strip with shallow groove parallel to outer thickened edge: inner edge bent and broken. Distorted ?vessel rim (dish/bowl?). L: 113 mm. W: 16 mm. Th: 0.75 mm. (D: c 260 mm?). P70 Ae43. Period 3–6 accumulation during life of ‘rampart retaining’ wall (GT)

31 Cast fragment with lip on outer curved edge, inner edge decoratively moulded and incurved. Vessel fitting? No sign of attachment, but form reminiscent of bucket feet, eg as found at Caerleon (Zienkiewicz 1986, fig 56, 8; fig 64, 189). L: 39 mm. W: 11 mm. Th: 4 mm. P70 Ae77. Period 3–5 rampart lengthening (JO)

32 Fitting? T-shaped. Horizontal bar with decoratively moulded face producing angled profile, reverse flat. Vertical shaft formed as spike with blunt point, having convex face but flat reverse. Sub-rectangular lug with
central transverse perforation projecting at 90 degrees from reverse, at junction of spike with horizontal bar. L (horizontal bar): 52 mm. H: 37 mm. P70 Ae74. Period 3–5 rampart lengthening (JO)

Although found in a Roman context, no 32 has a distinctly post-Roman ‘feel’; it could perhaps be an intrusive piece, of medieval or later date.

33 Fragment of thin sheet, folded to form tube with ends overlapped, seam soldered. One end with remains of collar, ornamented with transverse mouldings. Handle/binding? L: 36 mm. D: 8 mm. Collar D: 10 mm. P70 Ae5. Period 5/6 rampart heightening (GI)

34 Ring. Thin, rectangular section. Int D: 18 mm. P70 Ae100. Period 6 construction trench of widened wall (GH)


Object no 35 is of curious appearance; the length of the shaft is disproportionately short in relation to the ‘blade’. Traces of white metal at the junction of shaft and ‘blade’ suggest that two separate pieces have been soldered together. The shaft may have snapped, and this solder could indicate subsequent repair. The two pieces differ in metallic composition, however, indicating that they may have been parts of two different objects. This is quite dissimilar to Roman spears in form, and is therefore unlikely to be a ‘model’ or miniature weapon. Its curious appearance suggests that, despite its attribution to an early Roman level on this site, it could perhaps be intrusive.

Late Saxon (Fig 67)

36 Disc; pendant/mount? Fragment, circular. Openwork: quadruped grasping plain frame with gaping jaws and feet, one rear leg and adjacent portion of frame missing. Beast has somewhat lentoid eye, body crudely speckled with punched dots, and tail curving forwards over back terminating in crude trefoil. Wing-like projection rising vertically from underbelly. Convex in profile, with slight scar on outer edge of frame adjacent to beast’s head. D: 41 mm. Th: 2.5 mm. P70 Ae171. Unstratified.

The design of this piece, with the quadruped snugly enclosed within and gripping the surrounding frame is strongly reminiscent of the late 9th/10th century Scandinavian Borre style mounts and pendants (Gokstad, Norway: Graham-Campbell & Kidd 1980, pl 90c; Birka: Arman 1943, pl 98; Vårby, Sweden: Graham-Campbell 1980, pl 163:1). A closely comparable disc was recovered from an 11th century context during excavations some 300 m to the east of The Park at Grantham Place (Fig 123) in 1981. This has corroded to such an extent that it cannot be cleaned fully, but X-radiography suggests that it is of virtually identical design to that from The Park.

The Grantham Place disc is intact, showing the fourth leg and adjoining section of the frame which are absent on the piece illustrated here. A small lug, perhaps a suspension loop, projects from the outer
edge of the frame at a point which corresponds to the position of the scar on The Park disc, with a second, broken, lug (?) diagonally opposite. Although the corresponding portion of The Park disc is missing, the two pieces match in all other respects and could well have come from a single mould. In this respect it may be no accident that previous excavations at Flaxengate, immediately adjacent to Grantham Place, produced evidence of small scale metalworking, principally of copper, during the 11th century. Scandanavian pendants almost certainly provided the inspiration for the decorative motif used on these two discs, in the same way that Scandinavian prototypes influenced the Jelling-style brooches produced in York (Roesdahl et al 1981, 106, YD12–13).

**Medieval and later**

**Personal ornaments and costume fittings** (Fig 68)

37 Buckle. Oval frame with seating for point of pin and small moulding at each end of narrowed, offset bar. Pin missing. 13th/14th century (cf Allan 1984, fig 190, 70; Egan and Pritchard 1991, fig 42, 277). L: 163 mm. W: 23 mm. P70 Ae163. Period 7 collapsed road/ditch crossing? (CH)


39 Finger-ring. Thin strip of irregular width, ends

Strap slides (Fig 68)

40 Rectangular face with repoussé ornament, only partially visible. Rectangular-sectioned closed loop deliberately (?) bent inwards to produce W-shaped profile. L: 23 mm. W: 11 mm. H: 15 mm. P70 Ae185. Unstratified.

41 Crudely formed, with almost cross shaped face; extensions of two opposing ‘arms’ bent downwards to form angular loop, with tapering terminals closed loosely together. L: 21.5 mm. W: 19.5 mm. H: 12 mm. P70 Ae186. Unstratified.

Similar mounts were used from Roman times onwards, with both open (cf Wacher & McWhirr 1982, fig 37, 111–2: unprovenanced) and closed (Bushe-Fox 1949, pl XXXVI, 121–2, latter dated before c AD 275–300; Wilson 1964, pl XXXVII, 101–2: Saxon, predating c AD 875) rectangular loops. Although unstratified, both pieces illustrated here are likely to be of later medieval or post-medieval date; however, David Hinton (pers comm) has suggested an 8th or 9th century date for no 40. A crudely shaped mount with loop of similar construction to that of 41 is known from Denny Abbey (Christie & Coad 1980, fig 52, 38; sealed by 17th century floor), and another with ornamented dumb-bell face and open rectangular loop from a late 16th century context at Gloucester (Heighway 1983, fig 110, 55).

Other costume fittings recovered from levels of Period 8 were a number of lace tags and a small wire twist loop of a type commonly found in 16th century and later contexts elsewhere (cf Biddle et al 1959, pl XXXIB; Platt & Coleman-Smith 1975, fig 244, 1817–20, and fig 245, 1871; Woodfield 1981, fig 7, 117). These may have been used on clothing as an early form of hook and eye fastening.15

Textile working implement (Fig 69)


More than 50 wire pins of common type were found in Period 8 contexts, their heads ranging from crudely wound spiral to neatly stamped globular form (cf Caple, C in Mayes & Butler 1983, 269–75).

(Furniture) fittings (Fig 69)

43 Binding. Fragment; angled strip of D-shaped section, surface ornamented with oblique mouldings. Two small, integral lugs on reverse. Similar strips, often gilt, found on castle and manor sites in 12th–13th century contexts (cf Goodall, A in Coad & Streten 1982, 253–6; fig 43); probably for decorating wood and leather, possibly as casket-fittings. L: 78 mm. W: 3.25 mm. Th: 2 mm. P70 Ae141. Period 8 (AL)

44 Stud, gilt.16 Sub-square head, slightly convex, ornamented with two crossing diagonal lines of incised scorpering. Shank missing. Head: 16 × 15 mm. P70 Ae157. Period 8 (AL)

Trade (Fig 69)

45 Scale pan, triangular. Thin sheet with small perforation in each corner, shallow incised line parallel to each
edge and central stamped 'butterfly' motif. 16th/17th century (cf Biddle 1963, 170–1, no 20). H: 39 mm. W: 45 mm. Th: 0.75 mm. P70 Ae149. Period 8 (AL)

Horse furniture (Fig 70)

46 Harness pendant, gilt. Shield shaped; suspension loop broken. Ornamented with series of alternately raised and sunken lozenges (latter originally enamelled?) with raised border. 14th century (cf LMMC 1940, pl XVIII, 2–4). L: 43 mm. W: 26 mm. Th: 2 mm. P70 Ae158. Period 8 (AL)

47 Harness mount. Disc; surface with annular punched ornament. Integral rivet projecting from reverse, two elongated loops on lower edge. Loops for seating a pin which carried the suspension loop of a pendant. Medieval. L: 22 mm. Disc D: 11.5 mm. P70 Ae71. Unstratified

48 Rumbler bell, fragmentary. Two hemispherical sheets joined with pronounced central horizontal seam. Suspension loop of thin strip, pushed through top of upper half, ?soldered in place. Slot on underside. Bell of similar construction from early 16th century context at Norwich (Atkin et al 1985, fig 48, 100; from fire deposit in collapsed cellar, dated 1507). D: 33 mm. P70 Ae159. Period 8 (AL)

49 Rowel spur, fragment. Short neck divided for more than half its length by down-curved rowel box; one side of box broken, both pin and rowel missing. Stout moulding at junction of neck and D-sectioned sides, both broken. Short-necked spurs of 14th century replaced by longer-necked types in 15th, but again became popular in 16th century. L: 66 mm. P70 Ae172. Unstratified.

Iron: Roman

Personal ornament (Fig 71)

50 Brooch, penannular. Somewhat oval in shape, rectangular in cross-section. Remaining terminal coiled into spiral in same plane as ring. Int D: 20–22 mm. P70 Fe65. Period 5 berm III (KT)

Furniture/structural fittings (Fig 72)

Box fittings

51 Mount. Sheet, almost L-shaped, inner edge formed by two staggered right-angled corners. Two large perforations for rivets? Traces of mineralized wood present. Possibly a corner mount, or strengthening plate? L: 96
mm. W: 68 mm. Th: 2–5 mm. P70 Fe83. Period 3(–5) rampart lengthening (PK).

52 Mount. Thin square plate with eight small rivets placed almost equidistantly around edges. Slightly bent, edges broken. Traces of organic material (altered wood?) present. 57 × 57 × 0.5 mm. P70 Fe45 Period 2 pit (KE)

53 Hasp, hinged. Rectangular-sectioned strip, upper end rolled into hinge, with pin remaining. Lower end terminating in hollow rolled cylinder on one face, rectangular loop projecting from opposite face. Traces of replaced wood. L: 70 mm. W: 14 mm. Th: 5 mm. P70 Fe15. Period 5/6 rampart heightening (GI)

54 Loop-hinge; fragment. Rectangular-sectioned strip, slightly tapered, with perforation through remaining terminal and adjacent rivet for attachment. Double spiked loop (one arm of which is broken) passed through perforation, to form articulating component of hinge. Similar hinge from casket used for cremation burial found at Skeleton Green (Partridge 1981, fig 112e, & reconstruction figs 121–2). L: 87 mm. W: 25 mm. Th: 6 mm. P70 Fe20. Period 5/6 rampart heightening (GJ)

55 Bucket-handle mount, fragment. Rectangular-sectioned, broad strip with thickened oval looped terminal, part missing. Lower end broken (cf Cunliffe 1975, fig 127, 205 and 207; Frere 1984, fig 41, 75–6). L: 73.5 mm. W: 33 mm. Th: 10 mm. P70 Fe19. Period 5/6 rampart heightening (GJ)

56 Hinge pivot, fragment. Horizontal arm broken. H: 40 mm. L: 96 mm. P70 Fe119. Period 2 rampart lengthening (SQ)

57 Double-spiked loop. Rectangular-sectioned, point broken. L: 58 mm. P70 Fe28. Period 5/6 rampart heightening (GK)

58 Double-spiked loop and ring. Rectangular-sectioned spike with part of loop broken, arms corroded together. Rectangular-sectioned ring held within loop. Spike L: 48 mm. Ring Ext D: 40 mm. P70 Fe7. Period 6 heightened rampart (FM)

Part of another double-spiked loop was found in the Period 6 robbing of the ‘rampart retaining’ wall (for
double-spiked loops, see Manning 1985, 130; pl 61, R34–51). The ironwork in general is poorly preserved, heavily corroded and fragmentary, rendering identification difficult. Other unillustrated pieces which may be parts of structural items include several perforated strips, perhaps bindings, a rectangular-sectioned ring, and two possible staple fragments. Nails formed a high proportion (51%) of the ironwork found; most are from the Period 6 rampart. The majority are only fragments, but as they appear to be of common Roman type (as Manning 1985, 134, type 1B), none are illustrated here.

**Horse furniture (Fig 73)**

**Horseshoes**

59 Virtually complete, bent. Six circular nail holes within rectangular countersinkings (one with nail remaining) and lobated edge. Tips of both terminals broken. L: 92 mm. W: 108 mm. P70 Fe112. Period 3–5 rampart lengthening (PK).

60 Fragment. Three nail holes remaining, lobated edge.

61 Circular in cross-section with thinner rectangular-sectioned loops (both broken) set at right angles to one another at each end. Distinctively Roman form (Manning 1985, 66–7; pl 28, H12). L: 68 mm. P70 Fe190. Period 7 pit? (RY)

**Snaffle-bit link**

61 Circular in cross-section with thinner rectangular-sectioned loops (both broken) set at right angles to one another at each end. Distinctively Roman form (Manning 1985, 66–7; pl 28, H12). L: 68 mm. P70 Fe190. Period 7 pit? (RY)

**Medieval and later**

**Structural fittings (Fig 74)**

62 Barrel padlock case, fragmentary. Four longitudinal strengthening ribs, each with central triangular broadening. Both ends broken but remains of key and bolt-entry slits visible. L: 103 mm. H: 65 mm. D: 32 mm. P70 Fe152. Period 7 pit (RP)

63 Fragment, rectangular-sectioned strip, tapering to almost wedge-shaped terminal. Upper end splitting into two rectangular-sectioned 'prongs', one broken. Small (broken) bar linking these approximately half way along length of remaining prong. Fitting/binding? L: 76 mm. W: 16 mm. P70 Fe310. Period 7 robber trench, rear of north tower (RK)

**Horse furniture (Fig 74)**

64 Horseshoe, fragment. Part of nail remaining in one of three countersunk holes. L: 120 mm. P70 Fe153. Period 7 pit (SB)

Horseshoes with countersunk nail holes occur in mid or late 11th to 13th century contexts elsewhere, their edges varying from a relatively smooth (as no 64) to a markedly wavy outline (cf Rogerson & Dallas 1984, figs 142–5).

**Lead: Roman (Fig 75)**


**Late Saxon**

**Personal ornament (Fig 75)**

66 Disc brooch. Somewhat crudely cast, with relief ornament. Small central boss within two concentric
squares, enclosed within concave-sided lozenge formed by backs of four juxtaposed, outward-facing billeted arcs. Two small pellets within each arc; billeted border. Loop (hinge) and flattened, misshapen hook (catchplate) on reverse. D: 20 mm. P70 Pb13. Unstratified.

The style of this piece is reminiscent of Anglo-Scandinavian brooches from York (Roesdahl et al 1981, 105–6). These are generally slightly larger and their ornament differs, although one of pewter, dated to the 10th century, also uses a concave-sided lozenge as part of its central design (Wilson 1964, pl XLII, 134).

An identical brooch was found in a post-medieval context during recent excavations at Grantham Street, Lincoln, 18 both are almost certainly from the same mould. The Grantham Street site lay on the southern side of the former medieval street of Brancegate, directly opposite areas previously investigated at Grantham Place and Flaxengate (see above, no 36). At the latter site was found evidence for 11th century metalworking, principally of copper, but with some use of lead (also associated with the production of high-lead glass rings and beads in the earlier 10th century), pewter and silver.13 Both brooches may be products of the Flaxengate craftsmen.19

Trade (Fig 75)

67 Weight? Crudely cast, hemispherical. Small pit on upper convex face connecting with conical recess below. Latter possibly for seating plug to adjust or correct weight? D: 30 mm. H: 12 mm. Wt: 47.54 gm. P70 Pb11. Period 7 (RR)

Bone: Roman

Personal ornaments (Fig 76)

Pins

68 Plain, flat head. Shaft straight, evenly tapered; point broken. File marks visible on head, shaft slightly faceted. Faint polish. L: 86 mm. P70 B13. Period 5/6 rampart heightening (GJ)

69 Plain, conical head; worn. Shaft straight, evenly tapered to worn point, extreme tip broken. Smooth and polished. L: 76 mm. P70 B22. Period 5/6 rampart heightening (GK)

70 Unfinished; fragment. Head crudely trimmed to faceted cone; faceting and file marks on straight, evenly
tapered, broken shaft. Heavy chipping just below head on one face. L: 68 mm. P70 B139. Period 6 heightened rampart (FM)

71 Conical head with two grooves below. Straight slender shaft tapers evenly to blunt point, worn on one side. Slight faceting and file marks visible but smooth and polished. L: 80 mm. P70 B60. Period 5/6 rampart heightening (GI)

72 Head with broad collar surmounting biconical 'bead' moulding, crudely shaped. Thick, straight shaft tapering to blunt point. Smooth and polished. L: 79 mm. P70 B133. Period 8 (UK)

73 Head with elongated biconical 'bead' between two narrow collars, surmounted by small cone. Straight shaft tapering evenly to point, worn on one side. File marks on head and shaft. L: 103 mm. P70 B114. Period 3–5 rampart lengthening (PK/PL)

74 Head with elongated asymmetrical 'bead', surmounted by two narrow collars topped by small cone. Two irregular shallow grooves around top of straight, evenly tapered shaft. Point faceted; smooth and polished. L: 83 mm. P70 B69. Period 5/6 rampart heightening (GK)

75 Head with asymmetrical biconical top, above biconical bead set between two pairs of narrow collars. Straight, evenly tapered shaft. Fairly smooth, with slight polish. L: 101 mm. P70 B106. Period 5/6 rampart heightening (GK)

76 Pine-cone head with incised trellis decoration, separated by narrow collar from biconical 'bead'; two further collars below. Straight, evenly tapered shaft, point broken. File marks on shaft, but smooth and polished. Pins with pine-cone heads (cf RCHMY 1962, pl 71; Tilson 1973, fig 30, 30a; Greep 1986, fig 69, 22) perhaps representative of the Bacchic thyrsus (Henig 1977, 361). L: 94 mm. P70 B93. Period 2 pit (JS)

77 Globular, neatly formed head; slightly swollen shaft with patchy black staining. Point worn on one side. Extremely smooth and highly polished. L: 75 mm. P70 B94. Period 3–6 accumulation during life of 'rampart retaining' wall (GT)

78 Ovoid, slightly pointed head; neatly formed. Slightly swollen shaft with traces of faceting; point worn on one side. Smooth and polished. L: 78 mm. P70 B3. Period 3–6 accumulation of life of 'rampart retaining' wall (GT)

79 Polyhedral (cuboid, 13-faceted) head, slightly irregular; swollen shaft. File marks visible on head, distinct cut line at neck. Smooth and polished. L: 79 mm. P70 B124. Period 6 heightened rampart (OA)


81 Reel-shaped head; slightly swollen shaft broken. Cut marks at neck; faint polish. L: 46 mm. P70 B61. Period 6 heightened rampart (HK)

82 Head with broad bead between two narrow reels, set off-centre on slightly swollen, bent and faceted shaft. Smooth and polished. L: 72 mm. P70 B125. Period 8 (AE)

The manufacture and use of Roman pins are amply discussed elsewhere (Crummy 1983, 19–20; MacGregor 1985, 119–16), and chronologies proposed (Crummy 1979; cf Greep 1986) for some of the most common types. These suggest that pins with straight, evenly tapered shafts are of earlier date (mid 1st–early/mid 3rd century), while those with swollen shafts are generally later Roman (post-dating mid 2nd/early 3rd century).
Figure 76  Roman personal ornaments and toilet implement (bone) nos 68–86
The pins show varying degrees of workmanship, from neatly executed and well finished (nos 76–7) to crudely fashioned and misshapen (no 80). At least some must have been made locally, as suggested by the unfinished piece (no 70). One globular-headed pin (no 77) is stained black; although somewhat patchy in appearance this seems to be deliberate because the pin has been polished by subsequent use. Green staining is noted on pins from York (MacGregor 1978, 35) and Colchester (Crummy 1983, 20), where the use of red colourant also occurs; both are suggested (ibid) to be imitative of copper. The black staining of The Park pin could be interpreted in similar fashion, perhaps as representative of jet.

The occurrence of pin types at The Park is tabulated above (Table 37), showing that most (73%) were found in rampart levels of Periods 3–5/6, particularly the later rampart heightening. All five of those from the lengthening (JQ, PK) of the rampart (which is suggested to have taken place during the mid or later 3rd century) are of Type 1, whereas the four from the accumulation (GT) during the life of the ‘rampart retaining’ wall are of Type 2. This, however, does not necessarily imply any chronological distinction between the two groups, since both types would have been used concurrently during the late 2nd and early 3rd century.

An unusual feature of the pins from this site is the predominance (63%) of earlier types, most noticeably in Period 5/6 contexts (GI, GJ, GK, GR, SL) representing the heightening of the rampart. A residual element is to be expected in 4th century levels (cf. Crummy 1979, table I), but the proportion of earlier pins in these contexts is strikingly high, outnumbering later types by two to one. This suggests that the material used to heighten the rampart may have been derived from an earlier, redeposited dump, rather than contemporary rubbish.

Table 37 Analysis of types of Roman pins from The Park

<table>
<thead>
<tr>
<th>Period</th>
<th>Context</th>
<th>Type 1</th>
<th>Type 2</th>
<th>Proportion</th>
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<td>1</td>
<td>1.1</td>
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<td>2</td>
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<td>–</td>
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<tr>
<td>5/6</td>
<td>2.2</td>
<td>1</td>
<td>–</td>
<td>1</td>
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<td>6</td>
<td>2.3</td>
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<tr>
<td>7/8</td>
<td>3-6</td>
<td>–</td>
<td>1</td>
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</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>15</td>
<td>3</td>
<td>6</td>
</tr>
</tbody>
</table>

The occurrence of pin types at The Park is tabulated above (Table 37), showing that most (73%) were found in rampart levels of Periods 3–5/6, particularly the later rampart heightening. All five of those from the lengthening (JO, PK) of the rampart (which is suggested to have taken place during the mid or later 3rd century) are of Type 1, whereas the four from the accumulation (GT) during the life of the ‘rampart retaining’ wall are of Type 2. This, however, does not necessarily imply any chronological distinction between the two groups, since both types would have been used concurrently during the late 2nd and early 3rd century.

One other plain-headed (as no 83) and five conical-headed (as no 84) pieces were also found in contexts of Period 6. These are comparable with pin types 1.1 (no 68) and 1.2 (no 69), but are somewhat longer and thicker. Similar flat-headed ‘pegs’ were found in late Roman and post-Roman contexts at Colchester, and it is suggested (Crummy 1983, 162; nos 4463–72) that these could have been used as styli, skewers, or even in dressmaking, rather than as hairpins. Flat or slightly conical-headed pins from Caerleon are included in Greep’s type A1, although their greater length and thickness is noted (1986, 196–7) as perhaps indicative of some other purpose.

Pins / pegs (Fig 77)

83 Plain, flat head; worn. Thick straight shaft evenly tapered; broken. Generally smooth and polished. L: 74 mm. P70 B140. Period 6 heightened rampart (GB)
84 Plain, conical head. Thick, straight shaft evenly tapered; point broken. Faceting and file marks visible on head; generally smooth and polished. L: 107 mm. P70 B24. Period 5/6 rampart heightening (GK)

Bead (Fig 76)


No parallels to this bead in glass or any other material have been found, and the use of bone for
such a purpose in Roman times is rare although two beads are known from a late 4th century burial at Lankhills (Clarke 1979, 296; grave 336, dated c AD 350–70).

Toilet implement (Fig 76)

86 Spoon. Small, flat circular bowl broken; set at slight angle to swollen shaft, upper end broken. Faceting and file marks visible, slight polish. Toilet spoons more commonly of metal (cf Neal 1974, fig 63, 200–8), bone occasionally used. Similar object from Chichester (Down 1978, 315, no 219: ‘toilet instrument’; fig 10.45) but much thicker and clumsy by comparison. L: 98 mm. P70 B46. Period 5/6 rampart heightening (GJ)

Textile working implements (Fig 78)

Needles

87 Sharply pointed head, single circular eye; fragment. Faceting clearly visible but fairly smooth with slight polish. Stained pale green. L: 58 mm. P70 B109. Period 3(–5) rampart lengthening (PK)
88 Plain, flat head; rectangular eye with bevelled edges. Very smooth, highly polished. L: 86 mm. P70 B86. Period 3(–5) rampart lengthening (JO)
89 Plain, conical head, worn; rectangular eye with bevelled edges. Point worn; file marks visible on head, but very smooth and polished. L: 113 mm. P70 B107. Period 6 heightened rampart? (GL)
90 Spatulate head, rectangular eye with bevelled edges. Blunt point; very smooth, polished. L: 84 mm. P70 B122. Period 5/6 rampart heightening (GI)
91 Fragment; broken across base of rectangular eye. Adjacent sides of shaft obliquely cut: trimming (unfinished) for reuse, perhaps as pin rather than needle? L: 93.5 mm. P70 B45. Period 5/6 rampart heightening (GJ)

Nineteen needles were found in rampart levels, five in the Period 3(–5) lengthening (JO, PK) and the remainder in Period 5/6, all but two in the heightening (GI, GJ, GK, GR). Six fragments have a circular eye, where the head remains it is pointed (as no 87). The remainder have a rectangular eye with a plain flat (no 88), conical (as no 89; four others) or spatulate (no 90; two others) head. The green staining of no 87 (and several others) is probably a result of burial conditions; it is unlikely that such implements as these were coloured deliberately, as were pins (see above, p 160). Greep comments (1986, 198–9) that bone needles seem to be more common on 1st to mid 3rd century than later Roman sites. It is therefore interesting that most (63%) of the Park needles occurred in the same levels as the majority of the earlier (mid-1st–early/mid-3rd century) pin types, since the latter may be indicative of the heightening of the rampart by redepositing an earlier rubbish dump (see above, p 96).

Figure 77 Roman pins/pegs (bone) nos 83–4

Furniture fitting (Fig 78)

92 Hinge segment; fragment. Lathe-turned cylinder ornamented with transverse grooves; longitudinally broken, approximately half remaining (cf Waugh, H and Goodburn, R in Freer 1972, 149–50; fig 54, 186–91). L: 33 mm. Ext D: 21.5 mm. P70 B82. Period 6 uppermost rampart (IS)

Tool handles (Fig 78)

93 Rectangular-sectioned with end notched to produce ‘eared’ butt, tapering and almost wedge-shaped in profile. Part of one face broken away, exposing short socket. Slight iron staining around socket; tooling and file marks clearly visible. L: 65 mm. W: 16 mm. Th: 6 mm. P70 B75. Period 3–6 accumulation during life of ‘rampart retaining’ wall (GT)
95 Fragment; turned cylinder with transverse grooves and mouldings, waisted terminal. Longitudinally broken; one end partially sawn and broken. L: 53 mm. W: 27 mm. P70 B135. Period 4 foundations of flanking wall (XJ)
96 Clasp-knife. Ovoid sectioned, tapering slightly from butt to terminal. Remains of copper alloy collar around
Figure 78  Roman miscellaneous bone nos 87–96
terminal, separated from body of handle by simple waisted moulding and shallow groove. Stump of iron blade secured, and pivoted around, small iron rivet passing through collared terminal. Shallow longitudinal tapering slot on one narrow face to seat blade when closed. X-ray suggests short central socket for tang, intersected by slot. Very smooth and polished. Handles of similar form appear to be of post-Antonian date. P: 63 mm. D: 14 mm. P70 B70. Period 5/6 rampart heightening (GK)

A small splinter, probably from one end of a socketed handle, was found in a Period 1 context. This has two shallow transverse grooves, within which are the remains of a black organic substance.

Pastimes

Gaming counters (Fig 79)

97 Plain; countersunk obverse, with central pit from lathe-turning. Patches of pale green staining; smooth and polished. D: 23.5 mm. Th: 3 mm. P70 B130. Period 6 (SI)
98 Plain, countersunk obverse, with small central perforation. Very smooth and polished. D: 15.5 mm. Th: 2.5 mm. P70 B68. Period 5/6 rampart heightening (GK)
99 Obverse with faint concentric circles; small central pit from lathe-turning. Obverse rough, reverse fairly smooth and polished. D: 23 mm. Th: 3 mm. P70 B67. Period 5/6 rampart heightening (GK)
100 Obverse with faint concentric circles; small central perforation. Reverse with shallow incised six-pointed star centred on perforation. Fairly smooth, slight polish. D: 25 mm. Th: 2.5 mm. P70 B66. Period 5/6 rampart heightening (GI)

Another, as no 97, was found in the Period 6 construction trench of the widened wall. Most have bevelled edges, produced by the natural shape of the bone used rather than by wear (cf MacGregor 1976, 4).

Miscellaneous (Fig 80)

101 Scoop; cattle scapula blade with spine and edges trimmed. Distal end broken. Similar scoops known from Roman contexts elsewhere, as at Hayton fort (Johnson 1978, fig 16, 5) and Carlisle (Padley 1991, fig 167, 741–4). L: 140 mm. W: 66 mm. Th: 19 mm. P70 B144. Period 2 pit (JR)
102 Worked fragment; sheep metatarsal with hole bored through proximal articular surface to connect with natural cavity. L: 135 mm. P70 B143. Period 6 heightened rampart (GA)

Post-medieval

Tools (Fig 80)

103 Awl. Crudely rounded head, irregular shaft with deep channel running almost entire length. Faceting visible. L: 165 mm. P70 B65. Period 8 robber trench, west edge of colonia wall (FI)

Antler (Fig 80)

105 Waste fragment. Red deer. Beam; base sawn, outer surface removed by series of saw-cuts. This sort of waste characteristic of Late Saxon antler-working, particularly comb-making, and this piece could be intrusive. L: 111 mm. P70 B142. Period 6 rubbish deposit on latest berm (AK)

Jet: Roman

Personal ornaments (Fig 81)

Bracelet

Figure 80  Miscellaneous bone and antler nos 101–5

Figure 81  Roman personal ornaments (jet and shale) nos 106–12
Finger rings


108 Fragment. D-sectioned hoop, narrow oval bezel flanked by simple shoulder mouldings. Slightly convex inner face with traces of tooling; chipped and scratched, but highly polished. Int D: 18 mm. P70 M31. Unstratified

Pin

109 Polyhedral (cuboid, 13-faceted) head, thinner on one axis than the other. Thick, almost straight shaft, broken and repointed. Head chipped, shaft abraded in places, but smooth and polished. (Late) 3rd or 4th century (cf Hagen 1937, 130–2, type 3, pl 32; Lawson 1976, fig 7, 65). L: 54 mm. P70 M33. Period 6 heightened rampart (OA)

Beads

110 Spacer; circular with double transverse perforation. Convex upper surface with circumferential groove and small central pit from lathe-turning (cf Wheeler & Wheeler 1932, fig 18, 79; Lawson 1976, fig 1.7; Crummy 1983, fig 35, 955: from grave dated c AD 320–450). D: 12 mm. P70 M48. Period 6 (CP)

Part of a ?globular bead found in a post-medieval context was associated with 4th century coins, and may also be of Roman date.29

Shale: Roman

Personal ornament (Fig 81)

Bracelets

111 Plain; oval? Fragment, D-sectioned with angled inner face. Int D: 54 mm. W: 7 mm. Th: 6 mm. P70 Sh2. Period 6 heightened rampart (IF)


Four other plain bracelets were found in the Period 6 rampart. These are of oval or D-shaped section, most displaying a slight angularity of the inner face which Lawson suggests (1976, 250, nos 19 and 22) to be the result of removal from a core during manufacture. Both nos 111 and 112 appear to be oval rather than circular in form; this may be due to distortion under burial conditions (ibid 250, note 1) although Crummy notes (1983, 36) the occurrence of similarly shaped jet and copper alloy armlets as evidence of a deliberately produced form.

Textile working implement (Fig 82)

113 Spindlewhorl. Biconical; upper and lower surfaces slightly dished around perforation. Circumference ornamented with shallow vertical notches. Cracked and laminated. Biconical shale whorls from Portchester (Cunliffe 1975; fig 121, 130 and 132); similarly shaped jet whorls from Silchester and elsewhere suggested (Lawson 1976, 272, no 107) to be of 3rd century date. D: 41 mm. H: 18 mm. Wt: 21.7 gm. P70 Sh6. Period 6 rubbish deposit on latest berm (AD)

Domestic utensils (Fig 82)


A small body sherd from a lathe-turned vessel, possibly a cup or bowl, was found in the same context as no 114.30

Stone

Late Neolithic flint (Fig 83)

115 Tranchet arrowhead with fine retouch on both faces. L: 35 mm. W: 47 mm. P70 M21. Period 2 Pit (KS)

Part of a small blade and several waste flakes, some of which may have been reused, were found in Period 1 contexts; a second blade came from the heightened (Period 6) rampart.31
Roman Toilet/pharmaceutical implement (Fig 83)

116 Palette. Black limestone; rectangular, with bevelled edges. Shallow, broad central depression on upper face; one edge worn as if from sharpening small tool, possibly scalpel (cf Milne 1970, 171), suggesting this used for pharmaceutical rather than cosmetic purposes. L: 63 mm. W: 59 mm. Th: 10 mm. P70 M66. Period 8 pit (WI)

Tools

Hones33 (Fig 83)

117 Kentish Ragstone; Upper Greensand, Wealden area. Fragment, oval-sectioned; remaining end and all faces worn. L: 46 mm. W: 27 mm. Th: 15 mm. P70 M2. Period 1 (EG)

118 Kentish Ragstone. Fragment, both ends broken. Rectangular-sectioned, with slight rebates on both narrow faces. L: 75 mm. W: 23 mm. Th: 17 mm. P70 M8. Period 5/6 rampart heightening (GJ)

Four other Kentish Ragstone hones were found; all are worn although one still shows slight rebates similar to those of no 118. These also appear on hones from York (MacGregor 1976, fig 4, 5) and Wroxeter, where it is suggested (Atkinson 1942, 129) that they represent marking-out lines preparatory to the

Another two hones are almost certainly of Coal Measures Sandstone.

Late Saxon/Medieval?

Three small fragments from rotary querns were found in a Period 7 pit (RP, RV). One, of Niedermendig lava,34 bears a series of shallow alternating grooves on its grinding surface, a feature common to both Roman and later querns. This was associated with Roman pottery and glass, and could also be residual. The remaining two pieces are of Millstone Grit,35 their grinding surfaces bearing concentric grooves or ‘peck’ marks.

Pipeclay figurine: Roman (Fig 84)

119 Fragment; upper part of bald head and brow, broken across eyes. Probably central Gaulish, 2nd century or later, almost certainly from figure of a ‘laughing child’ (cf Rouvrier-Jeanlin 1972, 261, Bustes d’enfants souriants appelés risus, type I; cat nos 669–92). P70 P32. Period 6 construction trench of widened wall (GH)

Ceramic: Roman (Fig 84)

Pastimes

Gaming counters36

120 Body? sherd, fine grey ware. Neatly formed disc; edges and both surfaces ground smooth. D: 39 mm. Th: 7 mm. P70 P11. Period 5/6 rampart heightening (GK)
121 Body sherd, black burnished type dish/bowl. Trimmed to irregular disc, but edges ground smooth. Chipped in places. D: 34 mm. Th: 10 mm. P70 P3. Period 5/6 rampart heightening (GI)

122 Base, samian ware (Dr. 33?). Vessel wall trimmed off, base ring still in place. Internal surface abraded; chipped in places. D: 45 mm. Th: 14 mm. P70 P1. Period 8? (EM)

Fifteen ceramic discs were found in Roman levels, mostly in the rampart (Period 3–5 lengthening: 2, Period 5/6 and 6 heightening: 11; 2 others from Period 6 construction trench of widened wall). These are of varying fabrics and range from 15 to 47 mm in diameter; most are somewhat irregular in shape although frequently their edges are ground smooth (as no 121). Number 120 is unusual in that both surfaces are also ground; this appears to be deliberate, rather than an effect of abrasion during use (cf Crummy 1983, 93). Number 122 and one other samian ware disc were found in post-medieval contexts. These may be residual, although a similar reuse of medieval pot sherds is attested by two pieces found in Period 7 contexts here, as in medieval and later levels elsewhere in Lincoln.

**Painted plaster: Roman (Fig 85)**

Plaster occurred mostly as single fragments or small and apparently unrelated groups of only a few pieces, although two discrete, larger groups were found. Just over 100 fragments were recovered from the core of the ‘rampart retaining’ wall (LO); most are plain cream in colour, although several pieces (nos 123–5) also show areas of red, and thin black lines, perhaps representing part of a decorative scheme of cream panels framed in red against a cream ground, with fine black inner border lines and black diagonals at each corner. Ten other fragments within this group may be from a ‘marbled’ dado; these have black, white, red and orange splashes on a pink ground (no 126), a decorative scheme common during the 1st and 2nd centuries.

The second group, of 273 fragments, came from one of the uppermost levels (IE) of the heightened rampart. Much of this plaster is a single colour (30% is dark red); other fragments are variously ornamented in two colours, and a single multicoloured piece (no 127) may represent panelled decoration. Several pieces bear part of a ?foliate design in pale blue and green on a white ground (no 128), while others show curvilinear ornament in various colours.
(eg no 129). Several fragments are from a decorative (ceiling?) scheme possibly featuring roundels, as these have curved back or, occasionally, red lines (nos 130, 131). Most pieces are carelessly executed, with areas of overlapping colours and clearly visible brush strokes; such crude workmanship suggests that the decoration was hastily applied in a haphazard fashion.

Notes

1 All brooches were identified by D Mackreth
2 Inv no P70 Ae162 (AQ).
3 X-ray fluorescence analysis by Paul Wilthew, Ancient Monuments Laboratory.
4 Inv nos P70 Ae45 (GV) and P70 Ae117.
5 This has been published erroneously as a military find, described (Mann 1983, 33) as a ‘barnacle pendant’.
6 Inv no P70 Ae21 (GL).
7 X-ray fluorescence analysis by Paul Budd, Ancient Monuments Laboratory, shows that the stud is probably made from a leaded bronze. Examination of the head showed a higher lead count than that of the shaft, suggesting that the former may have been enameled.
8 X-ray fluorescence analysis by Paul Budd, Ancient Monuments Laboratory, confirmed the presence of tinning on both surfaces.
9 Inv no P70 Ae97 (NO).
10 X-ray fluorescence analysis by Paul Wilthew, Ancient Monuments Laboratory, indicated that the shaft is of bronze (copper-tin alloy) while the blade is of gunmetal (copper-zinc-tin alloy).
11 An earlier key-fragment from Hetland, Norway has an openwork handle of circular form, its border enclosing an animal whose limbs are similarly disposed to that of the Park disc. The Hetland beast, however, has two tails, no wing, and simply touches rather than grips the frame (Graham-Campbell 1980, pl 168). I am grateful to Dr Stephen Greep for supplying me with the following parallels to this form of knife: Canterbury (post-Roman context, unpublished), Wroxeter (unpublished) and Liberchies, Belgium (Graff, Y & Bailleux, G, Les objets en os de Liberchies, in Romana Contact, 1979, 48–52).
12 X-ray fluorescence analysis by Paul Wilthew, Ancient Monuments Laboratory, confirmed the presence of solder for attaching strap-end plates to the surfaces of the forks; file marks for keying these are also faintly visible.
13 The terminals of a twist-loop from Amsterdam are bent back towards the loop in similar fashion to a modern eye (Baart et al 1977, fig 179). A twist loop (F72 Ae81) and wire hook (F72 Ae96) found in the same context at Flaxengate may support the interpretation of these loops as dress fasteners.
14 Gilding confirmed by X-ray fluorescence analysis, Paul Wilthew, Ancient Monuments Laboratory.
15 Inv no P70 Fe67 (1G).
16 Part of a double-sided stone mould (Inv no: F74 M85) from Flaxengate shows ornament which is similar in style to the York brooches noted above. One face appears to have been used for casting discs (brooches?), having a central area (now lost) surrounded by a beaded border, in turn encircled by a series of bosses. The outer border is also beaded. The reverse of the mould shows a cross-wise arrangement of four bosses around a fifth, centrally placed; each is encircled by a beaded collar (compare Roedahl et al 1981, 105, YD15). X-ray fluorescence by Justine Bayley, Ancient Monuments Laboratory, detected lead, suggesting that this could have been used for casting objects either of lead or pewter.
17 These are not included by Crummy (1979) in her typology, while Greep (1986, 197–8) comments that the length and thickness of those from Caerleon suggests that they may have served some other purpose than for the hair (cf pins/pegs, nos 83–4).
18 Green staining could, however, be effected by contact with corroding copper alloy under burial conditions; this is demonstrated by the two halves of a bone sneck found at Flaxengate (Mann 1982, 19, no 139)
19 Similar ornament appears on unpublished bone mounts from Cottesford Place (Inv no: CP56 P57) and Hungate (Inv no: H83 1374), Lincoln. This is probably some form of a wax and carbon based substance, and has also been noted by Dr Stephen Greep in the grooves of hinge segments, furniture mounts and handles (pers comm).
20 These are from pins or needles.
21 These are not included by Crummy (1979) in her typology, while Greep (1986, 197–8) comments that the length and thickness of those from Caerleon suggests that they may have served some other purpose than for the hair (cf pins/pegs, nos 83–4).
22 Green staining could, however, be effected by contact with corroding copper alloy under burial conditions; this is demonstrated by the two halves of a bone sneck found at Flaxengate (Mann 1982, 19, no 139)
23 A bone bead, possibly of Roman date, was found in 1987 during excavations at St Mark’s Station, Lincoln. Inv no: Z86 746 (556).
24 One of these may have had a double circular (figure-of-eight) eye, although too little remains to be certain.
25 I am grateful to Dr Stephen Greep for supplying the following parallels to this form of knife: Canterbury (post-Roman context, unpublished), Wroxeter (unpublished) and Liberchies, Belgium (Graff, Y & Bailleux, G, Les objets en os de Liberchies, in Romana Contact, 1979, 48–52).
26 Similar ornament appears on unpublished bone mounts from Cottesford Place (Inv no: CP56 P57) and Hungate (Inv no: H83 1374), Lincoln. This is probably some form of a wax and carbon based substance, and has also been noted by Dr Stephen Greep in the grooves of hinge segments, furniture mounts and handles (pers comm).
27 Inv no P70 B104 (GH).
28 Pottery from AK was mixed up with that from AD; although most is Roman, a few sherds are of 15th century or later date. It is impossible to tell from which context this medieval pottery originally came, and the occurrence of intru-
sive material in either context cannot be ruled out.

29 Inv no P70 M77 (AL).
29 Inv no P70 Sh10 (SL).
31 The flints are included in the catalogue of prehistoric finds from Lincoln, prepared by R Whinney, to be found in the Unit’s archives and to be deposited with Lincolnshire Museums.
32 This and the other stone objects (except hones) identified by Dr F W Anderson.
33 The hones were identified by Mr D T Moore.
34 Inv no P70 M59 (RP).
35 Inv nos P70 M56, 58 (RV)/(RP).
36 Fabrics identified by Margaret Darling.
37 Crummy suggests (1983, 94) that this grinding represents the final stage in manufacture. Most of the discs found in Lincoln, however, do not show this feature, suggesting that such a refinement may not have been considered necessary rather than that the pieces are unfinished.
38 Inv nos P70 P1 (EM)/(WP), P39.
39 The two discs from Period 7 contexts are both of medieval shelly ware; inv nos: P70 P41 (BU), P42 (RK). Fabric identified by Mrs Jane Young. The use of such discs until at least the 17th/18th century is attested by finds from a number of sites in Lincoln, as at Broadgate East (inv nos BE73 P9–11, P13–14) and St Mark’s Church (SM76 P11–13).

(10) Animal bones (Tables 38–43) by Sally Scott

Although the deposits at The Park cover a fairly wide period chronologically, from early Roman through to post medieval levels, the bulk of the bones described here are of late Roman date.

A total of 5277 bone fragments was submitted for examination, of which 65% (3459) proved to be identifiable. Generally, the preservation of the bone was good with less than 2% of the total number of identified fragments being heavily abraded. In certain instances, however, there was a very high proportion of smashed up large ungulate long bone fragments within a context (eg, the context JO) which were recorded as unidentifiable, resulting in some distortion of the data (cf Aird 1985).

In all, material from 252 contexts, many of which yielded no more than a dozen bones, was studied, and although information on individual features was available, it was thought more practical to study the material within phase groups (see p 8 for periodisation of the site).

Methods and techniques

The majority of the contexts were recorded on small index cards because of the paucity of bone within individual contexts. The following information was noted:

1 An approximate estimate of the quantity of bone and any features of preservation, eg gnawing, charring and abrasion.
2 The species, skeletal elements and the fragment types represented.
3 Dental attrition and eruption state (based on Grant 1982).
4 The fusion of longbone epiphyses.
5 Any evidence of disease or injury.
6 Various non metrical traits including the presence and absence of the second premolar in the mandibles of cattle and sheep, the position of the nutrient foramina in sheep femora, the existence of naturally hornless sheep in the population, and the reduction of the third molar in cattle and sheep mandibles.
7 Any butchery marks.

In addition, where possible, measurements from the more complete bones were taken using vernier calipers based on the system devised by von den Driesch 1976. There were five substantially larger contexts which were recorded in greater detail on specially designed recording sheets which include all of the information listed above plus other data. The recording sheets and index cards, together with the other archive material, are stored at the Environmental Archaeology Unit, University of York. The bones are in the custody of Lincolnshire Museums.

Results

Abundance and frequency

In assessing the representation of individual species, two basic methods were employed: firstly, a simple fragment count of all bone fragments identified to species (Table 38a), and secondly, the number of contexts within which a given species was identified (Table 38b). Thus indications of the abundance and frequency of species could be estimated. The use of frequency estimates on data from a site such as this, where the high proportion of very small contexts renders MNI estimates meaningless, can provide an important check as abundance can be distorted by the presence of concentrations of bones within a phase, eg a complete dog skeleton in a single context.

The combined results indicate that cattle was by far the most common species represented throughout all phases of the site (the mean % frequency being 84%, the total % abundance 63.5%). Sheep accounted for 17.2% of the total number of fragments, and was represented in approximately half of the contexts examined. Pig consistently made up less than 10% of the total number of fragments, though in terms of frequency, its distribution was more variable.

The values given in Table 38b for the average number of identified fragments per context underline the small size of individual context-groups, and thus the irrelevance of minimum number of individual estimates. Tables 38a and 38b taken together
### Table 38a Animal bones from The Park: Abundance

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<th>Period</th>
<th>Horse</th>
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<th>Red deer</th>
<th>Fallow deer</th>
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### Table 38b Animal bones from The Park: Frequency

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### Table 39  Dentition (cattle, sheep, pig)

#### Cattle

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#### Pig

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also show the difference between species which were both frequent and abundant (cattle, sheep and pig) and those which although frequently present were only recorded in small total numbers (horse and fowl).

Age at death

Two methods of estimating the age at death of cattle, sheep and pig were employed and the results compared.

Firstly a study was made of the eruption times of the lower dentition (Silver 1969) with amendments by Payne (1984) for cattle and sheep, and Bull and Payne (1982) for pigs, and of the wear patterns on the molars and premolars (Grant 1982). All mandibles from the site were examined and the results are recorded in phases in Table 39. Although the sample was small it did show quite clearly the complete absence of perinatal cattle, sheep and pig. In fact the vast majority of cattle and sheep had reached adulthood (5–6 years in cattle, 3–4 years in sheep). In the case of cattle, there were also some considerably older individuals (28 of the total number of age-attributable jawswere classified aged 7 years or older).

As with many medieval assemblages, the majority of sheep appeared to have been killed off in their third year. The spread of ages for pig however appears to be far more diverse, with only 11.5% of all individuals having reached adulthood.

A study of the fusion times of selected long bone epiphyses was undertaken for the five largest contexts based on the work of Watson (1978) (Table 40). The results for sheep and pig were inconclusive as the sample involved was so small. Cattle, however, appeared to validate the dental evidence in that there was a complete absence of very old individuals. The significance of variation between the five contexts could not be assessed as the numbers involved were too small.

Carcass components

Table 41 records the cattle, sheep and pig bones from the five largest contexts expressed as carcass compo-

Table 40 Epiphyseal fusion (largest contexts only)

<table>
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Key: * u = fused f = unfused Cattle: 1 early fusing epiphyses; 2 intermediate fusing epiphyses; 3 late fusing epiphyses; 4 vertebral epiphyses; Sheep: 5 early fusing; 6 early–intermediate fusing; 7 intermediate–late fusing; 8 late fusing; 9 vertebrae; Pig: 10 early fusing; 11 early–intermediate fusing; 12 intermediate–late fusing; 13 late fusing; 14 vertebrae.

The implications of these findings are complex, for
no two contexts actually complement each other, although they do appear to represent the waste generated at slightly different stages in the butchery process. Parallels can be found in the butchery waste from other Roman sites, but for our purposes notably in the important large groups from Waterside, Lincoln (Dobney et al., 1996). The groups from the Park corroborate the impression from Waterside of highly organised late Roman butchery practice. Some deposits at Silchester also contained a disproportionately large number of scapulae and horncores (Maltby 1984).

**Butchery**

In total, 4.8% of all identifiable bones from the site showed signs of butchery. Because of the numerous ways in which a bone can be butchered and the large number of variables to be taken into account, eg, the region of the bone where, and the plane in which, the blow was struck, quantification of the various butchery methods was not attempted. Instead, the most commonly replicated strokes are discussed below.

Many of the cattle vertebrae exhibited two parallel knife cuts in the paramedian plane, which had effectively removed the transverse processes. This process, known as ‘chining’ (the removal of the vertebral column as one unit) appears to have been fairly common in Roman times. Examples of this butchery technique are also to be found at Cirencester as well as from Lincoln Waterside (Wacher and McWhirr, 1982; see now Dobney *et al*., 1996).

In context JO, a very high proportion of butchered distal humeri was recorded (14.4% of total identified fragments). This mode of butchery was characterized by two parallel longitudinal cuts on either side of the trochlea. This practice may have been for the purpose of removing the ligaments at either side of the articular surface, although within the same context, a very high proportion of cattle humeri and other large ungulate long bones had been smashed up, presumably for the extraction of marrow. (The great

### Table 41 Abundance of skeletal elements in largest contexts grouped by carcass component

<table>
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<tr>
<th></th>
<th>Horncores</th>
<th>Skull</th>
<th>Vertebræ</th>
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<th>Forelimb</th>
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majority of these fragments were recorded as unidentifiable.)

Butchered sheep bones largely comprised vertebrae split down the paramedian plane, indicative of the splitting of the carcass into sides. Of the small number of pig bones found, very few showed signs of butchery, and these butchery marks appeared to represent a random selection.

The complete absence of butchered horse and dog bones suggests that these species were probably not being kept as a food commodity; rather that their role in the city was a functional one. Horses were probably kept as draft animals, and dogs may have been bred for sport or guard duties.

Biometry

Where possible measurements were taken using the system devised by von den Driesch (1976). The collected data form part of an archive which is intended to be included in a wider study of Roman material from Lincoln. For the purposes of this report only selected groups of measurements are considered.

It was possible to measure a very large number of cattle horn cores, although the tip of the bone had very often broken off and the greatest length measurement could not be taken. In the cases where the horn core was complete, the greatest length was
plotted against the basal circumference (Table 42). What this plot appears to show is two distinct horn types. The larger of the two groups represents a ‘Shorthorn’ type of horn, and within this group there appears to be an internal distinction (perhaps cows and steers?). The one outlier on the graph is a far larger individual, a distinction too great to be explained by sexual dimorphism, and it probably represents a longhorn type (Armitage and Clutton-Brock 1976).

There were not sufficient numbers of any one sheep or pig element with which to make biometrical analyses, and in addition the pig bones were largely immature.

A large number of dog bones was recovered and recorded. Measurements are given in the archive, but as a general observation there was a considerable size range represented. A high proportion of the dogs were very small and robust in stature and, where complete skulls and mandibles were available, appeared to be short muzzled and ‘terrier-like’ in appearance. By contrast, there were also the bones of long-limbed, more gracile individuals. The greatest length measurements of the two radii found were 183.7mm and 91.1mm respectively.

Domestic fowl showed quite considerable variation in size which may be explained by sexual dimorphism, although the sample involved is too small to interpret with any certainty.

Non-metrical traits (Table 43)

By studying the occurrence of certain genetically determined traits in the bones and teeth of cattle and sheep, variation in the gene pool over time can be gauged. Also, as all of the traits are thought to be genetically recessive, a high incidence of any one would suggest that interbreeding within a small population was almost certainly taking place.

Because the sample was so small, it was not practical to compare all phases, therefore the results are based upon two chronological groups, Roman and medieval. The occasional congenital absence of the second premolar in cattle and sheep mandibles has been studied in both ancient and modern populations (Andrews and Noddle 1975). At The Park, P2 was absent in 5% of cattle mandibles, and 4% of sheep mandibles. The medieval group produced a similar result for sheep, but the two cattle mandibles preclude any further comment. Roman levels from Coppergate, York (O’Connor 1985b) failed to produce a single cattle or sheep mandible without a second premolar, although again the number of mandibles involved was very small.

Interestingly, whilst no sheep mandible possessed a reduced third molar, three out of a sample of 50 cattle jaws, all of Roman date, exhibited this trait. An even higher incidence has been noted in Roman assemblages at York (O’Connor 1988, 89–90) and at Exeter (Maltby 1979). Maltby goes on to suggest that whilst in modern cattle populations this trait seldom occurs in more than 1% of the individuals, it may have been slightly more common in Roman breeding stock (Maltby 1979).

As regards the position of the nutrient foramina in sheep femora (Noddle 1978) the sample was really too small to compare with the results from other sites, although the indications were that the proximal locus was, as usual, the most common position of the foramen, and the midshaft locus was very uncommon.

Other discontinuous traits recorded were the occurrence of polyceracy amongst sheep and the proportion of naturally hornless sheep within the total population. There were no examples of polycerate sheep, and only one tiny fragment of frontal bone which was polled.

Disease and injury

Very few of the bones showed signs of disease or injury and such examples as were found showed no concentration in any stratigraphic phase.

1. Cattle – metatarsal with naviculocuboid fused in situ, probably as a result of chronic strain to the ankle joint.
2. Pig – accessory metatarsal with localized infection at midshaft resulting in huge expansion of the bone.
3. Horse – first phalanx with bony changes around all aspects of the distal articulation, probably attributable to ring bone or arthritis.
4. Domestic fowl – one left tibia with localized infection on the distal half of the medial surface of the shaft.
5. Domestic fowl – one left tibia with idiopathic bowing of the midshaft.

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**Table 43 Non-metrical traits**

<table>
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<tr>
<th></th>
<th>A1</th>
<th>A2</th>
<th>B</th>
<th>C1</th>
<th>C2</th>
<th>D</th>
<th>E1</th>
<th>E2</th>
<th>E3</th>
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</table>

Key: Cattle: A1 – P2 present; A2 – P2 absent; B 0 reduced third molar; Sheep: C1 – P2 present; C2 – P2 absent; D – reduced third molar; E1 – proximal nutrient foramina present; E2 – proximal nutrient foramina absent; E3 – midshaft nutrient foramina present; E4 – midshaft nutrient foramina absent; E6 – distal nutrient foramina absent.
Birds and minor species

The range of species from the site was not extensive, and included no fish whatsoever. Therefore in this section, mammals other than the major domesticates and birds are discussed together.

In terms of abundance, dog was the most common species behind the three major domesticates, but this figure is somewhat distorted by a number of complete skeletons (in contexts GK, KU and SH).

Very often on urban sites the presence of horse is highly correlated with that of goat, although in this instance not a single goat bone was identified from the site. Deer and wild boar accounted for less than 1% of the total number of identified fragments, which indicates that, at least in this area of the city, wild game species do not seem to have provided a significant dietary component. Red deer was almost entirely represented by fragments of antler, which appears to be the waste generated from the working of antler artefacts. Roe deer was represented by one fragment of mandible and a sliver of metacarpal.

The distribution of bird bones throughout the phases was rather variable, and the combined total of domestic fowl, goose and wild bird bones accounted for less than 5% of the total number of identified fragments. In part, the lack of bird bones may be explained by the shortcomings of hand recovery. Of the wild species represented, mallard was the most abundant, and would have been taken locally. Species such as the golden plover, woodcock, whooper swan and grey heron are wetland birds, which may suggest that wild birds were trapped during the winter months, a quiet period in the agricultural calendar.

The raven (represented by a single bone fragment) was a common scavenging bird in Roman and medieval towns, and its bones have been found at other contemporary sites, eg Coppergate, York (O’Connor 1985b); and Exeter (Maltby 1979). The two barn owl bones are an interesting chance occurrence; it is very unlikely that the bird was eaten.

Discussion

Although the bone assemblage was rather small, a number of interesting conclusions could be drawn from the collected data.

Cattle obviously formed the mainstay of the diet, apparent both in terms of frequency and abundance. When carcass components were studied in some detail, it was clear that the butchery of cattle in this area of the town was taking place on a very large scale in the late Roman period, as also indicated by the groups from Waterside (Dobney et al., 1996). Moreover, the butchery processes appeared to be

quite unlike standard medieval practice and more like that of modern methods. Bone debris from the slaughteryard itself would be typified by accumulations of horn core, skull, and, should they survive and be recovered, phalanges. Because the five largest contexts studied in detail produced quite distinctive accumulations of specific skeletal elements, it would seem to suggest that the carcasses were distributed from the slaughterto specialist butchers where further dismemberment of the beast took place.

Butchery marks appear to attest to this hypothesis with concentrations of specific cattle bones butchered in a certain way, eg, ‘chined vertebrae’ and the heavily butchered distal humeri. The comprehensive smashing up of limb bones, particularly humeri in context JO, would seem to suggest that the extraction of bone marrow, possibly for the manufacture of glue, was a common practice.

The very small percentage of bones which showed signs of gnawing and abrasion seem to indicate that the deposition and burial of bones in the five large contexts was a rapid process. (Those contexts which did show high levels of abrasion were chiefly recorded as road metalling.) These results have very close parallels with excavations on the town defences at Silchester (Maltby 1984) and Exeter (Maltby 1979).

As far as age distribution is concerned, cattle and sheep appear to have been slaughtered when a viable body weight had been attained, which in the case of sheep was around 3 years, and in the case of cattle, 5–6 years. The presence of considerably older cattle may represent breeding stock or beasts being kept for secondary products such as milk and haulage. The wide age range of pigs represented from the assemblage may suggest that stock controls governing these animals worked upon a different system from that of cattle and sheep. It is conceivable that pigs were kept by individual households as pigs have no secondary products apart from the skin, and they could have been slaughtered at almost any age. Pigs breed rapidly, and so only a small breeding stock of adults need be maintained.

As far as variation in ‘breed’ amongst the major domesticates is concerned, it was only possible to say with any certainty that cattle of at least two horn-types were represented: a longhorn and a shorthorn variety. Sheep appeared to be generally rather small, and pigs rather variable (in some instances there was difficulty in distinguishing between large domestic pig bones and those of wild boar).

Non-metrical traits, a useful indicator of the extent of interbreeding within a given population seemed to suggest that this practice was indeed taking place amongst cattle (the high incidence of a reduced third molar attests to this).

Aside from the major domesticates, domestic fowl and dog were the next most abundant species, but both accounted for less than 5% of the total identified bone. The absence of butchery marks on both dog and horse bones would seem to imply that they were being kept for purposes other than as a food source.
Species such as wild boar and wild birds such as woodcock, golden plover, and mallard accounted for only a very small percentage of the total fragment count, and whilst preservation and problems of recovery may in part account for this, they probably only provided a minor dietary supplement.

The complete absence of fish bones is unlikely to reflect what was actually being consumed on site, but as no samples of soil were bulk sieved for small bones, it is unfair to speculate further. Quite a number of oyster and common whelk shells were included in the bone material from the site, but discussion of their role is beyond the bounds of this report.

In summary, the animal bones from The Park covered a considerable period of time (from early Roman through to post medieval levels) during which time the area underwent fairly major reconstruction and renovation of the city defences. The majority of the bones pertain to the late Roman period and consist mainly of primary deposits judging by the preservation of the bone itself. The five large contexts which were studied in some detail would seem to suggest that somewhere in the vicinity, specialized butchery was taking place, and debris from this process was being dumped onto the ramparts and berm of the city wall.
Summary of the sequence at The Park by M J Jones

This section draws together the evidence from the various trenches at The Park to produce a synthesis of the stratigraphic sequence and interprets and dates this sequence in light of the artefactual evidence. Setting these interpretations into the context of the evidence from other parts of the city and from similar sites is dealt with in the General Discussion (p 259 below).

Period 1 Occupation predating the first defences

Although the site produced sporadic finds of legionary date in the form of coins, pottery, glass, and other artefacts including some military items, there was no definite structural evidence for occupation dating to before the foundation of the *colonia* towards the end of the 1st century. The earlier material may well have been derived from occupation nearby, either closer to Ermine Street to the east or nearer to the waterfront to the south.

The long, and regularly replaced, series of trenches found principally in Areas II and III 1971 requires some comment. Some at least indicate timber buildings, although others could have been dug for horticultural purposes. From the start they appear to have been laid out on a regular grid – more or less parallel to Ermine Street – and this was roughly the date when the hillside was being planned (Jones 1988, 164; *Lincoln Archaeological Studies*, forthcoming). Unfortunately no associated street has yet been discovered, but there may well have been an existing east–west street on the line of the later gateway. Nor is it possible to identify the function of the structures – and some may not in fact have been buildings – since little evidence survived for their superstructure and few close parallels are known. Similar, but not identical parallel gullies were found at Lancaster in 1988 but again identification has been difficult (pers comm J H Williams). These are now considered to have had a horticultural function. It is however, more likely that the important parallel to the remains found at the Park is represented by the warehouses discovered at Coney Street, York (Hall 1986). These were storage buildings for grain, built to a civilian rather than military design. Houses with associated plots and, perhaps, workshops would be another possibility, but there were no associated artefacts to help with this problem. The finds tended to be domestic in nature (see pottery and other artefacts reports, above). A further alternative is commercial properties which appear in the early development of many new towns, as at London and Colchester (Perring 1991; Crummy 1984). The remains indicate a burgeoning settlement on this part of the hillside by the early–mid 2nd century. Subsequently, construction methods varied, but the only evidence for a building of substantial construction was in one corner of the site. The later rampart ‘retaining wall’ incorporated a quantity of wall plaster (nos 123–6; Fig 85) which might have been derived from the last structures to be demolished to make way for the fortifications.

Period 2 The earliest defences

Encapsulated within the later gate towers were the best-preserved sections of the first *colonia* wall. This had foundations 0.9 m (3 ft) deep, and was c. 1.5 m (c. 5 ft) wide. It was faced with neatly dressed blocks of limestone, fairly even in size, containing a core of mortared rubble. There were two offsets, at both front and rear. The associated rampart, of sand and clay, was initially c. 7.5 m (c. 25 ft) wide, although definite proof of its contemporary construction came to light not at The Park but at West Parade to the north (below, p 187). By projecting the slope of the rampart eastwards, it is possible to suggest that it was c. 2.5 m (c. 8 ft) high, and the wall in turn perhaps up to c. 4 m (c. 13 ft) high (Fig 124). Dating material for its construction, much of roughly contemporary date, indicated a *terminus post quem* of the late 2nd century, and a possibility that it was built as late as the early 3rd century (see especially the pottery dating report, above, p 124). This rampart bank was fairly clean and contained few artefacts of note. Subsequent extensions were made and dumping of rubbish took place to the rear of the rampart during the 3rd century. The rubbish included much earlier material. The first extension added c. 3.5 m (c. 12 ft) to the width of the rampart, and it may have been correspondingly heightened against the wall.

The ditch system associated with this period consisted of one, or two, or even three ditches. The innermost ditch lay c. 2.5 m (c. 8 ft) from the wall front, and was c. 2.2 m (c. 7 ft) wide and c. 1 m (c. 3 ft) deep (Fig 124, A1). It was probably superseded by another ditch, c. 4.5 m (c. 15 ft) wide and c. 1.5 m (c. 5 ft) deep.

Period 3 Added interval tower

Possibly contemporary with the extension of the rampart and with modifications to the ditch system was the addition of an interval tower to the internal face of the wall. Fragments of all three new walls were discovered, the foundations 1.2–1.5 m (4–5 ft) wide (cf West Parade, below, pp 189–91). An area of rampart must have been removed in order to accommodate the tower, and the spoil may have been
deposited on the adjacent bank. Internally the tower measured 4.2 m (14 ft) north–south by 5.3 m (17 ft) east–west, and may have contained a stone floor and a contemporary wall. It was built in the mid to late 3rd century. During the same period, further dumping on the rampart took place.

**Period 4 Possible early gate**

In the 4th century the interval tower was demolished and the defences immediately to its south breached in order to create a gateway. The location of the gate may have been determined by that of an internal east–west street. There were signs that the original plan of the gate, a type found at Breisach in Germany (Nierhaus 1940), was modified during construction. Its ‘flanking’ walls had deeper foundations than the main gate towers, and were 3–3.3 m (10–11 ft) wide and extended 7.6 m (25 ft) to the east of the *colonia* wall. The mortar used in its construction was also distinct from that of Period 5.

**Period 5 Construction of gate towers**

There is some stratigraphical evidence to suggest that the early gate plan was modified before any roads had been laid, to allow for squarish projecting towers to be constructed. These formed a gate of ‘Andernach type’ known especially from military contexts (Fig 86; von Petrikovits 1971, 200f; Johnson 1983, 48–50). The towers survived up to 5 m high (consisting of 23 courses) at the rear of the south tower. The *colonia* wall against which they were built had to be demolished to a certain height, and was subsequently covered by the rubble and mortar of the new tower’s core. The lower courses of the new construction consisted of large reused blocks, the north tower incorporating a number of moulded fragments and at least one decorated piece. Each tower measured 8.2 m (27 ft) east–west by c 6.1 m (20 ft) north–south including the plinth, and each included chambers at a level c 2.4 m (8 ft) above the street. Presumably they were entered by stairs from above. The roadway was c 4.5 m (15 ft) wide, and a gatestop from the earlier surfaces survived *in situ*. There was no definite evidence for either a bridge or a causeway across the ditch.

Coins from the associated road indicate a construction date towards the mid 4th century (above, p 21), though whether this was for the Period 4 or 5 gate remains uncertain. While the coin of Valentinian I supposedly embedded in the core of the north gate tower (p 16, above) cannot be accepted as certain dating, it would suggest a considerably later context. The creation of a new gateway at this point and its
style have certain implications, but not all are clear. A new access to the waterside (in the context of rising river levels) or to the adjacent suburbs may have been needed, but more evidence of the date of occupation in these areas is required. (Remains of buildings were noted by Miss Colyer to the west of the ditch here in 1971 and to the south of the SW corner of the defences in the same year.) The reuse of sepulchral and monumental masonry, rare in Britain, is also noteworthy, and tells us something of the town’s priorities at this period. In itself, it says little regarding paganism, rather pragmatism.

**Period 6a Refurbishment of the Defences (Fig 86)**

Subsequently, but possibly as part of the same major operation, the wall to the north of the gate was rebuilt from foundation level, while that to the south was thickened internally. A new ditch, c 25 m (c 80 ft) wide, may belong to the same period. There was a berm c 4 m (13 ft) wide. The rampart also underwent considerable strengthening, and was heightened by up to 2 m (c 6 ft) with dumps of material, much of it residual from earlier rubbish deposits; the final dumps were of cleaner sand and clay. Study of the pottery, glass, other artefacts and animal bones shows that no two dumps were exactly identical in terms of their material content, but there were large groups of artefacts of late 2nd–mid/late 3rd century date, and good evidence from various dumps for specialized butchery practices. The likely sources for the pottery and finds (see detailed descriptions, above, p 128) are of some interest — domestic occupation debris containing mainly kitchen wares initially but also much tableware later: was this a reflection of the increasing size of the nearby town-houses and of the private wealth and ostentation of their owners? The new rampart sloped only gently eastwards and occupied at least 25 m (80 ft) to the rear of the wall.

In addition to the residual material, sufficient dating evidence was forthcoming from the rampart to indicate a mid to late 4th century date for this burst of activity. The new wall was c 3 m thick, and like the rampart was presumably heightened: the late wall of the upper circuit is estimated to have stood c 7–8m high (Jones 1980, 53–5).

**Period 6b Latest Roman and sub-Roman occupation**

The coin series from the road surfaces in the gateway and a dump of rubbish adjacent to the north tower indicate that occupation in this area continued certainly until the last decade of the 4th century and possibly for a few decades beyond (see coin report, p 51). There may have been some further dumping and/or activity on top of the rampart. At the same time, the rubbish dump (Darling 1979a, and late rubbish group, above, p 133) hints at a breakdown in municipal standards. The date of disuse is uncertain. Any continuation of the road inside the city walls was also lost in the post-Roman period.

**Period 7 ‘Saxo-Norman’ reoccupation and medieval properties**

Evidence for renewed activity in the form of pits and possibly slight structures dates no earlier than the 11th century. By this time the line of the Roman street had been lost and presumably the gate was no longer used. Interestingly, the site produced two finds (Fig 67, no 36; Fig 75, no 66) thought to be products of the 10th–11th century metalworking activity at Flaxengate; virtually identical pieces were found in 1981–2 at Grantham Place and Grantham Street (see Fig 129). The contemporary material mostly represents domestic rubbish.

Some activity in or soon after the late 12th/early 13th century, possibly in connection with the refurbishment of the fortifications and the recutting of the ditch, was also detected. A copper alloy strap-end buckle (no 37), of 13–14th century date, was found associated with this phase. There was no evidence that the wall itself was repaired or heightened: it may have required little modification. Finds from pits in Area IV, 1972, and from overlying layers, extended into the 15th century; the pits lay in the back yards of houses fronting on to Old Hungate to the east (Fig 125). The historical background to this period and the next is described in the General Discussion (Part IVb, below, p 262).

**Period 8 Late medieval and post-medieval occupation**

Occupation of some sort may have continued throughout the medieval period, although this was a marginal area of the town set back considerably from any contemporary street frontage. There were, however, definite traces on the top of the rampart of at least one building with stone-based walls, presumably of domestic function, which dated to between the late 15th and 17th centuries. Subsequent robbing operations of the Roman masonry, especially on the north side of the gateway, provided collections of post-medieval pottery and glass, as well as several domestic objects, in the backfill. The construction of the walkway over the line of the Roman city wall in c 1720 helped to protect the remains, although house construction on its line in the early–mid 19th century meant that some architectural fragments incorporated into the rebuilt wall came to light.
II WEST PARADE 1971–2
Figure 87  Plan of the West Parade site showing the excavated areas
Introduction

The site excavated in 1971–2 lay to the north of the modern street of West Parade and was bounded to the east by the road Beaumont Fee and by the path Motherby Hill to the west (SK 9736 7155; Fig 87). The whole site covered an area of almost 0.4 ha (1 acre) and was occupied by early Victorian terraced houses. Their demolition in the early summer of 1971 (Plate 30) made way for the construction of the new Lincoln Divisional Police Headquarters, begun in 1973.

By the summer of 1971 the excavations at The Park, c. 100 m to the south, were already well into their second season (see above pp 15–19). It had already been established here that the west wall of the lower Roman and medieval city lay beneath the early 19th century walkway known as The Park. The earliest wall was 1.5 m (5 ft) thick and had been built in about the late 2nd or early 3rd century AD, although little survived of the original wall above its foundations owing to the 4th century rebuilding work. When the gateway at The Park ceased to function as such could not be established, but it was certainly not in use after the 13th century, when the road through it was cut off both to the rear by the pits of stone robbers removing the backs of the gate towers and in front by the recutting of the city ditch which dug through the road outside the gate.

Since little else was known of the area from previous findings these results at The Park formed the background to proposed archaeological work at West Parade. The walkway of Motherby Hill represented the continuation of The Park northwards from West Parade and therefore was likely at least partly to overlie the Roman city wall. The line of the city wall ran beneath the street of West Parade just below the 15 m contour. It has been suggested that West Parade overlies a Roman road running westwards through a gateway here and this suggestion is supported by the discovery of burials alongside West Parade outside the town wall to the west (Hill 1948, 5; Whitwell 1970, 36). A similar arrangement did occur on the opposite, east, side of the lower city at the equivalent place just below the 15 m contour except that there the possibility of a Roman gate is given further support by the presence of a medieval gateway (Clasketgate) on the same site, which is known to have stood until the 18th century. This eastern gateway may have been a remodelling of a Roman predecessor as was the case in the upper city. It appears, however, that there were no longer any gates or streets across the line of the west wall of the lower Roman city at the time of the publication of John Speed’s map of Lincoln in 1610.

The medieval development and layout of this part of the town is not at all clear from previously published work on the area, although parts of it were occupied from 1086 (summarized by Hill 1948, 50). Much of the area must have been deserted from as early as the beginning of the 13th century, not to be reoccupied until the mid 19th century (see p 204, below).

The site at West Parade therefore offered a good opportunity to compare the development of the defensive arrangements on the western side of the lower Roman town with the evidence from The Park, but particularly to examine a sample of that part of the interior close to the western defences here, and also to look for any evidence for the settlement associated with the hilltop legionary fortress which might have formed the basis for the earliest development of the lower town. It also provided a chance to discover something of the late Roman and post Roman fate of this part of the town, as well as the date and nature of occupation in the medieval period.

Methods and constraints

The site available lay between the 15 m and 25 m contours immediately below the steepest part of the hill. The modern subsoil here was clay, sometimes overlain by a thin layer of sand. Although the whole site covered about 0.4 ha (one acre), which included the medieval (and perhaps Roman) street frontages on its east and south sides as well as the Roman city wall under Motherby Hill, only restricted access to the area was granted by the developers. Eventually, compensation was agreed for the developers and permission was obtained for the excavation of a narrow strip of ground, 5 m wide, alongside Motherby Hill, as well as two adjacent L-shaped trenches, which were the only areas away from the defences where any excavation was allowed (Fig 87). There were still constraints on depth, so full information retrieval could not be achieved even within these limits. Excavation of these two central areas, Areas I and II, was begun in July 1971 and was completed four months later. Excavation along Motherby Hill (Areas III–V) took place in stages between August 1971 and January 1972.

Each small area was excavated independently and in each a separate sequence of letter codes was used to record each deposit or feature as it was removed, ie, Area I AA, AB ..., Area II AA, AB ..., etc. A series of pits was excavated in both Areas I and II and in each Area a separate series of numbers was used to identify the pits, although each pit sometimes con-
tained fills which were given one or more letter codes depending on how the material inside it was separated. The area proved to be deeply stratified and, in common with much of the city, the natural subsoil was found to lie on average about 3 m below the modern ground surface. Parts of the site had been disturbed relatively recently, especially during the 19th century redevelopment. This disturbance affected the western (Motherby Hill) frontage where the construction of cellars and a later air-raid shelter had removed much earlier material and had left the surrounding ground unstable, necessitating the use of shoring. The excavation was carried out using imperial measurements. These have all been converted to metric for the purposes of the report, but the photographs retain the original scales using feet and inches.

The discoveries

The discoveries are presented in chronological order across the whole of the site, in seven stratigraphical periods (not corresponding in numbers to those at The Park except for Periods 1–3). Most of the discoveries of the Roman period (Periods 1–5) relate to the defences, apart from a late Roman structure. Most of those of the later periods (6, 7) relate to the internal areas. Some areas had no surviving Roman stratigraphy, suggesting that terracing operations had taken place subsequently.

**Period 1: Deposits and features predating the earliest Roman defences of the lower town**

The only trace of occupation definitely predating the construction of the first (Period 2) wall and rampart was found in Area III beneath the rampart, which had been piled up behind the wall after the latter was built. The edge of an east–west gully or slot was found inside the area of the later interval tower. At either end and to the south it had been cut away by the foundation trenches for the tower. This feature (III BW) had been cut into the natural subsoil which, as over other parts of the site, consisted of orange-brown sand overlying clay. The feature appeared to have been fairly shallow, possibly indicating a slot for a horizontal timber associated with a building, although no further features were found to support this suggestion.

The feature was filled by sand which also formed a thick layer about 0.30 m (c 1 ft) deep over the whole of Area III, inside the tower and to the south, which was excavated this far down. This sand (III BL, BZ, CB) was rather darker than that of the natural subsoil beneath and also contained small amounts of other materials, including fragments of charcoal and pottery, fairly evenly dispersed. It may have been a sandy accumulation associated with the occupation contemporary with the life of the hilltop legionary fortress, and/or with the early development of the *colonia*. It had been hoped that traces of 2nd century settlement might be found on the site (as at The
Park), but in the areas excavated the damage caused by later disturbances was extensive, and it was not surprising that no such traces had survived. The existence of the thick layer of sand found sealing the slot is unlikely to represent material dumped and levelled out when the work on the defences was begun and probably indicates occupation nearby.

**Period 2: Construction and first period of use of the earliest defences**

The defensive wall built on the west side of the lower Roman city was found surviving to various extents in Areas III, IV, and V (Figs 1, 87). It ran at a slightly oblique angle to the pedestrian way Motherby Hill, which formed the western limit of these areas, so that at the northern end of Area III it mostly lay under Motherby Hill, while at the south-west corner of the site its full width lay under the base of a 19th-century cellar which formed the limits of Area V. The sequence of construction can clearly be seen in Fig 88 and Pl 31. A foundation trench 2 m wide and 1.5 m deep (found at the southern end of Area III) was dug and filled with layers of carefully packed limestone rubble. Each layer of rubble was laid and covered to a depth of about 10 cm (4 in) with clay which was rammed down to form a firm bedding for the layer above. Above ground level the wall was built of limestone blocks set in pale brown sandy mortar. The lower two courses consisted of larger, fairly rough blocks up to about 0.5 m (20 in) long by 0.2 m (8 in) thick. The wall was about 1.9 m (6 ft 3 in) thick at this point. Above, there was an offset and from this point upwards the wall was built of small roughly dressed blocks mostly 0.15–0.2 m (6–8 in) long by 0.1–0.15 m (4–6 in) thick. The wall had been further stepped in 0.15 m (6 in) higher up, narrowing to about 1.5 m (5 ft) at this point. This compares well with the evidence from The Park (p 15).

Towards the north part of Area III the *colonia* wall was best preserved and here it survived to a height of nearly 3 m (10 ft). No attempt had been made to terrace it into the hill slope and the wall ran parallel to the gradient of the hillside.

When the foundations of the wall had been completed to ground level the gap between the edge of the trench and the foundations had been filled with sand. Above this, interleaved layers of limestone chippings, pale brown mortar and sand marked the level from which the upper part of the wall was built. This construction debris was in turn sealed by a 0.3 m (1 ft) thick layer of clean orange-brown sand (III BU). This material was dumped and levelled off only after the first 2 m (6 ft 6 in) of wall had been built, and possibly after the whole had been completed.

Cutting into the sand layer were two slots 1.75 m (5 ft 9 in) apart running parallel to the wall; the more westerly lay 1 m (3 ft 3 in) east of the wall (Fig 89). At the southern end of Area III an east–west slot
linking these two was found. The slots were approximately 0.2 m (8 in) wide by 0.1 m (4 in) deep. The bottoms of the slots as well as most of the thick sand layer through which they were cut were covered by two thin layers of mixed charcoal and ash interleaved by a band of sand (III BT). The slots may have formed the trenches for horizontal beams, but at least indicate the plan of a timber structure. What its purpose might have been is not clear. The spacing seemed rather wide for scaffolding associated with construction of the upper stages of the wall and, in any case, no mortary construction debris was found at this level. A building associated with construction work would seem more likely, the ashy material associated with its use or demolition having split into the slots after it was demolished and the timbers, including the foundations, removed.

Above the slots and the ashy material was a series of rampart layers (III BG, BP, BR, BS) which had been piled up against the inside face of the town wall (Pl 31). These consisted of dumps of clay and orange-brown sand. The presence of the slots, ashy material, and any possibly associated building, as well as the absence at this level of any construction debris associated with the town wall, suggests that some time elapsed between the building of the lower part of the *colonia* wall and the piling up of the rampart layers behind it. It is impossible to estimate how long this was, whether weeks, months, or years.

The interleaved and mortary layers found over the foundations of the town wall and under the slots and ashy material were associated with the building of the wall, and much of the sand may have been derived from the foundation trench when it was dug. The great volume of clean sand and clay forming the rampart layers above were most likely to have been produced by the digging of a ditch outside the town wall, although at this point the land drops away naturally to the west. The top of the rampart did not survive and the tail was beyond the limits of excavation but, calculating roughly from the profile of the most nearly complete section at the south end of Area III, it appears that the rampart had been about 7–8 m (c 25 ft) wide and about 3 m (10 ft) high at this point (cf The Park, above, p 29).

Along this stretch, then, the *colonia* wall appears to have been built first, followed, possibly some months or years later, by the digging of the town ditch and the corresponding banking up of the rampart behind the wall (cf Colchester: Crummy 1984, 14–15).

A small amount of pottery was found in the sandy deposits associated with the construction of the *colonia* wall, the ashy material associated with the intermediate timber building and the rampart layers above. This was not closely datable, with the exception of a stamped samian base which came from the clay of the lowermost rampart layer (III BS). The stamp has been identified as CAVPIRRA of Lezoux, die 7a, and has been dated to c 160–90 (see below, p 210). The coarse pottery appears roughly to cover this date range, although a colour coated beaker may be more likely in an early 3rd century context. Thus the rampart may not have been built much before c AD 200, and possibly a little later. If the *colonia* wall was built a few years earlier, a date for its construction within the range AD 175–200 or soon after would seem the best approximation. This corroborates the evidence from The Park (above p 124).

The internal Areas I and II produced no deposits or features which could be ascribed either to Periods 1 or 2.

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*Figure 89 Plan of interval tower, adjacent *colonia* wall and early features cut into lower rampart*
Period 3: Construction and use of the interval tower

An interval tower was subsequently erected against the inside face of the colonia wall. It was found in Area III approximately 50 m (160 ft) north of the likely site of a Roman gate belonging to the Period 2 town wall beneath West Parade (see above, p 185). Apart from the south part of its south wall, which had been removed by a 19th century cellar, the walls of the interval tower survived well, and in one place, at the north-west corner of Motherby Hill (Figs 89–90 and Pl 32), they lay directly beneath the modern ground surface, 3 m (10 ft) above the tower’s foundations.

Externally it was of rhomboidal plan, measuring 10.8 m (36 ft) north–south and 7.2 m (24 ft) east–west. The walls were very thick, the south wall 5 m wide (c 16 ft), the north wall 3.2 m (9ft 9 in), and the east wall varying from 3 m to 3.4 m (10 ft to 11 ft 3 in) wide. The position of the south-east corner of the tower could only be conjectured as it lay beyond the limits of excavation.

In order to insert the tower, an 11.5 m (38 ft) wide section of the rampart behind the town wall had been dug out down to ground level. Foundation trenches of about the same thickness as the walls had then been dug through the underlying sand layers. These were traced to a maximum depth of just over 1 m (3 ft 3 in), although it is presumed that they had been dug down until a firm clay subsoil was reached. This was at a depth of 1.5 m (5 ft) where the colonia wall foundations were examined nearby to the south.

The tower’s foundations themselves had been built, in a similar way to those of the colonia wall, of layers of limestone rubble, each layer covered with clay rammed down to form a firm bedding layer for the next rubble course. A gap had been left between the foundations on the south side and the edge of the foundation trench, and this had been packed with clay (III CC), before the upper walls were built up to about ground level. Above this the tower walls were faced with roughly dressed limestone blocks, on average about 0.25 m (10 in) long by 0.12 m (5 in) high. These were set in a pink pebbly mortar. Behind the facing blocks the wall cores were built with courses each consisting of neatly packed limestone rubble capped with a layer of pink pebbly mortar in which the next course of stones was set. The walls (III AF) of the tower formed one continuous construction butting up against the colonia wall without any attempt to key it in.

The internal faces of the tower walls had not been pointed neatly, in contrast to the east face and north-east corner. Two putlog holes survived near the top of the north wall (Pl 32), presumably associated with scaffolding used in its construction. The holes were about 1.5 m (5 ft) apart and could hardly have been used to locate the joists of a suspended wooden lowermost floor with which the tower must have been provided. The floor joists were presumably located higher up, above the surviving
Figure 90  South facing section through interval tower, showing deposits predating, contemporary with, and postdating use of tower

Plate 32  View of interval tower built against original colonia wall, looking NW, with rear face of later thickening of colonia wall to N (behind ranging pole, r h)
walls and possibly higher than the rampart level outside. The lack of pointing lower down suggests that the walls here were not expected to be seen. The ground surface which had been left inside the tower after the building of the walls was an uneven clayey sand which, in places, was overlain by stone chips and pink pebbly mortar (III BH, BI), construction debris from the building of the walls. This bore no signs of having been levelled out for use as a floor (see Figs 89–90; Pl 32), and in any case could only have served as a cellar. It had in turn been covered by debris associated with the tower’s demolition. It would appear from this that the lowest floor of the tower was supported by timber joists located above the ground level of the surviving walls and that the space underneath was probably not used at all, even for storage.

After the tower’s construction, the sand and clay of the section of the rampart which had been dug out was used to fill in the spaces left between the walls of the tower and the earlier rampart, and the rest of the material was used to cap the rampart on either side of the tower.

Access to the tower may have been provided by steps on one side, on top of the rampart, or by a wooden stairway at the back (east side), or even simply by access from a parapet on the colonia wall. No sign of any such means of entry was found.

The meagre amount of datable material found in the layers associated with the building of the tower came from the rampart material redeposited after construction and therefore may be largely residual. The pottery indicates a date no earlier than the late 2nd century, (below, p 209), but the tower may have been built somewhat later, possibly not before the mid 3rd century and even as late as the early 4th.

In the internal Areas I and II, only in the northern part of Area II did any Roman features survive. The earliest was a ditch running east–west, although only its lower part on the west side of the area remained below later disturbances. It had been cut through the underlying sand subsoil, but no contemporary ground levels or other features survived. It was 0.6 m (2 ft) wide but of an unknown depth, and may have been for drainage purposes relating to a nearby structure or property. It gave the appearance of having first partially silted up, then having been filled up with a mixed clayey sand. A little associated pottery in the fill was of roughly a 2nd to 3rd century date. It seemed to belong to Period 3 but too little survived to draw any further conclusions.

**Period 4: Late Roman modifications to the defences**

At some stage it would appear that the interval tower had become derelict, and finally much of the upper part was demolished. Cracks were found in the north wall (Pl 32), which suggests that more serious cracking and associated structural problems may have occurred higher up. Modern buildings in this area also suffered from cracking and related subsidence problems during the drought year of 1976, when the water table sank so low that, in places, the clay subsoil shrank. The interval tower may have suffered in the same way.

Inside, the lower, hollow part of the tower had been filled in after its demolition. The lower part of this infill consisted of mixed demolition debris (III BF), mainly limestone rubble, mortar, and red earthenware roof tile fragments, up to 1 m (c 3 ft) deep (see section drawing, Fig 90). In the debris was a large number of bird and animal skeletons which throw more light on what happened to the tower before it was finally demolished (see report on animal bones below, p 244). The carcasses of several dead dogs had been thrown inside the interval tower after it had fallen into disuse. A number of bones associated with human food consumption may also have been thrown into the tower at this time, or possibly a little earlier. Various birds, including ravens, appear to have nested in the derelict tower. There were large numbers of frogs and toads, and other small creatures probably dropped as the pellets of owls which would have found a derelict tower an ideal habitat (see Scott below, ibid). Other animal remains included those of black rat and mole.

Three silver denarii in fine condition were found amongst the demolition debris. There was one each of Trajan, Hadrian, and Faustina (Mann and Reece 1983, 54), minted in the early to mid 2nd century well before the tower was built. It is likely that they were hidden and subsequently lost in the tower, possibly as part of a larger hoard, while it was still in use.

The tower appears to have been demolished sometime between the end of the 3rd century and the middle of the 4th. Pottery found in the demolition debris did not allow a closer estimate. It seems likely that most of the tower above the contemporary ground level was demolished at this time, although those parts of its walls that abutted the city wall may have been left standing as buttresses. The rest of the tower was filled in with mixed sand and clay very similar to the rampart outside.

A series of other alterations and additions occurred along the stretch of colonia wall found on the West Parade site. An additional stretch of wall was built against the back of the existing wall north of the interval tower (Fig 89; Pl 32). Seven metres (c 23 ft) south of the interval tower a 10 m (33 ft) section of the colonia wall was removed above the level of the rampart and a large masonry platform inserted into the rampart behind and overlying this stretch of wall (Fig 91; Pl 33). At the south end of the site a 19th century cellar had removed most of the wall down to its foundations, although the remains of additions to front and rear also survived (see below).

Some or all of these alterations may have occurred at the same time that the interval tower was demolished. The wall widening to the north of the tower was 2.2 m (7 ft) thick. It was against the inside face of the colonia wall, which was found immediately beneath the cobbles at the edge of the Motherby
Hill walkway; the butt joint where it had been built against the interval tower also showed clearly. The wall widening was similar in appearance to the walls of the interval tower, although the mortar used was more gravelly (see report, p 205). A trench must have been dug through the rampart north of the interval tower and the wall widening built in this trench.

Towards the north-east corner of the interval tower, part of the original sand and clay rampart was located on the line where it had been cut through to build the interval tower. Further west towards the wall widening only shallow excavation work was permitted, and the discoveries were limited to material belonging to much later ground disturbances.

The large masonry platform found to the south in Area IV projected mainly eastwards from behind the rear face of the city wall, although the top surviving part of the platform overlapped the *colonia* wall to the west by at least 1 m (3 ft) (see Fig 91). From this it is fairly clear that an 11 m (c 36 ft) stretch of the *colonia* wall was demolished down to 2 m (c 6 ft 6 in) above its foundations. Behind the city wall a pit 10 m (33 ft) long by 3.6 m (12 ft) wide had been dug into the rampart. The lower part of the masonry platform had filled the whole area of this pit, although the full depth and nature of the lower foundations was not determined. Higher up the foundations stepped in 0.6 m (2 ft) along the eastern side. The missing section of *colonia* wall was presumably replaced by

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**Figure 91** Plan of masonry platform, and adjacent *colonia* wall

**Plate 33** Late Roman platform, with, to right, rear face of *colonia* wall, looking WSW
the top part of the platform. The platform itself was built, in a similar way to the interval tower, of courses of limestone rubble set in pink pebbly mortar and faced to the east with roughly dressed limestone blocks. The mortar was more pebbly, although the facing blocks were of a similar size to those used in the interval tower. The bottom 0.9 m (3 ft) of the outer or western face of the city wall was found near the southern end of the platform. There was no evidence here that the platform had ever projected in front of the city wall and so it seems likely that in its final state it finished flush with the outside face of the city wall.

The only clue to the date of construction of the masonry platform was an antoninianus of Tetricus I, 270–73 AD, found in the backfill (IV AU) of the construction trench. The coin was worn and a date of deposition probably many years later seems most likely, probably indicating that the masonry platform was not built much before c AD 300 and possibly much later in that century.

It has already been pointed out in earlier accounts that this solid masonry platform appears rather large to have served just as a widening or buttress for this part of the colonia wall and may have had another, more specialized function. But a use such as an artillery platform (Colyer 1975, 256) is no longer felt to be likely. These possibilities are further discussed below (p 261).

**Area V**

Under the 19th century cellar of Area V at the south-west corner of the site, the base of the colonia wall lay under the cellar floor. Remains also survived of additions to the front and rear of the wall (Fig 92; Pl 34). The widening at the rear of the colonia wall was 0.75 m (c 30 in) wide but only part of its lowermost course of masonry survived near to the southern end of the cellar. A few rough facing blocks and a core of rubble set in orange-brown sand lay on top of the similarly coloured sand subsoil. It had been provided with no additional foundations, unlike the pitched stone rubble and clay foundations of the colonia wall which began at this level. The facing stones of the colonia wall survived only one course deep under the cellar floor, but were visible up to a height of about 0.7 m (c 27 in) behind the gap in the south-west corner of the cellar wall. Safety problems meant that only the west wall of the cellar was allowed to be removed. It would appear that the rather narrow wall widening was added to the back of the town wall by digging a trench through whatever rampart layers lay behind the wall, although none of these survived here, and laying the new walling against the rear face of the town wall. The lack of additional foundations would presumably have mattered less if the remainder of the trench were then filled to the top of the rampart making the whole construction more stable, a common technique in internal thickenings also found in the Upper City (Jones 1980, 53–4).

A more substantial and quite different addition to the front of the colonia wall was found under the west wall of the cellar in Area V. It consisted mostly of large blocks of reused stone, some with lewisholes and clamp marks. These blocks were set in hard white mortar and the lower outer face of this addition was located by probing just beyond the west edge of Area V. The course above was stepped in, probably by no more than 0.15 m (6 in) and some of the blocks forming the face above this point survived in place, showing this addition to the front of the town wall to be 1.2 m (4 ft) thick above the step. The large blocks were clearly set in place first and the spaces between them and the face of the city wall filled with smaller rubble. It was not possible to investigate this wall widening further.

No evidence was found to date the wall widenings to the front and rear of the town wall under the cellar in Area V. Neither of the wall widenings appears to have extended as far as the masonry platform 15 m (c 50 ft) to the north in Area IV. Some evidence might have been expected from a small trench (Area Va), which was dug in great haste in the last few days of the excavation specifically to see whether or not the town wall had been altered or added to at this intermediate point. Unexpectedly, a medieval postern gate (see Period 6, below) was found to have been inserted here instead.

Here, on the south side, the Roman city wall had been rebuilt over a stretch of about 2 m (c 6 ft) presumably when the postern gate was inserted. Part of the Roman city wall might have survived beneath this but there was no time to check. There is, therefore, no way of knowing whether either of the widenings to the town wall found in Area V extended as far as Area Va. It seems more likely that a postern gate like this would, if possible, have been inserted into one of the stretches of colonia wall where it had not been widened. No further excavation was allowed here, so that possibility could not be explored.

**Figure 92** SW corner of site, showing internal and external thickening to colonia wall, adjacent to gate
Two further details relating to the city wall were found after the excavation had finished. A 4 m (13 ft) long stretch of the rear of the *colonia* wall, south of the masonry platform in Area IV, was uncovered in 1973 by contractors during building work. There was no sign of any wall widening behind it. In 1975 a service trench running east–west beside the modern pavement north of West Parade, adjacent to Area V, uncovered masonry added to the back of the town wall. This looked similar to the wall widening found north of the interval tower in Area III. A 2 m wide thickening here must have been narrowed to the 0.75 m thickness found in Area V.

The excavations at The Park produced more evidence for the sequence of building and reorganization of the defences than did similar work at West Parade. At The Park the external towers associated with the gateway inserted in the mid 4th century (see above) were built on a base of large reused architectural blocks set in pale mortar. To the north of The Park gateway the wall was subsequently rebuilt; but to the south a thickening, by different gangs and of differing thicknesses, was added to the back of the *colonia* wall (see above, p 181). In this way the wall was strengthened at the potentially weakest point, its junction with the gateway.

The thickening at the back of the wall to the north of West Parade probably performed a similar function and was stepped in plan, the widest section lying adjacent to the junction between the city wall and the presumed gateway under West Parade. The thickening against the outer face of the wall can possibly best be interpreted as an outer strengthening of the postulated gate tower. It bears a marked resemblance to the construction of the gate towers at The Park, both in the reuse of very large blocks and the similar mortar used to bond them. It would seem most likely that the additions to the new gateway at The Park and the additions to the presumed gateway at West Parade took place as part of one overall redesign and refurbishment of the lower western defences in the mid–late 4th century. Much if not all of the wall between The Park gateway and West Parade was rebuilt at this time. Only further archaeological work can provide details of the lost Roman gateway which can be assumed to lie beneath West Parade (see further Part III, below).

The thickening to the rear of the town wall north of the interval tower at West Parade, in Area III, may also have been added as part of this same late Roman remodelling, as may the masonry platform found in Area IV. It used similar mortar to that of the rebuilding either side of The Park gate (see report on mortar, below).

Plate 34 Three phases of *colonia* wall foundations visible towards S end of excavation, looking SSW. Original *colonia* wall centre, poorly preserved internal thickening to left, and large reused blocks of external thickening (gate tower?) to right
Internal features

A number of features and deposits were found in the central part of the site, Areas I and II, behind the town wall and rampart. These mostly survived in Area II, where the remains of seven pits (pits 4, 9, 10/12, 11, 15, 16, 17) were excavated. A series of dumps mainly of sand and clay (IDY, EB; II CA, CE, CL) were associated with the pits and a small quantity of pottery would appear to indicate a late 3rd to 4th century date for these (Fig 93). An east–west slot (II DE) in the centre of Area II appeared to be roughly contemporary with some of the pits. It may have been cut to locate one of the lowermost timbers of a building which lay mostly further to the south beyond the limits of excavation. Pits 4, 9 and 10/12 appear to have been earlier although the mostly sandy fills were similar, but the slot apparently cut through some of the material filling, sealing these three pits.

A sand layer (II BR) sealed the pits and other deposits where it survived in the north-east part of Area II. It lay under the later (Period 5) oven or furnace and may represent the levelling of this area before the building of an associated structure. It contained some pottery of the 3rd to 4th century possibly derived from disturbance of the nearby pits.

Presumably these features related to structures fronting on to a north–south street to the east rather than on to the road to the south.

Period 5: Construction and use of a late Roman building

The Areas III–Va along the line of the colonia wall by Motherby Hill produced no evidence of any very late Roman deposits or features. Any major alterations to the defences might have been expected to leave some trace, although a substantial heightening and widening of the rampart might have been carried out on the West Parade site after the various Period 4 masonry alterations and additions to the city wall. After The Parkgate and its additions were completed in the mid–late 4th century, the rampart there was heightened and widened until it extended inwards from the town wall by about 25 m (c 80 ft). Any such widening did not survive in the areas dug near to the wall north of West Parade and appears not to have extended as far east as Area II, where traces of a late Roman building overlay other features (Period 4 pits, etc). Therefore any equivalent late Roman rampart enlargement here, if it existed at all, is unlikely to have extended further inwards from the town wall.
Plate 35  Remains of late Roman building walls and adjacent oven (partially excavated) in Area II, with pits to right; looking NNE.
than about 15 m (c 50 ft). The massive fortifications produced by this period of work may have been limited to certain points such as the areas of the gates. Their context is discussed below (p 261).

A small part of a stone building survived in the north-east part of Area II (Fig 94; Pls 35–6). A short length of an east–west wall (II BA) and an oven or furnace built against its south side were all that remained of anything that stood above ground level.

Some rough stone paving (II CO) beneath the oven may have been part of a floor or yard of an earlier period, or it may have belonged to the oven/furnace and its construction. The oven (II CI) and the wall against which it was built only survived to just above foundation level. The east–west wall (II BA) survived as a single course 0.55 m (22 in) wide of limestone rubble, roughly faced on both sides, and set in clay with similar but insubstantial foundations underneath. The walls (II CI) of the oven were also built of roughly faced limestone rubble, set in clay, on top of the rough paving (CO). The mixed burnt clay debris (II BB, BN) lying on the oven base and over the paving to the east indicated that the upper part of the oven was also built of stone rubble set in clay, although most of the clay must have been removed when the structure, and the wall against which it was built, were demolished.

This structure was possibly built originally as a domestic oven of the type in more modern times associated with a ‘copper’ or cauldron. There were no obvious traces of industrial waste of any kind which might have suggested a non-domestic use, although ovens of this type have been found in a likely association with shops (eg at several sites in the southern suburb, including St Marks; see Gilmour 1981) and therefore probably often served a commercial if not industrial function. This is, however, perhaps less likely away from the main streets of the town, and a domestic function is possibly more likely for this oven. It was rectangular, measuring 1.45 m (c 4 ft 10 in) wide by 1.65 m (5 ft 6 in) in length, from front to back and the flue originally measured 0.4 m (16 in) in width. A small pit (II CV) 0.45 m (18 in) north–south by 0.52 m (21 in) east–west by about 0.2 m (5 in) deep lay under the mouth of the flue. It contained mostly ash and charcoal with some brown sandy loam and a few sherds of pottery, only roughly datable to the 3rd–4th century. The ash burnt material is presumably residue from the firing of the oven which presumably took place in this pit. The pit was rather wider than the flue, probably as a result of being cleaned out several times. A layer of ashy, charcoally material overlay the base of the flue to a depth of about 2 to 3 cm (c 1 in). It split into the small pit and was scattered over the roughly paved area in front of the stove hole. In this scatter of material a coin of Valens of AD 367–75 was found.

Shortly before the oven was last used the flue was narrowed to about 0.25 m (10 in) by the insertion of stones set in clay. The flue was not cleaned out when this was done and a number of stone and burnt clay fragments left lying amongst the ashy material in the flue may have been dropped when the flue was narrowed. There was, however, no subsequent build up of ash and charcoal in the narrowed flue which might have been expected as a result of its final few firings. Instead the stone and clay fragments in the central part of the flue were covered in a solidified flow of lead (II CU), which clearly marked the final firing, since the lead was in turn covered by the demolished remnants of the oven (see Report on XRF analysis of the lead, p 236, below). It appears that the oven was adapted for use as a furnace. The flue was narrowed and the upper part possibly remodelled to allow a crucible to be used instead of the former oven superstructure. The improvised furnace was presumably intended for the melting down of scrap lead. The secondary function was of limited life, for although at least one batch of lead was melted, the crucible must soon have cracked allowing its contents to flow into the flue beneath. The lack of ashy cinders over the stony debris in the flue shows that it was not in use for long, and it was possibly abandoned during its first firing as a furnace. Miss Colyer has proposed the intriguing suggestion that the lead was used for one of the first Christian churches of the late or sub-Roman city (see Jones 1993 for context).

Pottery found in the upper fill (II CW) of a pit (pit 16) which lay under the paved floor on which the oven was built may be indicative of a late 4th century date for its construction. The coin of Valens, AD 367–75, which had been dropped into the ashy debris in front of the oven, shows that it was probably in use during
the final quarter of the 4th century. The wall against which it was built may have been part of a dwelling, possibly an outhouse attached to a later Roman stone house lying outside the areas excavated. The short-lived adaptation of the oven as a furnace must have happened late in the century. The oven/furnace and the wall against which it was built were subsequently demolished and the stone robbed, but no dating evidence for this operation was found. Debris from the oven lay on the adjacent surface of the paved area, suggesting that its demolition and robbing occurred soon after its abandonment.

Period 6: Late Saxon and medieval occupation

Although the excavations at West Parade produced no structural evidence of any occupation in this part of the town during the late 9th to mid 11th centuries, a scatter of Late Saxon potsherds was found in later deposits. Since this scatter was most frequent towards the western part of the site, it may have been deposited originally over the Roman rampart. The pottery from the earliest dumps, found only in Area I, consists of small scraps probably dating to the late 11th century and could indicate the use of this area for dumping.

The surviving evidence for the Period 6 medieval occupation in the central part of the site fell into four distinct sub-phases (6a–d: Figs 95–7, Pls 37–8) of which the earlier pits and further dump or accumulation layers formed the first sub-phase (6a). In Period 6b a building was constructed in the south part of Area I; this appears to have been replaced in Period 6c by a stone building in the north-east part of Area I, and an oven/kiln inserted a little later. The oven continued in use, and the area may have been paved after the building was robbed. The oven itself was demolished in Period 6d. Areas I and II also contained a long and complex sequence of pits. In Area III, traces survived of part of a structure overlying the east wall of the interval tower.

Period 6a: late 11th to mid 12th century

The Period 6a pits, of which there were at least nine in Area I and six in Area II (see Fig 95, Pl 37), produced pottery which mainly suggested a date of 11th to mid 12th century (see below, p 211). No structural remains were found and it seems likely that these features represent waste disposal in the gardens of buildings lying closer, and probably fronting on to, Beaumont Fee (Old Hungate). Two hearths were noted, sunk into the tops of pits in the north part of Area I. The pottery indicates that at
least one of these belongs to Period 6a; other finds (see below, p 224) suggest that small-scale copper-working may have been carried out here, possibly during the late 11th/early 12th century. Another hearth in Area II cut into Roman levels.

Period 6b: mid to late 12th century

This phase is marked by the appearance of a building in the south part of Area I in the mid 12th century (Fig 96). All that survived were two parallel east–west slots (BH, BK) of differing size and a small area of cobbles (EC) which was possibly next to an entrance. Around the cobbles and extending over a wider area was a scatter of what appears to have been an accumulation of occupation debris (EG) associated with the use of this building. The debris had sunk into an earlier pit (12/14/16) presumably necessitating the cobbles as a repair. The slots were approximately 3.0 m (10 ft) apart and were aligned east–west. Either they form the north and south walls of a structure, or the north wall and a lean-to. It is possible that the southern wall (BH) was built against or over the southern boundary of a plot extending from Old Hungate to the city wall. The northern boundary of the plot may have been marked by the wall (AR) in Area II; pits 3, 4, and 5 in the northern part of Area I seem to respect a continuation of this line. This building may have been built either as an extension on the back of a house already existing next to Old Hungate, or it may have been part of a new building. In Period 6b pit digging and dumping appears to have been confined to the northern part of Area I; machining had removed any trace of similar levels in Area II.

Period 6c: late 12th/early 13th century to ?late 13th century

Pit digging and dumping continued throughout Period 6c although it was further restricted to the north-western corner of Area I and to the north part of Area II. Period 6c is marked by the construction in stone of a larger building in the north-eastern part of Area I (Fig 97). It would appear to be a replacement for the timber building in the south part of Area I and may have been the back extension of a new stone house built facing on to Old Hungate (Beaumont Fee). The remains of stone houses along the Old Hungate street frontage were noticed during the construction work on the new police headquarters. These are unlikely to be any earlier than the mid–late 12th or early 13th century when stone was generally first used for houses in Lincoln (Jones, RH 1980). It is uncertain whether the building found in Area I belonged to a new stone house built facing Beaumont Fee or was an addition to a house already standing there. Extensions of this plan, to form an L-shaped house, were found at Flaxengate (ibid). The steepness of the hill at this point was probably the reason why fairly extensive levelling, possibly linked with terracing, took place before the new building was constructed. It lay only 1.5 m (5 ft) to the north of the (Period 6b) timber building. A dump (BI) which sealed the latter was itself cut/sealed by the remains of the foundations for the south wall of the new building.

Pottery from the various associated deposits of material indicated that the levelling associated with construction took place in the very late 12th or early 13th century. Very little remained of the building itself. Most of the walls and foundations had been removed by stone robbers after the building had become disused. The trench (I AR), left after robbing, had been filled with mixed orange-yellow sand, with some limestone rubble which also spread over the area nearby. The foundations presumably consisted of limestone rubble set into this sand. At the north-west corner of the building the upper parts of two earlier pits (pits 3 and 5) had been consolidated with limestone rubble set in loamy clay (BZ, BJ) before the rest of the foundations were laid above.

The building was rectangular, c 5 m (16 ft) wide internally but its length is unknown as its eastern
Figure 96 Areas I–II: timber building, boundary and other features of Period 6b: mid to late 12th century

Figure 97 Areas I–II: stone building and contemporary features of Period 6c: late 12th/early 13th century to late 13th century
end lay outside the excavation area. The foundations appear to have been about 0.9 m (3 ft) wide and quite shallow, no more than about 0.3 m (1 ft) deep. Much of the interior of the building was covered by a layer of brown sandy loam with patches of sand (AT). This may have been the remains of an earth floor or the make-up for the floor. It contained a short-cross penny of Richard I, minted 1192–4. The edge of one feature probably relating to the internal arrangements of the building was found on the eastern side of Area I, towards the south-west corner of the building. It consisted of a single course of stones (AX) about 1.2 m (4 ft) long which appeared to be set in the same flooring sandy material (AT) found elsewhere inside the building. It appears to have been the remains of a foundation or base of some kind although its purpose, like that of the building as a whole, remains unclear.

The robbed remains of wall footings (AD) in Area II seem to represent the southern boundary wall of the property plot after this new stone building was constructed. The boundaries on both sides of the plot appear to have been moved northwards by approx 1 m. Pottery from the wall remains (AD) of this possible southern boundary suggests that it was robbed in the early to mid 14th century – probably the end of Period 6d.

Pit 15 in Area I, pits 1 and 18 in Area II, and pit 21/2 (in both areas) were backfilled during the 13th century and must have been contemporary with the life of the building. These pits were confined to the northern parts of the excavation. Occupation debris associated with the building was found in both Areas I and II.

A keyhole-shaped malting or corn drying kiln lay adjacent to the north-west corner of the building (Pl 38). It was constructed in the mid to late 13th century or later, since pottery of this date was found in the fabric of the oven (BQ). The date of material found in the robbing debris of the building as well as the proximity of the oven suggest that the oven was inserted before the building was robbed in the late 13th or early 14th century.

An area of rough stone cobbling or paving lay around the flared mouth of the kiln and from this the floor (BP) of the kiln sloped downwards towards the circular chamber which lay 0.65 m (26 in) below the contemporary ground level. The floor (BQ, BS) of the circular chamber consisted of compacted stony clay and the sloping sides were revetted with blocks of limestone set in clay (AQ, BQ). Late 13th century to early or mid 14th century pottery was found in a scatter of burnt sandy material (BX) near the mouth of the kiln, and may indicate roughly the date of its final use.

Finds of imported pottery and certain other finds, including gilt harness fittings and a louver (below, p 215), suggest that the tenant or owner of these properties was relatively prosperous in the late 12th and 13th centuries. The extension of the property westwards is also a possible indicator of prosperity.

Period 6d: ?late 13th century to early/mid 14th century

The Period 6d filling of the kiln consisted of rubbly sandy debris similar to that from the demolition and robbing of the building next to it. Although this appears to have taken place not very long after the building was demolished, to judge from the lack of any other accumulated material beneath the sandy debris, there is a difference in date between the pottery found in the debris in the kiln and that from the building, the occupation deposits and the pits. That from the kiln dates to the early to mid 14th century while that from the building and associated features is earlier.

The oven may therefore have continued in use for a time after the stone building was demolished. If so, this could mean that only the rear part of a building fronting on to Old Hungate (Beaumont Fee) was demolished and suggests, at least, the continued use of some of the houses along this part of Old Hungate. Period 6d marks the final phase of occupation in the early to mid 14th century on this site and possibly along this part of Old Hungate as well.

Other houses in the lower western part of the town may have suffered a similar fate at about the same time. A documentary reference of 1322, describing a property in the parishes of St Mary Crackpole or All Saints Hungate, states 'land...abutting on the king's highway on the east and the wall of the city on the west, formerly had buildings on it and is now waste in a waste part of the city' (Reg Ant VIII, 170, no 2362). The property referred to may have lain either to the north or south of West Parade, but either way it appears that much of this part of the town had fallen derelict by the early 14th century (see further discussion p 266, below).

Only in Areas IV and V were there discoveries of any significance along the line of the city wall at West Parade. Some fragments of walling of probable 13th century date were found overlying a robbed portion of the east wall of the Roman interval tower in Area III. They included a pit and a possible oven, which may have formed the westernmost extent of the more southerly property to the east (Fig 97; Pl 37). Joining sherds may suggest a single ownership across the whole site from east to west. Other pits, probably associated with the building, were also found in the vicinity.

Postern gate

During the last few days of excavation a small trench (Area Va) was opened up, in an area known to be disturbed by both 19th century cellars and an air-raid shelter. The purpose was to salvage any information concerning the later Roman developments to the town wall north of Area V and the suspected gateway under West Parade. This revealed a hitherto unsuspected postern gate, presumably a medieval insertion into the town wall.
Unfortunately time did not permit the making of more than a brief record.

Although only the base of the postern gate survived, it was clear that a section of the Roman colonia wall had been breached to allow its insertion. A footway ran through the gateway, which was about 1 m (c 3ft) wide at the jambs. The footway consisted of what had been a single enormous slab of limestone. The slab lay across, but at an oblique angle to, the line of the colonia wall. It was 1.2 m (4 ft) wide by 0.25 m (10 in) thick and at least 2.5 m (8 ft) long, although both ends ran beyond the limits of the area dug. Neatly cut grooves ran along either side of the slab. These were rectangular in section, 15 cm (6 in) wide by 7.5 cm (3 in) in depth and had been filled with silty material. On either side of the centre of the slab were two small circular holes each about 5 cm (2 in) wide and deep and these were linked by a groove in the stone. The slab had been broken in two places and the different parts appear to have been deposited in the ground one after the other, so that although the breaks matched, some flakes of stone had clearly been lost in the process resulting in some gaps. The resemblance of the grooves to gutters and the central

Plate 38 Malting kiln in Area I after excavation; looking SSW
holes to bolt-holes may be misleading in the context of the gate. The slab appeared to have been reused and these features may have related to its previous use.

All that remained of the upper part of the gate structure was a large block of stone on either side (Pl 39). The remains of the wall to the south consisted of a rough core built of irregularly laid limestone rubble set in crumbly, soft pinkish brown mortar. Part of a rough face survived on the front or west side of the wall. This fragment of the city wall appears to have been rebuilt when the gate was inserted. To the north, in Area IV, the city wall was found to have been roughly repaired and re-faced. This may have been carried out when the postern gate was built. In 1973, during construction work on the new police headquarters, two large reused limestone blocks were found side by side 1 m east of the north side of the postern gate and on the same oblique alignment. They appear to have been used to revet the rampart where it had been cut through when the postern gate was built.

The construction of the part of the city wall to the south of the postern gate was much more irregular and generally more poorly carried out than any of the clearly Roman work found along the city wall on this site or at The Park. This fact and the alignment of the postern gate tend to suggest that the gate was post-Roman in date. The most likely context for its construction would be the contemporary medieval reoccupation, between the late 10th and late 13th centuries, most probably in the 12th or 13th century.

A report in the *Lincoln, Stamford and Rutland Mercury*, 25 April 1845 (extracted from the Exley Papers in the 1940s by Dr G Webster: Colyer 1975, 258, fn) almost certainly refers to the postern gate. It reads: 'In baring the foundations of the Roman wall at Lincoln, near Beaumont Fee a few days ago, a perfect postern was discovered, with iron upon which the door had been hung: and the stones forming the
arch were cut so that a door would fit in.' Padley's Lincoln maps of 1842 and 1851 show that the West Parade site was developed for housing between those dates, earlier than similar developments elsewhere in this part of town.

**Period 7 Collapse/robbing of city wall and dereliction of site**

There was no evidence for any structures post-dating the destruction of the oven and the robbing of the boundary wall. The pottery (*qv*), however, suggests that dumping/levelling took place in the mid/late 14th century, possibly as a single operation (or perhaps a terrace had collapsed), and that there was sporadic activity thereafter until the 16th century. Pottery and other finds from amongst the rubbly debris in later levels near the city wall suggest that the wall itself was being robbed away progressively during the 16th and possibly into the 17th century.

The site then appears to have been derelict until it was developed for housing, probably in 1845 (see above). Speed's 1610 map of Lincoln shows no sign of any surviving town wall in this area, but Stukeley's map of 1722 does suggest that the wall was clearly visible (cf Part III below). Thomas Symson's note (1737, p 579) on the recent conversion of the town ditch from a rubbish dump to a garden (quoted above, p 3) may also refer to the area later known as Motherby Hill. Symson's report suggests that what was left of the wall along the whole west side of the lower town was buried early in the 18th century.

The rest of the West Parade site remained empty until sometime between 1842 when Padley's revised large scale map of Lincoln appeared, and 1851 when its first amended version was published. The whole of the site was developed for terraced housing during this time, most probably in 1845 when the postern gate in the town wall was uncovered (see p 203 above), and the 1851 Padley map shows that this was one of the sites where the 19th century infilling of this part of the town began.
The finds

(1) Mortar samples by G C Morgan and M J Jones (Fig 99; Tables 44a,b)

Six samples were submitted for analysis. These were derived from various contexts, as shown below:

Table 44a Mortar samples from West Parade

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>Context</th>
<th>Phase</th>
</tr>
</thead>
<tbody>
<tr>
<td>SS31</td>
<td>Wall immediately S of postern gate 1 or 5</td>
<td>1 or 5</td>
</tr>
<tr>
<td>SS32</td>
<td>Colonia wall immediately W of S end of platform</td>
<td>1</td>
</tr>
<tr>
<td>SS33</td>
<td>N end of platform</td>
<td>4a</td>
</tr>
<tr>
<td>SS34</td>
<td>N wall of interval tower</td>
<td>2</td>
</tr>
<tr>
<td>SS35</td>
<td>Colonia wall immediately S of interval tower</td>
<td>1</td>
</tr>
<tr>
<td>SS36</td>
<td>Widened wall N of interval tower</td>
<td>4b</td>
</tr>
</tbody>
</table>

Analysis by the same method as at The Park suggested two clusters (Table 44b), the mean of each being shown on Fig 99. This suggests that sample 31 was from the wall of Period 1.

Table 44b West Parade mortar samples: suggested groups

<table>
<thead>
<tr>
<th>Sample No.</th>
<th>lime %</th>
<th>aggregate</th>
<th>comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>37</td>
<td>ironstone, flint and limestone</td>
<td>buff</td>
</tr>
<tr>
<td>32</td>
<td>35</td>
<td>ironstone, limestone</td>
<td>buff</td>
</tr>
<tr>
<td>35</td>
<td>41</td>
<td>ironstone</td>
<td>brown</td>
</tr>
<tr>
<td>Group 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>34</td>
<td>quartzite, ironstone</td>
<td>buff</td>
</tr>
<tr>
<td>36</td>
<td>51</td>
<td>limestone, quartzite, etc</td>
<td>buff</td>
</tr>
<tr>
<td>Group 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>11</td>
<td>quartzite, ironstone</td>
<td>brown</td>
</tr>
</tbody>
</table>

Figure 99 Diagram illustrating groups identified by analysis of mortar from various periods of the defensive structures
All the samples had quartz sand as the finer aggregate and varying amounts of silica silt, suggesting the use of lias type limestone as an aggregate or lime source. Only groups 2 and 3 show quartzite as an aggregate, just as with the later walls at The Park.

By comparison of the particle size distribution curves (Fig 99), those samples from the first *colonia* wall at West Parade are similar to those from the same context at The Park, while those from the rebuilt wall also follow a similar profile. These results tend to confirm the interpretations made on stratigraphic evidence, and further suggest that the mortar from the interval tower was closer in nature to that from the late rebuilding than to the first wall. This may have implications for the sources used (cf Jones M J 1980, 45–6).

(2) Roman Coins by J E Mann

A list of the thirteen Roman coins from West Parade has been published elsewhere in this series (Mann & Reece 1983, 54); only six were stratified in Roman levels. Three of these are denarii dating to the first half of the 2nd century; of Trajan (AD 103–11), Hadrian (AD 134–8) and Faustina senior (commemorative, post AD 141). All were found within the demolition debris of the interval tower (III BF: Period 4), and are in good condition. This small group of coins may represent part of a hoard concealed within the tower while it was in use during the 3rd century (as noted in Colyer 1975, 254). Although denarii had already passed out of circulation when the tower was built, the composition of mid (and occasionally later) 3rd century coin hoards demonstrates a preference for real rather than debased silver or base metal (Robertson 1988, 17–18).

Two coins are significant for dating purposes:

Period 4: a worn *antoninianus* of Tetricus I (AD 270–3) from the backfill of the construction trench (IV AU) for the masonry platform suggests that this cannot have been built much before the end of the 3rd century.

Period 5: ashy material (BX) in the base of the flue and in front of the stokehole of the furnace in Area II contained a worn coin of Valens (*Securitas Reipublicae, AD 367–75*) indicating a late 4th century date for the use of the furnace.

(3) Medieval coins, jetons and tokens by Marion Archibald

[NB: For the Scandinavian coin of c 1045, see Blackburn et al 1983, p 24, and report on other artefacts.]

Medieval coins


Discounting the corrosion, this coin was unclipped and little worn when deposited. Although coins of this class could survive right to the end of the coinage in 1247, the condition of this piece suggests that it is most likely to have been lost before c 1204; a late survival cannot however be ruled out. This accords well with context.

2 Penny, short-cross. Small fragment, details illegible. Wt: 0.08 gm. WP71 C4. Period 6b. Dumping/accumulation (II BS)

The only details legible on this piece are the remains of one side of the reverse short-cross and the pelleted cross in the one quarter surviving. The short-cross issue began in 1180 but it is not possible to say to which class this penny belongs. The issue was superseded in 1247. Beyond providing a *terminus post quem* of 1180, this coin is unfortunately of little use for dating purposes.


This coin is worn and clipped, and on condition would have been said to have been last in currency in the later 14th century. Residual in this context.

Jetons


Jetons of this type did not normally last very long in use. Residual in this context.

5 French, bronze, 14th century. Obv: legend almost entirely off flan, illegible. (Barnard 32 has O MATER DEI MEMENTO MEI /AVEMARIA.) Three quatrefoils within three circles around central pellet, with a fleur-de-lys between each, all within plain inner circle within beaded inner circle. Rev: legend as on obverse. Cross patte within quatrefoil, with a small quatrefoil on each cusp, within each quarter, all within plain inner circle, within beaded inner circle. The piece is slightly dished. cf Barnard 1916, pl V, 32. Wt: 2.22 gm. D: 21 mm. WP71 C4. Period 7: accumulation (I AA)

This jeton has been clipped down around the edge from its normal size of c 26 mm. It is unusual to see a jeton clipped like this; possibly it was done to reuse the piece for some non-numismatic purpose, perhaps as a washer. Although later than the previous jeton, this piece must also be residual in its context.

three lis around central rosette. Wt: 0.70 gm (chipped). D: 22 mm. WP71 C2. Unstratified (Area I)

**Lead tokens**

7 Medieval, early 14th century. Obv: cross patte with leaf-vein hatching, pellet in centre. Rev: uncertain, a similar cross-hatched pattern with similar, prominent central pellet. Wt: 2.05 gm. D: 17 mm. WP71 C22. Period 6d demolition debris from upper part of oven/kiln (I AV)

For ‘leaf-veining’ see petalled design of token in Mitchiner & Skinner 1983, pl 8, 100. The date of this piece accords well with its context.

8 Early Tudor, early 16th century. Obv: crude cross patte cross-hatched with a cross in each angle. Rev: Crude voided long cross to edge of coin at outer circle, crude pseudo-letters in each angle. Wt: 2.94 gm (chipped). D: 21 mm. WP71 C20. Period 7 (III AI)

These precise types were not included among those found in dated contexts published by M Mitchiner (Mitchiner & Skinner 1983) but the fabric points to the early Tudor period.

9 Tudor? Types, if any, illegible. Wt: 2.92 gm. D: 20 mm. WP71 C1. Period 7 fill of ?drainage ditch. (I AB)

The size of this piece places it with the lead tokens of the Tudor period. The types are often initials or coin-like designs, but nothing is visible here. Residual in this context.

**Trade token**

10 Halfpenny, Samuel Aistrop of Lincoln; dated examples 1658–68. Williamson 1889, no 142. Wt: 1.41 gm. WP71 C12, Period 7 accumulation (I AA)

This token (a fine specimen) is, as is usual, by a local issuer. As the owner of this token shows the Mercer’s arms, this was Aistrop’s trade. (The token of 1658 includes a wife’s initial M.) Residual.

(4) Roman Pottery (Figs 100–1) by Margaret J Darling

Little of the pottery excavated from the various trenches was usefully stratified for dating structures of the Roman period and the small samples were of little use in elucidating any occupation. Work on the pottery has therefore been restricted to extracting dating evidence and any sherds of interest. The samian was all summarily viewed soon after the excavation and that report is part of the archive; only the decorated samian, stamps and selected layers have been re-examined. Few mortaria or amphorae sherds occurred. The following report summarizes the dating evidence and any points of interest in the pottery assemblages.

**Period 1: structures predating the earliest defences**

Only three layers in Trench III yielded stratified pottery of this period, producing 151 sherds (CB, BZ and BL). The samian, mostly Hadrianic–Antonine, included an East Gaulish form 38, probably from Rheinzabern, dated to the later 2nd to first half of the 3rd century (from III CB). The coarse pottery included BB type sherds, a parisian beaker sherd (with comb stabbing), and a probable South Carlton rough-cast cornice-rimmed beaker (all from III BZ), indicating a date in the latter half of the 2nd century. Only one sherd is illustrated, no 1, an early red-slipped imitation of a samian form 15/17 or 18, dating from the legionary period. The crucial sherd is therefore the East Gaulish samian form 38.

**Period 2: construction and use of stone wall and rampart**

Only 140 sherds came from the relevant contexts in Trench III (BG, BJ, BK, BP, BR, BS, BT, BU, BY and CA). The samian was again mostly Hadrianic–Antonine, although BK contained a form 31R, BY a form Walters 79, both of mid to later Antonine date, and the strongest dating is a form 33 from BS stamped by CAVPIRRA (see stamp no 1, p 210), of c AD 150–70. The coarse pottery included BB1 and related sherds of mid- to late 2nd century date, a London type ware sherd (no 3), a mica-dusted platter (no 2) and, more importantly, a sherd from a barbotine decorated colour-coated beaker, probably from the Nene Valley. Such beakers may have arrived in Lincoln in the later 2nd century, but they are commoner in contexts dating from the early 3rd century onwards. The small size of the sample should be borne in mind.

**Period 3: construction and use of the interval tower**

A mere 26 sherds occurred (II DB, III BO, BV, BI). The latest samian was Hadrianic–Antonine. The latest coarse pottery was a sherd (one of four, from II DB, ditch fill), probably from a bowl in a red-slipped grey-cored fabric, which would suggest a relatively late Roman date, more 4th century than earlier (cf no 4 from Period 4; it is reminiscent of Oxfordshire red colour-coated wares, rare in Lincoln before the later 4th century). Only one vessel occurred in III CI, a rather heavy grey jar rim which, despite being unusual, could be of late 2nd century date. The seven sherds from III BV included sherds from a poppy head beaker with barbotine-dot decoration, probably of later 2nd century date. The crucial sherd, if stratigraphically related to the construction of the tower, is that from the ditch fill, II DB.
Period 4: demolition of interval towers, construction of masonry platform, widening of colonia wall

Over 300 sherds came from Period 4 contexts (II BR, CA, CE, CQ, CW, DA, DE, III BF, IV AS, AT), the notably large layers being III BF and the pit, II CB. The samian, still including Hadrianic–Antonine sherds, produced a form 38 stamped by Moxsius v of Lezoux, c AD 160–190 (see report on stamps below, no 2) and also a probable Argonne bowl, which would date to Antonine to early 3rd century (both from III BF). This same layer contained mostly Dales ware sherds from at least six jars, together with a funnel-necked colour-coated beaker (Gillam 54), indicating a mid to late 3rd century date. A small unusual cream vessel, decorated with red painted stripes also came from III BF, no 7.

Dales ware also occurred in II CE and II CW, the latter context containing funnel-necked colour-coated beaker rims, an unusual jar rim (no 9), a sherd from a grey indented beaker, and two unusual forms, a ‘bowl and lid (nos 5–6) in an oxidized sandy fabric (CRSA fabric) which, although always very rare, seems to occur only in late Roman contexts; its precise dating is uncertain. II DA had few conclusively datable sherds, but a beaker base of Rhenish form, and a probable Dales ware sherd suggests a mid- to late 3rd century date. It also contained a small thin sherd from a closed form, perhaps a beaker, in a pinkish sandy fabric with mottled red exterior slip hitherto unknown in Lincoln; the fabric does not resemble ceramique à l'éponge but it is probably an import, of unknown date.

The ten sherds from II CA provided little evidence for date beyond a beaker base of Rhenish form with the characteristic step on the underside, and an unusual sherd from a jar with finger-marks inside at shoulder level.

Period 5: construction and use of late Roman building in Areas I and II

A total of 92 sherds was examined from II BA, BB, BN, BX, CI, CO, CP, CT, CU, CV, and CX. Few of these contexts produced conclusive dating evidence; CI contained a red-slipped sherd of the Oxfordshire/Much Hadham type, likely to be of mid to late 4th century date, and shell-gritted sherds which could be from either Dales ware or late lid-seated jars occurred in BB, BN, BX, CI, CO, CT, CU, and CV. The largest context, BN (34 sherds) contained mid to late 4th century grey wares, including a bead-and-flange bowl, a late lid-seated jar and a fragment of a possible folded jug-neck, together with a small oxidized Swanpool jar no 12. CU contained an exceptionally small oxidized mortarium, no 13, likely to be of 4th century date, and probably local manufacture, although it would be atypical in the Swanpool kiln range.

The large assemblage from the pit, II CB, contained pottery of late to very late 4th century date, including an imitation form 31R bowl in a fabric akin to Oxfordshire red colour-coated ware or Much Hadham (no 4), a lid, no 11, in the same fabric as jars similar to Farnham/Alice Holt Class 3C (as Park, Fig 41, no 544, fabric 25), which seem to occur at Lincoln only in very late 4th century contexts, and sherds from Swanpool red-slipped closed forms, one of which was decorated with white paint over a rouletted zone. The shell-gritted sherds included a large jar base with a central lead repair, and at least three late lid-seated jars, together with an unusual narrow upright rim, perhaps of a flask (no 8). A coarse fabric late lid-seated jar also occurred, no 10. There were two problematical sherds, a shell-gritted sherd which could be atypical Roman or post-Roman, and a sandy small jar rim which seems more likely to be medieval, possibly an import. There is therefore a possibility of later contamination.

Summary

The 39 contexts considered produced just over 900 sherds. Dating from such relatively small groups is always hazardous. The periods may be summarized:

Periods 1 and 2: The date of the stone wall and rampart depends upon the East Gaulish form 38 in Period I (III CB) of late 2nd to mid 3rd century; the stamp of CAVPIRRA from the rampart layer (III BS) has been re-dated to c AD 150–170; both III BK and BY contain later 2nd century samian forms; the rampart layer III BR contained a colour-coated sherd more likely to be late 2nd or early 3rd century.

Period 3: The dating of the construction and use of the interval tower depends upon the stratigraphic interpretation of the ditch, II DB, containing one sherd which is unlikely to date much, if at all, before the 4th century. Otherwise, the three other contexts produced nothing necessarily later than the later 2nd century.

Period 4: The demolition of the interval tower is probably dated by III BF, demolition debris used to fill it, to mid 3rd century or later. The only context apparently related to the construction of the masonry platform was IV AT, where the pot date of post AD 120 is superseded by the coin evidence, Tetricus I, AD 270–73. See also II CW under Period 5.

Period 5: Construction and use of late Roman building. II CO predating the oven/furnace is mid 3rd century onwards. II CI, the oven/furnace = mid–late 4th century. II BN is of mid–late 4th century date, although how this relates to the use or demolition of the oven is not clear.

The pits, II CW and CB were other contexts provisionally assigned to this period of later date, CW being probably 4th century (and possibly Period 4), and CB positively so, probably very late 4th century. The possible post-Roman sherds in CB need consid-
operation – this could be contamination, or the pit could be of later date; the high content of Roman pottery does not necessarily prove its Roman date.

**Decorated samian**

*by Joanna Bird*

**Period 1: structures predating the earliest defences**

1. 37, CG, part of figure. Hadrianic–early Antonine. III BZ
2. 37, CG, style of Cinnamus of Lezoux, who used this leaf (Rogers 1974, type H62) and ring (Stanfield & Simpson 1958, pl 162, no 61). c AD 145–175. III BZ
3. 30 (3 sherds), CG, probably by X–13/'Donnacuus' of Les Martres-de-Veyre. The ovolo is on Stanfield & Simpson 1958, pl 44, no 513; the figure is not certainly identifiable, but cf pl 46, no 567; the astragalus in the field is on pl 48, no 573. c AD 100–125. III BZ
4. 37, CG, Hadrianic–Antonine, III BZ.

**Period 2: construction & use of stone wall and rampart**

5. 37, SG. Triple festoon, plain pendant, typical of later Flavian and Trajanic ware (eg Grimes 1930, fig 34, no 4; fig 36, nos 30–33). c AD 85–110. III BY
6. 37, SG, Hadrianic–Antonine. III BY
7. 37, CG, Hadrianic–Antonine. III BY
8. 37, CG, in the style of 'Donnacuus/X–13 of Les Martres-de-Veyre: ovolo, beads and rosette as Stanfield & Simpson 1958, pl 48, no 574. c AD 100–125. III BR

**Period 3: construction & use of interval tower**

9. 37, CG, an abraded fragment. The figure may be a mounted warrior (cf Oswald type 245) below ovoid beads. Hadrianic–Antonine. III CI

**Period 4 or 5**

10. 37, CG, Antonine. II CW

**Post-Roman contexts**

11. 37, CG. Small lion or panther at base, ?animal feet or leaf-tips above. Hadrianic–early Antonine. I AC
12. 37, CG. Panel of round beads with single festoon or medallion. Antonine. I AN
13. 37, SG, style of Geminus of Lezoux; ovolo, border and trifid terminal on Stanfield & Simpson 1958, pl 66, no 20, trophy on pl 65, no 1. The bowl is extremely hard-fired. c AD 125–145. I AN
14. 37, CG (2 joining sherds) in the style of Butrio of Lezoux, with his ovolo and wavyline border (Stanfield & Simpson 1958, pl 61, no 682). The motifs beneath are not identifiable. c AD 120–140. I AN
15. 37, CG. Wavy line border; the motif beneath is not identifiable. Fabric and slip suggest an Antonine date. I AN
16. 37, CG (6 joining sherds), probably by Cinnamus of Lezoux; badly smudged, presumably on being removed too soon from the mould. Ovolo 3 above panels with beaded borders, including a figure with small circles in the field (cf Stanfield & Simpson 1958, pl 159, no 33) and a small double medallion with unidentifiable motif. c AD 150–180. I AN
17. 29, SG. Basal panels, including tendrils with berries and the feet of a small running animal. c AD 70–85. I BX
18. Sherd, probably from the basal interior of a Dr 37, CG, Hadrianic–Antonine. I CW
19. 37, CG, in the style of Sacer of Lezoux, an early user of Cinnamus ovolo 3a (Stanfield & Simpson 1958, pl 83, no 8). The hare is on pl 82, no 2 c AD 135–150. I CW
20. (Fig 100) Small 29, SG. Massed leaf-tips in both zones, perhaps covering the whole bowl. This leaf, usually massed in lower frieze scrolls or – horizontally – in upper zone panels, was used on bowls stamped by Modestus and by Celadus and Murranus, and on bowls with mould-marks of Murranus (Bird & Marsh 1978, fig 28, no 15; Fiches et al 1978, fig 7, no 1; Haalebos 1979, fig 4; Knorr 1952, taf 45, F, G). If the sherd from II BT (below, no 23) is part of it, the leaves probably ran the full depth of the lower frieze, which was therefore proportionately as shallow as the upper. c AD 50–65. I CW, DN (2 joining sherds).
21. 37, CG, in the style of Cinnamus of Lezoux. Panel design with ovoid beads, circle motifs and single and double medallions or festoons (Stanfield & Simpson 1958, pl 157, no 8), and a small bear (pl 157, no 7). c AD 150–180. I EJ
22. 37, CG. Beaded panel border. Hadrianic–early Antonine. I EK
23. 29, SG. Group of leaf-tips at base, as bowl from I CW & DN (no 20 above); this may be a sherd from that bowl. c AD 50–65. II BT
24. 37, CG. Cinnamus group ovolo 3a above fine beads. The beads and fabric suggest a date early in the range c AD 145–175. II BU
25. 37, CG (2 sherds, probably the same vessel). The ovolo is probably Rogers 1974, B12, shared by several early to mid-Antonine potters; the figure is probably Apollo, Oswald type 83. III AK
26. 37, CG, in the style of Cinnamus of Lezoux. Probably his ovolo 3, above a plain single festoon (Stanfield & Simpson 1958, pl 157, no 13) containing a sea-bull (pl 157, nos 4, 7). c AD 145–175. III AN

**Figure 100** Roman pottery: decorated samian no 20
West Parade: Samian stamps
by Brenda M Dickinson

1 Caupirra 7a 33 CAVPIRRA Lezoux³, Form 33, Die 7a
Appears at Corbridge, and in the important late
Antonine group at Astwick, containing stamps: Doeccus
i, Die 13c; Macrinus iii, Die 1a; Sacillus, Die 3a; Avcella,
Die 1a (2 stamps); Maternianus i, Die 2a. Stamp from
another die occurs at Verulamium, Per. IIC (before AD
150). c AD 140–170 for potter, but probably AD 150–170
for this die. P.11 WP 71 III BS.

2 Max(s)ius v of Lezoux, Form 38, Die 1a, MOXIMA
Lezoux³.
Occurs on forms 31, 31R. Found at Bainbridge, South
Shields. Also used to stamp the rims of Dr 37 bowls made
by either Alucius ii or Paternus v (ovolo used by both
potters), and Doeccus i (2). c AD 160–190. P.10 WP 71 III
BF.

3 Fragment of stamp on a probable Form 27, probably
Lezouxfabric, certainly Central Gaulish, appears to read:
D[A. Probably Hadrianic–Antonine date. P.4 WP 71 I AN.
4 Fragment of a stamp on Form 31 of Lezouxfabric,
appears to read: A Antonine. P.3 WP 71 I AN.

Superscript b indicates:
Not attested at the pottery in question, though the
potter is known to have worked there.

Catalogue of illustrated Roman coarse pottery
(Fig 101)

Period 1

1 RDSL, imitation form 15/17 or 18. III BZ (510)

Period 2

2 MICA, mica-dusted platter. III BG (507)
3 PART, London type ware shallow bowl or dish, (cf
Marsh 1978, type 31.6). III BG (508)

Periods 3–5

4 HADOX, imitation form 31R, in red-slipped oxidized
fabric with grey core. II CB (504)
5 CRSA, ?bowl with upright rim in very sandy creamish
fabric. II CW (511)
6 CRSA, ?lid, light oxidized pinkish sandy fabric, as
511. II CW (512)
7 CR, small cream jar/beaker, decorated with bands of
red-brown paint. III BF. (509)
8 DWSH, ?flask or narrow-necked vessel, wheel-
thrown. II CB (503)
9 GREY, large jar with slight lid-seating. II CW (506)
10 LCOA, coarse late lid-seated jar. II CB (501)
11 SPIR, lid in oxidized fabric, with dirty whitish
exterior slip. II CB (505)
12 SPOX?, probably Swanpool red-slipped small jar. II
BN (502)
13 MOSP?, red-brown mortarium, slipped, with fine
black iron-stone trituration grit. Probably local, but
atypical of Swanpool products. II CU (500)

(5) Medieval and later pottery
by Jane Young
(Figs 102–6)

Introduction

Despite the absence of precise stratigraphical rela-
tionships for some periods the material provides a
useful sample of Saxo-Norman and medieval pottery
in use in the city. The material adds considerably to our knowledge of the development of Lincoln and Local wares from the 12th century to the early 14th century (see Young forthcoming). Constraints of time permitted detailed recordings only by sherd count. Individual vessels were, however, reconstructed as far as possible to gain maximum understanding of the ceramic distribution across the site (Moorhouse 1983, 1986).

**Period 6a**

Only four of the clay dump deposits above natural in Area I contained pottery. Nearly 40% (43 sherds) of the group was of Roman date and at least 9 sherds were intrusive. All the post Roman material consisted of small scraps with few vessels represented by more than one sherd. The comparative lack of 11th century, Lincoln and Torksey Saxo-Norman sandy wares seems to indicate a date towards the end of the 11th century for the group if indeed these deposits are contemporary.

A small group of 45 sherds was recovered from three dumping or accumulation deposits in Areas I and II. Much of the material (58%) was Roman, the remaining sherds of local Saxo-Norman Sandy and Shelly wares and Stamford ware were of 11th century date. At least 15 pits were dug into the dumping and accumulation deposits in Areas I and II. The earliest of these pits in Area I (pit 19) contained 15 sherds of Roman pottery and a single sherd of a local Saxo-Norman Shelly ware jar of 10th or early 11th century date. Pit complex 12/14/16 in the south of Area I produced a large group of 285 sherds. Upper deposit (EM) contained 178 sherds, these however only represented about 25 vessels, mostly of Lincoln Fine-Shelled ware and Stamford ware jars.

Few of the vessels are closely datable. The wide-bottomed Lincoln Fine-Shelled ware jar (Fig 102, 4) is commonly found in deposits dating from the late 11th century as are the Stamford jars (Fig 102, 2, 3). The low number of Saxo-Norman Sandy ware sherds again indicates an earliest date of the later 11th century for the group. A terminal date is difficult to establish although the virtual absence of splashed glazed wares, Developed Stamford ware and Local Early Medieval Shelly wares all seem to indicate a deposition before the mid 12th century.

Pit 13, cutting the pit complex 12/14/16, contained little material; most of the small sherds are worn and are of 11th or 12th century date. However pit 11, also cutting the pit complex, contained a large group of pottery (162 sherds). This pit produced most of the sherds of the illustrated Sparsely Glazed ware jug (Fig 102, 6). The form, and indication of a handle attachment over the rim, place this vessel probably in the mid 12th century. The everted-rimmed, large straight-sided bowl, probably used for cooking (Fig 102, 1) is also usually found in deposits dating from the early to mid 12th century (Adams Gilmour 1988, fig 35, 9, 5, 10). This pit also contained several other sherds of interest including the rim of a Thetford-type large storage jar, a Stamford spike lamp and an unusual footed Stamford base. Although the rest of the latest material is fairly consistently of early to mid 12th century date, the Stamford base must date to between the mid and the late 12th century (Kilmurry 1980). The vessel is in a fine fabric B with a thick lustrous orange-yellow glaze, and because of its small size comes from a bottle, jug or spouted pitcher. Unfortunately it is uncertain whether there were separate feet or a continous added footing. As both slides and section drawings of this area show a lot of sinkage into pits it is probable that this vessel is intrusive. This pit also produced at least 20 vessels of 11th century date, which may have originated from the earlier pit 12/1/4/16 complex.

Pit 17, in the north of Area I, contained two very worn scraps of Lincoln Fine-Shelled ware and one intrusive medieval glazed ware sherd. The simple jar and bowl rims (Fig 102, 1) of the Lincoln Fine-Shelled vessels in pit 7 Area I, together with the high proportion of unglazed Stamford ware sherds all indicate a date of mid to late 11th century for this feature.

Unfortunately the fills of pits 1, 2, and 3 and possibly the remains of two hearths in the north of Area I were confused at the time of excavation. The stratigraphy indicates that pits 1 and 2 and at least one of the hearths overlying these pits belong in Period 6a. The mixed material was generally uninformative with a possible date range of 11th to 12th century for most of the sherds. However, the presence of Torksey ware, some of the unglazed Stamford jars, and 11th-century Lincoln Fine-Shelled ware forms indicate that at least some of the material was of 11th century date.

The earliest feature in Area II, a hearth (BP/BL), contained only Roman pottery. Pits 5, 6, 7, 8, 19, and 3 in Area II produced little material (108 sherds). A higher percentage of the pottery in these pits than those in Area I was of Roman date (69%). Two sherds were of intrusive medieval and late medieval date, the remainder were wares of the 10th or 11th century.

**Period 6b**

Only a small part of Area II was excavated by hand during this period; much of the trench was machined off, removing deposits belonging to both Periods 6b and 6c. The remaining group of pottery from the few mixed dumping accumulation deposits (BS, BH, BY, EZ) reflects this. Although the group was large (259 sherds), 55% was residual Roman material and with the exception of 12 sherds, the remaining pottery could not be dated beyond the early to mid 12th century. The latest contemporary vessels dated to the mid 12th to early 13th centuries, with one intrusive 13th/14th century sherd.

Area I also had a large part of the southern end of the trench removed by machine during this period.
The group of pottery from the dumping/accumulation deposits (BF, EP, DV, DW, BI, AY, CC, DC, DD) was smaller than that from Area II (186 sherds). The proportion of Roman sherds was lower (22%), the remaining sherds were mainly small scraps of Lincoln Fine-Shelled ware and unglazed Stamford ware jars and bowls. There were few diagnostic sherds, the latest vessels date from the mid 12th to the early 13th centuries. Included among the later sherds were a jug or pitcher in Sparsely Glazed ware with combed and stapbed decoration (Fig 102, 8) and a jug in Beverley ware (Fig 102, 7). Similar jug rims have been found on sites in Beverley in mid/late 12th century groups (EM/54/BV in Hayfield 1985) and a pre-1188 fire group (EM/48/BV in Hayfield 1985).

Little of the possible floor or occupation levels of the building survived the mechanical excavation. Because of sinkage into the pits below, some of the material remained and was excavated as the top fill of the pit complex 12/14/16 (EG). Only a small group of pottery survived. The latest sherds were of mid to late 12th century date and included an Early Medieval Handmade ware jar and part of the Sparsely Glazed ware jug (Fig 102, 6). Little pottery was retrieved from the two robbed east–west slots (BH and BK). The latest date for the group would be late 12th or early 13th century.

A small amount of pottery (26 sherds) was found in the robbed remains of the possible boundary wall (AR) and the stone scatter (AO) in Area II. This pottery dates to the mid 12th to early 13th centuries.

No pits were found in Area II belonging to this period although at least six pits occurred in the northern part of Area I. Pit 9 contained small sherds of mid 12th to early 13th century pottery. Pit 4 produced a large group of pottery. The latest material included a Lincoln Fine-Shelled jar and a Stamford pitcher datable to the early/mid 12th century. Pit 5 contained large sherds of unworn pottery including several heavily grooved jug or pitchers and a collared jug or pitcher rim in Stamford fabric B, along with two jug or pitcher sherds in Sparsely Glazed ware. This material probably dates to the mid to late 12th century. Pits 9 and 5 contained intrusive 13th century material, probably contamination from the robbing of the building.

The mixed material from pits 1, 2, and 3 and the hearths produced a number of 12th century vessels. The Stamford ware lid with incised decoration (Fig 102, 9) dates from the late 12th century (Kilmurry 1980, 141), as does the jug or pitcher in an Sparsely Glazed ware (Fig 102, 16).

Although these vessels and two other sherds which normally occur in early 13th century levels, suggest a late 12th to early 13th century date, the 12th century material taken as a group seems to mostly date to the mid to late 12th century.

A clay deposit in Area I (AN) thought to be redeposited rampart material, produced a large group of pottery (321 sherds), 86% of which was Roman. As six of the sherds are demonstrably intrusive it is difficult to place a reliable date on the remaining 39 sherds. Although a small amount of discrete material from the 10th, 11th, 12th and 13th centuries is present, the majority of the sherds however are only datable to the period between the late 10th and early 13th centuries.

The pottery from the possible pre-building makeup layer or floor (AT) in Area I sealed pits 4 and 5. The material was very mixed, the latest sherds were of very late 12th/early 13th century date. Part of a very abraded jug rim in a Lincoln Medieval Sandy fabric is unlikely to date before the close of the 12th century, its abraded state probably due to underfiring and the spalling off of the glazed surface. The early vessels in this fabric are characteristically soft and although usually only jars are found, this jug probably is part of the same production. The date of the latest material accords well with the coin (see p 206, no 1), also found in this deposit.

**Period 6c**

The latest sherds from the foundation deposits of the building in Area I include jugs or pitchers in Sparsely Glazed ware (Fig 102, 10, 12) and date to the end of the 12th or beginning of the 13th century. These deposits also contain a high proportion of material that may belong to the 11th to mid 12th centuries (Fig 102, 11, 13) although these vessels had a long lifespan and may indeed be contemporary with the later material. The three sherds of Stamford ware from the wall base IAX had no distinctive features and were in 11th/12th century fabrics.

Little informative material was recovered from the oven construction deposits. The latest pottery came from the base of the oven and is 13th to 14th century Lincoln Glazed ware, which is unlikely to date before the early/mid 13th century. The later sherds are unlikely to be intrusive as most of the remaining material consisted of well worn sherds.

Only four pits were excavated in Areas I and II during this period. The close proximity of pit 15 to the oven in Area I suggests that it was dug before the oven's construction. The pottery is certainly earlier in date than that from the three pits in Area II. A consideration of the material including the jug or pitcher handle (Fig 103, 19) in Sparsely Glazed ware, a worn copper glaze Beverley ware sherd, a sherd of 12th/13th century Lincoln Glazed ware with a high copper content in the splashed glaze and the late Nottingham Splashed ware sherds indicate a late 12th to 13th century date.

Pit 18 in Area II contained material that is mostly datable to the early 13th century. Jug rims were turned (Fig 103, 35) and only a few of the glazes were of the suspension type. Among the material is the handle of a North-West French jug (pers comm A Vince; Fig 103, 20). A similar handle was found at The Park (Fig 53, 8).

The material in pit 1 Area II included a high proportion of glazed jugs and several small jars or
pippkins in Lincoln and local fabrics. Amongst the Lincoln wares both 12th/13th and 13th/14th century type sandy fabrics were present. The glazes on these wares showed varying degrees of development from ‘splashed’ glazing to a good lustrous suspension glaze. Some of the sherds had sparse spots of splashed glaze and may be residual as this type of glazing is usually associated with the 12th to early 13th centuries. Few examples of a well applied suspension glaze occurred. Although these first appear in the early 13th century they are not common until the early/mid 13th century. Several non-local vessels occurred, including a Nottingham Glazed ware jug, and two sherds of a worn Rouen-type jug (Fig 103, 24) the handle of which was also found in pit 2.

A consideration of the large numbers of 12th/13th century Lincoln Glazed ware fabrics and small numbers of 13th/14th century Lincoln Sandy ware fabrics suggest a date in the early 13th century.

Pit 2 Area II (pit 21 Area I) produced a large number of vessels represented by several sherds. Vessels joined to other pits and several of the accumulation or dump deposits. There were only a few of the Lincoln and local glazed sherds with a splashed type glaze and these were probably residual. About half of the suspension glazed sherds were well glazed. Most of the jugs were of the narrow based type (Fig 103, 32, 34, 37) and all of the rims were of the cuff type (Fig 103, 27, 35) with rilled convex necks below. These types of jugs belong to between the early 13th century and the early/mid 14th century. The decorative features on the jugs in this group are still those that start on the early suspension glazes; bows (Fig 103, 30, 32), roller-stamped strips (Fig 103, 25) and scales (Fig 103, 26, 27, 33). There is a lot of use of iron staining (Fig 103, 25, 26, 27, 30, 32) which appears most popular in the early 13th century. The jug handle (Fig 103, 29) is similar to a handle from Hallgate, Doncaster, (Buckland et al 1979, fig 13, 121). Local Early Medieval Shelly wares still provide most of the pottery consisted of large unworn sherds and there were several joins with material from the pits (Fig 103, 33), Period 7 accumulation/dumping deposits (Fig 104, 40) and the oven infill. Several glazed jars or pippkins occurred which were similar to those in the oven infilling; these, however, may have been contamination from the oven fill.

The most interesting finds from the robber trench were several fragments of a louver in a local fabric (Fig 106). The louver is without canopies above the vents and is of the Dunning type 2 (pers comm G Dunning). Few large fragments of louver have been found from excavation in Lincoln and it is not possible to say whether this was a common type.

Period 6d

At least one of the Period 6c accumulation layers (IBX) may have survived as a ground surface into Period 6d and could have been associated with the final use of the oven. Most of the sherds were large and unworn and came from heavily sooted Shelly ware jars. Of interest was a broken tile with sooting marks that indicated its reuse as a lid on a pippkin of c 16 cm diameter and partially over a second vessel. The latest material was of late 13th to early/mid 14th century date.

A large amount of pottery came from the demolition or collapse of fill of the oven. Sherds were large, little worn and there were many inter oven-fill joins suggesting one operation. There were few joins with other deposits; some of the adjacent occupation/accu-
mulation layers, the destruction robbing of the building and the later accumulation/levelling levels. Although many of the vessels were not distinctive enough to date closely, several features, including cordinns at the neck, combed wavy line decoration, some of the thickened rim shapes and the Potterhan-
worth jars (Fig 104, 51, 54) suggest that the latest pottery belonged to the last quarter of the 13th or the first quarter of the 14th century.

The material was unusual in the large number of glazed jars or pipkins it contained (Fig 104, 42, 43, 44, 46). If the high percentage of sooted Shelly ware jars is also taken into consideration it is likely that this represents a dump from a kitchen rather than indicating a sudden increase in the number of small jar/pipkins in use (see also IBX above).

The several large jug fragments (Fig 104, 41, 45, 47, 48, 49, 50, 52, 53) exhibited little wear. One jug (Fig 104, 50) had been exposed to sufficient heat on one side to partially melt the glaze. The fill contained several glazed tiles including decorated ridge tiles.

Several scatters of small stones including one (I AD) partially sealing the building in Area I indicate a surface over much of Area I during this period. The latest pottery is three sherds of 14th/15th century Lincoln Glazed ware which together with the thick neck sherds and neck cORDons on the jugs suggest an early/mid 14th century date. The latest pottery in the Area II boundary wall robbing was of early/mid 14th century date and included jugs with wavy combed decoration and neck cORDons. A thick glazed base probably came from a dripping-pan. Most of the pottery, however, was of early to late 13th century date and included two sherds of an indented jug similar to Fig 105, no 59 in 12th/13th century Lincoln Glazed ware and a curfew in a local Shelly ware. Several vessels were represented by more than one sherd and numerous joins with other deposits occurred.

**Period 7**

There was some difficulty during excavation in distinguishing horizons within the upper loams. They contained more than 3000 sherds that date mainly from the 12th to the late 14th centuries, although the latest pottery date (5 sherds) is of early 18th century. There are numerous joins to vessels from the robbing of the building, boundary wall and infill of the oven, several joins also occur within material from the occupation and earlier accumu-
lation layers in Periods 6a–6c. Many vessels are represented by more than five sherds and most are large pieces. The pottery indicates that rather than a gradual build up, an initial levelling or dumping (from a nearby source) took place probably in the mid to late 14th century followed by a gradual build up.

Several interesting vessels came from these deposit-
its and have been illustrated with the contemporary pottery from stratified contexts. Two of these vessels were in Stamford ware, the highly decorated jug or tubular spouted pitcher (Fig 102, 14) can be dated to the late 12th century, and the ovoid vessel (Fig 102, 15) appears to be a new form. Several have been found at Lincoln in mid/late 12th–early 13th contexts. There is no sign of the usual sooting associated with the ovoid lamps (Kilmurry 1980, Form 19, p 18), the rim is upright rather than slightly inturned, and there is usually a pulled lip.

Other vessels of note must belong to the period when the stone building was occupied, and among the imports is a base of a Mediterranean vessel, possibly Italian (pers comm J Hurst). The jug from Beverley (Fig 105, 60) is typical of the many similar vessels found on the site. The jug in 12th/13th century Lincoln Glazed ware (Fig 105, 62) appears to be copying Rouen-type decoration, several similar fragments were found. Two unusual forms in a Lincoln Medieval Sandy ware fabric are an indented jug (Fig 105, 59) and a copy of a Paffrath-type ladle (Fig 105, 64). The South Humberside-type jug (Fig 105, 72) is one of the mid–late 14th century vessels which probably date to the end of medieval activity on the site.

**Other areas, Periods 6 and 7**

There was little medieval material from the floor or loam under it associated with the walling overlying a robbed portion of the east wall of the interval tower in Area III. A date between the late 12th and early 13th century was indicated for its construction. There were several pits in Area IV and with the exception of IV AV probably belong in Period 7 as they are of 15th/16th century date.

There are several joins between the material from the pits in Area III. The small jar or pipkin (Fig 105, 67) in 12th/13th Lincoln Glazed ware has heavy sooting on the base which only extends about 1 cm above, indicating that it had been standing in charcoal. This is unusual for this form as in Lincoln this method of heating is usually only indicated on jugts. A jug (Fig 105, 66) from two of the pits in Area III had roller-stamped decoration on the handle. This decoration had been thought to be confined to the late Saxon period locally, however several sherds from the site in differing medieval sandy fabrics showed this decoration and it was also found on a Potterhan-
worth jar from The Park excavations (Fig 53, 5). Although pit IV AR only produced four sherds, of these were from face jugs (Fig 104, no 40, and Fig 105 no 65). Part of a shield is almost certainly from the same jug, (Fig 104, no 40) found in Areas I and II. The most interesting sherd on the site was found in a pit in Area IV. The sherd is of North African Magrebi ware (Fig 105, 69) from an indented al-
barello (pers comm D Whitehouse). It must be residual in its context (IV AW) as it probably belongs to the late 13th century.

Although the latest sherd from robbing debris and
robber trench fill in Areas III and IV is of early 18th century date, most of the pottery is of 15th/16th century date with some residual medieval and earlier material.

**Conclusions**

The medieval ceramic evidence suggests that the area may have been largely deserted until the 11th century, although evidence for 10th century activity is suggested by the presence of a small number of late Saxon Lincoln Kiln-type Shelly ware sherds. Although found residually, they seem to be most common towards the western part of the site in Areas II and III. The earliest contemporary pottery from The Park excavations (above, p 135) is also of 11th century date.

There appears to have been more intense activity on the site from the late 11th century, with at least fifteen pits and two hearths in Period 6a. Poor definition of features and sinkage into pits has unfortunately removed any validity the groups may have had as excavated. It is, however, possible to suggest that this activity began in the 11th century, probably quite late, and continued until the mid 12th century and included the disposal of both domestic and industrial ceramic material, mainly in pits.

Further pit digging took place during Period 6b in the northern part of Area I and may have extended to Area II, but any evidence here had been removed. Mixed material in Area I makes it difficult to assess this period, as any relationship of the pottery to the building in this period was destroyed. Nevertheless, the quality of some of the pottery indicates a prosperous tenement as does the high proportion of glazed 12th century Stamford wares compared to the Nottingham Splashed Glaze wares.

The pottery from the pre-building and construction deposits suggests a date at the end of the 12th or beginning of the 13th century for the construction of the stone building. The material from the associated oven deposits, however, suggests that the oven was not built until the early/mid 13th century at the earliest and may in fact not have been contemporary with the building.

Several accumulation or dumping deposits in both areas belong to Period 6c. The dispersal pattern of individual vessels within these deposits and the associated pits suggest that most of them accumulated during the life of the building. It also indicated that there was considerable movement of soil within the area, resulting in individual vessels being scattered across the whole site. The large quantity of early to mid 13th century pottery present probably indicates the highpoint of occupation in the area. A possible abandonment of the building by the mid/late 13th century is suggested by the small number of sherds attributable to a later date. The later sherds probably derive either from the final period of oven use (there are joins to the deposit I BX possibly associated with the final use of the oven) or from the subsequent robbing of the building and boundary walls.

Dispersal of individual sherds from the same vessels found in the various destruction and robber trench deposits suggest several distinct operations between the late 13th/early 14th and early/mid 14th centuries. Although both the building and the boundary wall robber trench fills contained sherds that were derived from vessels found in earlier deposits (indicating possible levelling of the area), there are no joins between the material. This absence of related sherds suggests that the two features were filled in at different times. The pottery dates also seem to indicate that the boundary wall was filled in at a later date.

The material in the oven fill appears to form a discrete group. Despite many inter deposit joins only 13 sherds representing four vessels were found in other Period 6c or d deposits. Of these, five sherds came from building robber trench fills and six from nearby accumulation deposits. Only one vessel had an unusual distribution (Fig 104, 40), with one sherd coming from an Area II accumulation deposit and one found residually in a pit in Area IV. It is probable that the oven was filled in shortly after going out of use, with a single dump of material bought in from elsewhere. There is a similarity to the material in IBX, the deposit possibly associated with the last use of the oven, and some of the dump may have spread to the nearby building robber trenches and accumulation layers. The pottery probably reflects that in use in an affluent area. There are several imports including unusual wares from the Mediterranean (Fig 105, 63) and North Africa (Fig 105, 69). The Lincoln and local glazed wares are of good quality and a high proportion are decorated. Amongst the forms and decoration are local copies of imports (Fig 105, 62, 64). There are fragments of at least three Knight or face jugs (Figs 104, 40; 105, 65) and several sherds of other ‘highly’ decorated jugs.

Undefined building activity and pitting seems to have taken place in the area of the Roman defences during the 12th and 13th centuries. Only one vessel join was found with the internal areas (see above) so no attempt can be made to fit this activity into the framework for Areas I and II.

The dispersal of sherds in the later accumulation deposits attributed to Period 7 indicates that an initial levelling or dumping of soil from the area must have taken place after the infilling of the robber trenches and the oven. The numerous joins with vessels originating in Periods 6a to 6d suggest that the material had a common origin and the interpretation of the entire deposit as gradual accumulation during a period of abandonment and dereliction must be discounted. Indeed the pottery indicated some continued activity in the area, even if it was only dumping until the 16th century. This is supported by the pits and robbing activity of this date in Areas III and IV.
Figure 102  Medieval and later pottery nos 1–18
**West Parade: catalogue of post-Roman pottery**

**Fig 102**

2. Pitcher or large jar, Stamford ware; fabric B. Pale yellow glaze on exterior, spots on interior. Period 6a pit 12/14/16 Area 1 (I EM)
4. Large jar, Lincoln Fine-Shelled ware. Patches of sooting on base and exterior. Period 6a pit 12/14/16 Area 1 (I EM)
5. Large straight sided bowl, Lincoln Fine-Shelled ware. Heavily sooted exterior and base, white deposit on interior. Period 6a, pit II Area I (I EK)
7. Jug, Beverly ware. Period 6b accumulation/dumping Area I (I DV)
8. Jug or pitcher, Sparsely Glazed ware. Period 6b accumulation/dumping Area I (I DV)
9. Lid, Stamford ware; fabric B. Thick pale green glaze on exterior. Incised decoration. Period 6b pits 1/2/3 Area I (I CW)
10. Jug or pitcher, Sparsely Glazed ware. Incised and stabbed decoration. Period 6b pit 6 Area I (I BZ)
11. Large storage jar, Thetford-type ware. White deposit and patches of sooting over interior and exterior surfaces, probably post-breakage. Period 6b pit 6 Area I (I BZ)
12. Pitcher or jug, Sparsely Glazed ware. Period 6b pit 6 Area I (I BZ)
13. Small globular lamp or crucible, Stamford ware; fabric G. Spots of pale yellow-green glaze on exterior. Period 6b pit 6 Area I (I BZ)
14. Tubular spouted pitcher or jug, Stamford ware; fabric B. Light yellow-green glaze on exterior. Period 7 accumulation/dumping Areas I and II (II AB, II AA, I AA)
15. Unusual form, probably an ovoid lipped vessel similar to Stamford Form 19 (Kilmurry 1980, 18), Stamford ware; fabric G. Single spot of pale green glaze on exterior. Heavily sooted exterior and rim interior. Period 7 accumulation/dumping Area I (II AA)
17. Probably spike lamp, 12th/13th century Lincoln Glazed ware. Small spots of yellow-green and amber glaze on exterior, yellow-green reduced glaze on interior of bowl. Period 6c accumulation/dumping Area II (II AZ)

**Fig 103**

19. Handle of jug (or pitcher), Sparsely Glazed ware. Period 6c pit 5 Area 1 (I CY)
22. Jug, 12th/13th century Lincoln Glazed ware. Yellow-green reduced glaze with copper flecks on exterior. Period 6c pit 18 Area II and pit 1 Area II (II AK, II AJ, II AX, also I DB, I CK, II AZ)
23. Jug, Lincoln Glazed ware; fabric A. Speckled yellow-green and copper-green external glaze. Period 6c pit 1 Area II (II AP, II AJ)
24. Handle of jug, Rouen-type. Off white fabric with pale pink unglazed surfaces, pale yellow-green glaze, brown over iron slip painting. Period 6c pit 1 Area II and pit 21/2. Areas I and II (II AJ, II AX, also II BD)
25. Shoulder of large jar, Local Early Medieval Shelly ware. Incised decoration. Period 6c pit 1 Area II and pit 21/2. Areas I and II (II AJ, also I CB)
26. Jug, 13th/14th century Lincoln Glazed ware. Bright copper-green exterior glaze, brown over iron stained applied decoration which has run towards rim. Period 6c pit 1 Area II and pit 21/2. Areas I and II (II AJ, II AX, also II BU, I DW, I DB, II AZ)
27. Jug, 13/14th century Lincoln Glazed ware. Olive-green exterior glaze, mottled with copper and iron, brown over iron stained applied scales and runs. Period 6c pit 21/2 Areas I and II (II BD, also II AA, I CR, I DB)
28. Pipkin, 13th/14th century Lincoln Glazed ware. Spots and patches of olive-yellow glaze on exterior below rim. Sooting on rim and lip. Period 6c pit 21/2 Areas I and II (II BU)
29. Jug handle, 13th/14th century Lincoln Glazed ware. Yellow-green reduced glaze with a few copper specks. Period 6c pit 21/2 Areas I and II (II BD)
30. Shoulder of jug, 13th/14th century Lincoln Glazed ware. Yellow-green exterior glaze, brown over iron stained applied bow decoration. Period 6c pit 21/2 Areas I and II (II BU)
31. Sherd from jug, Lincoln Glazed ware; fabric A. Yellow-green exterior glaze with copper flecks, brown over iron stained applied decoration. Interior sooted. Period 6c pit 21/2 Areas I and II (II BD)
32. Jug, 13th/14th century Lincoln Glazed ware. Yellow-green exterior glaze with some copper flecks, brown over iron stained applied decoration and painted strips. Period 6c pit 21/2 Areas I and II (II BD, also II AZ)
33. Jug, 13/14th century Lincoln Sandy ware. Bright copper green glaze. Period 6c pit 21/2 Areas I and II (II BD, also I CZ, II AZ, I AR, I CF)
34. Jug, Lincoln Glazed ware; fabric A. Spots of amber glaze on exterior. Period 6c pit 21/2 Areas I and II (II BU)
38. Jug, 13th/14th century Lincoln Glazed ware. Bright copper-green glaze on exterior. Period 6c or 6d accumulation/dumping or oven infill Area I (I CH, I AW, also I AA)

**Fig 104**

217
Figure 103 Medieval and later pottery nos 19–37
Figure 104 Medieval and later pottery nos 38–56
40 Face jug, 13th/14th century Lincoln Glazed ware. Bright copper-green glaze on exterior. Period 6c accumulation/dumping Area II (II AS, also I AW, IV AR)
41 Jug, 13th/14th century Lincoln Glazed ware. Copper-green glaze on exterior. Period 6d oven infill Area I (IAW)
42 Small jar or pipkin, Lincoln Glazed ware; fabric A. Spots of amber glaze on exterior and rim top. Period 6d oven infill Area I (IAW)
43 Jar or pipkin, 13th/14th century Lincoln Glazed ware. Reduced green glaze on exterior below rim. Some sooting on rim edge. Period 6d oven infill Area I (IAW, I AS)
44 Pipkin, Lincoln Glazed ware; fabric A. Amber glaze over upper body. Yellow-green on handle. Sooting on lower body and partially over rim. Period 6d oven infill Area I (IAW, I AV, also I AH, I AD, I AA)
45 Jug, 13th/14th century Lincoln Glazed ware. Spots and patches of amber glaze on exterior. Period 6d oven infill Area I (IAW)
46 Pipkin or small lipped jar, 13th/14th century Lincoln Glazed ware. Reduced green glaze below rim on upper body. Some sooting on rim edge and lower body. Period 6d oven infill Area I (IAW, I AR)
47 Jug, 13th/14th century Lincoln Glazed ware. Bright copper-green glaze on exterior body. Spots of red to green glaze on exterior base. Period 6d oven infill Area I (IAV)
48 Jug, 13th/14th century Lincoln Glazed ware. Reduced green exterior glaze, brown over iron painted applied decoration. Period 6d oven infill Area I (IAV, also I AO, I AJ, I AB)
49 Jug, Lincoln Glazed ware; fabric A. Spots of yellow to amber glaze on exterior and base. Period 6d oven infill Area I (IAV)
50 Jug, 13th/14th century Lincoln Glazed ware. Reduced green glaze on exterior, amber on handle. Period 6d oven infill Area I (IAV)
51 Large jar, Potterhanworth ware. Heavily sooted exterior with patches of sooting on interior. Period 6d oven infill Area I (IAV)
52 Jug, 13th/14th century Lincoln Glazed ware. Orange-brown glaze on exterior. Period 6d oven infill Area I (IAV)
53 Jug, 13th/14th century Lincoln Glazed ware. Orange exterior glaze. Period 6d oven infill Area I (IAV)
54 Large jar, Potterhanworth ware. Patches of heavy sooting on interior and exterior. At least one post firing hole in lower body and one in base. Period 6d oven infill Area I (IAV)
55 Curfew, Local Early Medieval Shelly ware. Heavy sooting on interior to rim edge. Period 6d boundary wall infill Area II (IIAD)
56 Jug, 13th/14th century Lincoln Glazed ware. Bright copper-green glaze on exterior. Period 6d boundary wall infill Area II (IIAD)
57 Jug, 13th/14th century Lincoln Glazed ware. Amber to yellow-green exterior glaze. Applied combed strips. Period 6c cobbles Area II (II BJ, also II AD, II AA)
58 Jug, 12th/13th century Lincoln Glazed ware. Yellow-green exterior glaze. Period 6c cobbles Area II (II BJ, II AD)
59Indented jug, Lincoln Glazed ware, fabric A. Yellow-green with copper flecks on exterior. Period 7 accumulation/dumping Area II (II AA)
60 Jug, Beverley ware. Spots of amber glaze with copper flecks on exterior. Period 7 accumulation/dumping Area II (II AA)
61 Curfew, Lincoln Glazed ware; fabric A. Roller stamped applied decoration, heavily sooted interior. Period 6c
62 Jug, 13th/14th century Lincoln Glazed ware. Reduced green glaze on exterior, brown over iron painted applied decoration. Period 7 accumulation/dumping Area I (I AC)
63 Unknown form, Mediterranean, possibly Italian, Fine orange-red fabric with partial light grey core, white slip on exterior. Period 7 accumulation/dumping Area I (I AA)
64 Ladle, Lincoln Glazed ware; fabric A. Unglazed. Sooting on underneath of handle. Period 7 accumulation/dumping Area II (II AB)
65 Face jug, 13th/14th century Lincoln Glazed ware. Light copper-green glaze on exterior. Period 7 pit Area IV (IV AR)
66 Jug, 12th/13th century Lincoln Glazed ware. Spots and patches of amber to yellow-green glaze on exterior. Roller stamping on handle. Period 6 pit Area III (III CG, III CH)
67 Jar, 12th/13th century Lincoln Glazed ware. Spots of amber glaze on interior and exterior. Sooting on base and for 1 cm up on lower body. Period 6a pit Area III (III BD)
68 Jug, French. Off white fabric with pale orange interior surface, mottled light to dark copper-green glaze on exterior, orange spots on interior. Period 6, Area III (III AA)

Figure 105 Louver (no 73)
69 Indented Albarello, Magrebi ware. Cream fabric; green alkaline glaze on exterior, purple mottled with pale green on interior. Reconstruction based on Vince 1985, fig 22/2. Period 6 pit Area IV (IV AW)

70 Beaker, Siegburg. Patches of red-brown ash glaze. Period 6c accumulation/dumping Area I (I DG)

71 Jug, East Anglian Late Medieval and Transitional ware. Period 7, stone wall Area III (III AE)

72 Jug, South Humberside type. Thick amber glaze on exterior, patchy amber glaze flecked with copper on interior. Three finger impressions above handle join. Period 7 accumulation/dumping Area I (I AA)

73 Louver, Dunning type 2, local fabric. Coarse orange fabric with partial amber to yellow-green glaze on exterior. Drawn by D Watt from a sketch by G C Dunning based on an original by G Coppack. Period 6c building robber trench Area I (I AR)

Fig 106

(6) The Roman glass from West Parade

H E M Cool and Jennifer Price

The excavations at this site produced 46 fragments of Roman vessel glass. As at The Park there were several instances of multiple fragments from one vessel and if the total is adjusted in the same manner as was done on that site it becomes 38. Based on this total the assemblage consists of 8% colourless glass, 39% blue-green glass and 8% made up of one fragment each of a pillar moulded bowl, a yellow/brown vessel and a pale green vessel. The remaining 43% is of late Roman greenish, colourless, bubbly glass which was all found in the interior Areas I and II.

Where the forms of the vessels can be identified, they are all of types which have already been discussed in the report on the Roman glass from The Park and the reader is referred there, and to the general corpus in preparation (Price et al, forthcoming), for detailed considerations. The types that can be recognised with certainty are a blue/green pillar moulded bowl (Isings Form 3: no 1) which would have been of 1st century date, a blue/green hexagonal bottle (Isings Form 50: no 9a) of 1st or early 2nd century date, a cylindrical colourless cup (Isings Form 85b: no 4) of late 2nd or early 3rd century date, two truncated conical beakers (Isings Form 106: nos 10 & 11) of 4th century date and two indented truncated conical bowls (Isings Form 117: no 13 & 14) of late 4th century date. A third indented truncated conical bowl may be represented by the rim fragment no 12.

Other vessels represented here include one each of yellow/brown (no 2) and pale green (no 3) glass. It is not possible to identify the forms of the vessels but the colours they were made of would suggest a 1st or early 2nd century date. A second colourless cylindrical bowl may be represented by no 5 and the blue/green rim fragment no 7 may have come from a spouted jug of Isings Form 88 which was in use during the 2nd and 3rd centuries. No 6 may be from a blue/green bowl. The form of the vessel cannot be identified and only the general date range of the 1st to 3rd centuries can be offered for it on the basis of its colour.

Catalogue of the Roman glass

Pillar moulded bowl

1 Rim fragment. Blue/green. Wheel-polished on both interior and exterior with small area of fire polished zone still present on exterior. PH: 19 mm. RTh: 3 mm. WP71 G21 Period 6c dumping/accumulation (II BW)

Blown

Light yellow/brown

2 Body fragment. Occasional small bubbles; streakily weathered surfaces. Straight side bending out along 1 broken edge. 23 × 16 mm. WTh: 0.5 mm. WP71 G29 Period 2 occupation, associated with timber building? (III BT)

Pale Green

3 Body fragment. Occasional bubbles; surface pitted with yellow weathering products. Convex-curved body. 2 trails, 1 in high relief. 37 × 17 mm, WTh: 1 mm. WP71 G30 Period 1 occupation accumulation? (III BZ).

Colourless

4 Rim fragment of cylindrical cup. Clouded surfaces. Vertical rim, edge fire thickened. PH: 14 mm. RD: c 100 mm. WTh: 2.5 mm. WP71 G36 Period 4 pit 11 (II CB)

5 Base fragment of cup or jug. Pitted iridescent surfaces. Tubular pushed-in base ring; base and side broken. BD: c 40 mm. WP71 G23 Period 7 (III AK)

Also 1 colourless undecorated body fragment

6 WP71 G35 Period 4 pit 11 (II CB)

Blue/green

6 Base fragment of bowl? Dulled surfaces; strain cracks. Side curving through carination to wide lower body; trailed base ring, base broken. 22 × 13 mm. WTh: 2.5 mm. WP71 G4 Period 6c dumping/levelling? (II AL)

7 Rim fragment of spouted jug? Many small bubbles. Funnel mouth, rim edge rolled out and down. PH: 13 mm. WTh: 1.5 mm. WP71 G11 Period 6c accumulation (I CL)

Also 6 undecorated blue/green body fragments

6 WP71 G18 Period 4 pit 11 (II CB)

c WP71 G31 Period 4 pit 16 (II DA)
Late Roman green

10 3 rim and 5 body fragments of truncated conical beaker. Yellowish/green; some small bubbles; iridescent surfaces. Curved rim, edge cracked off smoothly but not ground; straight side sloping in. 3 horizontal abraded bands on upper body. PH: 33 mm. WTh: 1 mm. WP71 G43 Period 4 pit 11 (II CB)

11 1 rim and 1 lower body fragment of truncated conical beaker. Light green: many small bubbles; streaky surfaces. Curved rim, edge cracked off but not ground; straight side sloping in; lower body fragment curving into edge of base. 3 abraded bands on upper body. PH: 15 mm. WP71 G42 Period 4 pit 11 (II CB)

12 Rim fragment of truncated conical bowl. Light green; many small bubbles; flaking iridescent surfaces. Curved rim, edge cracked off and possibly smoothed; straight side sloping in. 2 horizontal abraded bands on upper body. PH: 19 mm. RD: 110 mm. WTh: 1 mm. WP71 G20 Period 6c dumping/accumulation (II BW)

Also
b 1 light green upper body fragment from beaker or bowl with 1 abraded horizontal band. WP71 G26 Period 5 accumulation/levelling for paving (II CT)

Also 2 yellowish-green upper body fragments from beakers or bowls with abraded horizontal bands
c 2 (bands) WP71 G17 Period 4 pit 11 (II CB)
d 3 (bands) WP71 G44 Period 4 pit 11 (II CB)

Also
e 1 yellow/green lower body fragment curving into base from beaker or bowl. WP71 G25 Period 5 accumulation/levelling for paving (II CT)

13 Rim fragment of indented truncated conical bowl? Yellowish/green; occasional small bubbles. Curved rim, edge cracked off smoothly but not ground; convex-curved side possibly broken on edge of indentation. Abraded horizontal band on upper body. PH: 23 mm. RD: 120 mm. WTh: 1.5 mm. WP71 G10 Period 6d dumping/ pit fill? (I EF)

14 Rim fragment of indented truncated conical bowl. Yellow/green; some medium bubbles. Curved rim, edge cracked off smoothly but not ground; convex-curved body with edge of 1 indentation. 1 abraded horizontal band at rim edge and 1 on upper body. PH: 32 mm. Wth: 25 mm. WP71 G15 Period 6 dumping/accumulation (II BH)

Also
b 1 yellowish-green indented body fragment WP71 G2 Period 6b Dumping; redeposited rampart? (I AN)

Also 7 light and yellowish-green undecorated body fragments
c WP71 G24 Period 4 accumulation/dump (II CA)
d 2 (joining fragments) WP71 G16 Period 4 pit 11 (II CB)
e 2 (fragments) WP71 G34 Period 4 pit 11 (II CB)
f WP71 G41 Period 4 pit 11 (II CB)
g WP71 G7 Period 6b pit 5 (I CA)

(7) Medieval and later glass
by Julian Henderson
(Fig 107)

Little medieval or later glass was recovered from West Parade, with only one vessel fragment. This (Fig 107, 1) is the neck and rim of a 17th century apothecary’s flask, unfortunately intrusive in a machine-disturbed medieval context. The only other finds of note are a medieval bead (Fig 107, 2) and a post-medieval pin (Fig 107, 3). The metal of the green and colourless window glass fragments is iridescent and suggests a 17th/18th century date. A 17th/18th century melted glass lump with a possible metallic accretion is difficult to interpret on its own.

Catalogue

Abbreviations: Di = diameter, De = depth, Th = thickness, P1 = diameter of bead hole 1, P2 = diameter of bead hole 2

Fig 107

Vessel Glass

1 Pale green neck and flaring rim of a 17th century apothecary’s flask. Edge of rim thickened by being melted in the flame. Slightly iridescent and pale grey weathered surface. Max D: 24.5 mm. WP71 G14. Period 7 machine disturbed occupation material (I CK)

Objects

2 Opaque yellow globular glass bead. Short extension of glass near small end of perforation produced in gathering the glass from the melt. Probably 12th or 13th century. Di: 3.8 mm. De: 3.6 mm. P1: 2 mm. P2: 1.3 mm. WP71 G37. Period 7 dumping/accumulation (II AA)

3 Top of a pin and attached shank with annular disc of glass on head and a second one 4.7 mm below this. Colourless glass with pale brown flaking weathered surface. Shank D: 5.5 mm. Disc D: 12.6 mm, WP71 G1 Period 7 stone-lined pit (I AF)
The catalogue of unillustrated fragments is to be found in the site archive. See also Henderson (forthcoming) for a general discussion of the medieval and later glass from Lincoln.

**Other artefacts**

(Figs 108–21)

Excavations at this site produced a relatively small quantity – just under 400 – of registered finds, their date range extending from Roman to Victorian. These were mostly of iron (42.9% of the total) and copper alloy (18%), the latter including 20 coins and jetons; there were also seven silver coins and three lead tokens (see above, p 206). Glass (see above, p 222) and ceramic objects occurred, unusually, in almost equal proportions (11.2% and 10.2% respectively), much of the latter comprising fragments of crucibles. Artefacts in other materials such as bone and antler, stone and shale, were relatively sparse and no organic materials survived. All of the metalwork was heavily corroded.

Comparatively little Roman material was recovered, partly because post-medieval (mainly 19th century) cellars and other disturbances had cut through earlier levels along the defences, and because the rampart could not be explored here as it was at The Park. Most (81%) of the finds were recovered from the internal trenches (Areas I and II), the majority of these coming from medieval and later levels.

**Figure 107 Medieval and later glass**

Period 1

The only notable items are the copper alloy ‘frog’ (Fig 108, no 2), a military fitting of a type which is thought to have gone out of use by the later 1st century (c AD 60; see below, p 226), and a bit head (Fig 111, no 21).

Period 4

Within the demolition debris (III BF) of the interval tower were several dozen iron nails, possibly derived from collapsed timber joists which originally had supported the floor or roof.

Most of the finds came from internal Area II, the majority from within pits. These include fragments of a bracelet (Fig 108, no 1, pit 11) and a double-sided composite comb (Fig 114, no 37, pit 16/11), both of late 4th century date. The material as a whole suggests the use of the area as a domestic rubbish dump.

Period 5

The finds all came from contexts associated with the use and demolition or collapse of an oven/furnace against the south side of the only remaining wall (BA) of a stone building in Area II. Dating evidence (see above, p 197) suggests that this oven was constructed in the late 4th century, and that its subsequent conversion to a lead-smelting furnace took place at the end of that century or the beginning of the next, although its use as such appears to have been short lived. As well as the solidified mass of lead found within the flue (II CU), several scraps of lead sheet or strip were found on the stone paving (II CO) beneath the oven/furnace, and among the demolition/collapse debris (II BB); these may represent the raw material for smelting (see XRF analysis, below, p 236). A number of misshapen, heat-distorted lumps were also found on the paving and within a Period 6b dump (II BH) which sealed the debris. These, and other similar fragments found in medieval and later levels in Area I, may also have originated from the furnace, becoming scattered by later activity.

Periods 6a–b

A number of finds were recovered from pits and dumps of Period 6a in Areas I and II; none predates the late 9th/10th century, and all could well be of late 11th to 12th century date, as is the associated pottery. The finds are primarily of domestic character, suggesting some form of sporadic activity in the neighbourhood at this time.

From a hearth (or hearths) cutting pits 1–3 in Area I came two interesting items: part of a small, part-worked copper alloy bar (Fig 109, no 8) and an unfinished hooked tag (Fig 109, no 7). Both pieces are...
reminiscent of the material associated with the mid-late 11th century copperworking at Flaxengate, Lincoln (see below, p 226). Similar finds came from later (Periods 6c–d) levels at West Parade: a base silver tag (Fig 109, no 6) from pit 21, and another part-worked bar from the robber trench (I AR) of the stone building. Several Stamford ware crucible sherds were also scattered throughout contexts of Period 6 in both Areas I and II; the vessel forms are typologically of 11th/early 12th century date (cf Adams Gilmour 1988, figs 8, 9). The material as a whole suggests that small scale copperworking was practised on this site; although largely recovered from contexts which have been attributed to the 12th century (and later), it could well have originated from slightly earlier levels (see above, p 198 and note 2).

Apart from the stratified finds, several other items from later levels indicate considerable activity on this site during the late 11th and 12th centuries. These include an iron harness buckle (Fig 112, no 26) from the robbing of the stone building (I AR), parallels to which are dated mid 11th–mid 12th century. The composite comb (Fig 115, no 38) and the plated key (Fig 112, no 23) are of particular interest in that both may be imported pieces (the latter almost certainly from Scandinavia), especially since a Danish coin of c 1045 (temp Magnusthe Good: Blackburn et al 1983, 24; fig 42) was also found on this site, albeit in a Period 7 context.

**Period 6c–d**

No diagnostic finds apart from the silver penny of Richard I (see above, p 206) were directly associated with the Period 6c construction or occupation levels of the building, although a little material came from pits and dumps which the pottery (qv) suggests were contemporary with its use. The Period 6c robbing debris of the building produced an arrowhead (Fig 113, no 33) of pre-Conquest type which could have continued in use during, but no later than, the 13th century. The presence of the harness buckle (Fig 112, no 26) (see above) in this same context, however, suggests that the arrowhead may also belong to an earlier phase of activity.

Apart from several iron nails no finds were associated with the use of the oven/kiln in Area I, although a fragmentary buckle plate of common 13th/14th century type was found within the demolition/collapse debris.

Other finds which are almost certainly of medieval date occurred within several Period 7 dumps, such as a small pendant boss (Fig 110, no 18) and a mount (Fig 110, no 12), both of gilt copper alloy. Most of the material appears to be ordinary domestic refuse, and is almost certainly related to the occupation of the medieval building. The quality of some of the finds, however, such as the gilt mount and harness fittings, suggests a relatively affluent lifestyle, and this is reflected by some of the pottery (see above, p 215).

**Period 7**

The pottery (qv) suggests an initial episode of dumping/levelling in the mid–late 14th century, with sporadic activity (if only dumping) thereafter until the mid 16th century. The only finds datable to this period are a fragmentary buckle plate (Fig 110, no 9) and part of a spur (Fig 110, no 19). Apart from robbing of the city wall, there was little further activity here until the 19th century. Most of the finds are residual and there is little of note apart from an iron slide key (Fig 113, no 28) and part of a copper alloy ferrule/binding (Fig 110, no 16).

A small group of finds was recovered from the fill (AF) of a Victorian stone-lined pit (AK) in Area I. These were associated with a number of mid-late 19th century clay tobacco pipe bowls, and almost certainly are of a similar date. The group includes three bone items: a cotton-reel (Fig 118, no 43), a spindle-shaped object (Fig 118, no 44), and a hollow, ‘dummy’-shaped piece (Fig 118, no 45) which is possibly a nozzle of some kind. All are lathe-turned and well finished. A glass ‘pin’ (see above, Fig 107, 3 and p 223) is probably contemporary, but the wig curler (Fig 121, no 53), made from the trimmed stem of a clay pipe, is residual (18th century).

**Catalogue**

The format of this catalogue is as given for the Park (see above, p 146). Notes to this section can be found on pp 235–6.

**Category** | **Catalogue No.**
--- | ---
Personal ornaments | 1, 4–5
Costume fittings | 6–7, 9
Toilet implements | 10, 37–8, 53
Textile-working implements | 11, 43, 50
Furniture/structural fittings | 12–6, 25, 29–30, 40
Locks and keys | 20, 22–3, 27–8
Tools | 21, 24, 31–2, 39, 41, 46–8
Military fittings | 2
Weapons | 33–4
Horse furniture | 17–9, 26, 35–6
Music? | 42
Pastimes | 49, 51–2
Waste | 8
Miscellaneous | 3, 44–5

**Copper alloy and base silver**

**Roman (Fig 108)**

**Personal ornaments**

1. Bracelet, cable. Two twisted wire strands; two fragments, one with hook terminal. 4th century type (cf Clarke 1979, 302, type A1; fig 45, 143; Crummy 1983, fig...
Part of a similar bracelet, but of three strands and with traces of tinning, was found in a Period 6b dump which contained a high proportion of residual Roman pottery; this may also be residual.

Military fitting

2 'Frog'. Cast; almost triangular, convex-sided. Cylindrical terminal knob with remains of iron pin (for attachment of decorative disc) in situ. Butt with two perforated lugs (one broken) for hinge pin, separated from body by double transverse moulding. Similar fittings mostly with openwork plates occur on military sites (as Hod Hill: Brailsford 1962, fig 4, A98, A100; Richborough: Cunliffe 1968, pl 35, 102). A recent discussion of this and other associated military belt fittings suggests that they had largely gone out of use by the 60s, or possibly earlier, with only a few survivals into the Flavian period (Grew & Griffiths 1991, 50) L: 31 mm. W: 31 mm. WP71 Ae60. Period 1 occupation accumulation (III BZ)

Miscellaneous

3 Ring. Fragment, in three adjoining pieces. Pentagonal in section; slight circumferential ridge on exterior, inner face angled. Int D: c 20 mm. W: 2 mm. Th: 1.25 mm. WP71 Ae58. Period 2 predating rampart (III BU)

Late Saxon (Fig 109)

Personal ornaments

4 Finger-ring. Fragment; thin rectangular-sectioned strip, expanding in centre. Three lines of punched dots mostly obscured by corrosion. Tapering terminals broken, but originally knotted together (cf Rogerson & Dallas 1984, fig 110, 13). Int. D: 16 mm. WP71 Ae41. Period 6a. Pit 7 (I DM)

5 Ear-ring. Penannular, misshapen (ovoid). Circular-sectioned wire tapering towards ends (both broken), which are slightly flattened. Similar ear or finger rings from Thetford (Rogerson & Dallas 1984, fig 110, 17, 20, 21), although the possibility that this piece may be Roman should not be discounted (cf Allason-Jones 1989, 94, no 286). Int D: 12–13 mm. Th: 3 mm. WP71 Ae55. Period 6c dump/accumulation (II BM)

Costume fittings

Tags ('garterhooks')

6 Base silver. Thin disc with two perforations on one edge; opposite edge elongated into projecting hook, now broken. L: 14 mm. Disc D: 10.5 mm. Th: 0.5 mm. WP71 Ae52. Period 6c pit 21 (I CB)

7 Unfinished. Thin sheet, crudely cut to irregular disc; elongated projection on one edge, broken. (Compare Rogerson & Dallas 1984, fig 111, 37–9) L: 17 mm. Disc D: 13 mm. Th: 0.25 mm. WP71 Ae24. Period 6b hearth cutting pits 1–3 (I BM)

The unfinished tag (no 7) was clearly intended to be of the same form as the base silver piece (no 6). Hooked tags of both disc-shaped and triangular form, commonly with punched or incised ornament and occasionally highly decorated, are well known from both Saxon and Anglo-Scandinavian sites in Britain, and in Scandinavia. These generally range in date from the 7th to the 10th centuries, although at least some are of 11th century date (Graham-Campbell 1982, 146). Their use is uncertain, although the delicate examples such as the two pieces from this site may have served much the same purpose as the modern hook-and-eye fastener (ibid 148, and note 30). Unfinished tags of both disc-shaped and trian-
regular form were found at Flaxengate, Lincoln, together with crucibles and copperworking waste, indicating their production at that site during the mid-late 11th century; 4 while similar small scale activity may also have been practised elsewhere in the town. 5 Other evidence (see above, p 198) suggests that they were produced at this site at much the same time.

Waste?

8 Bar, part-worked. Fragment, both ends broken; irregular pentagonal section. L: 31 mm. W: 4.25 mm. Th: 3 mm. WP71 Ae27. Period 6a hearth cutting pit 3 (I CN)

Both pieces are similar to the part-worked rods found at Flaxengate which formed part of the evidence for copperworking there. 4 Another part-worked rod 6 was found in the robbing (I AR) of the stone building.

Medieval and post-medieval (Fig 110)

Costume fittings

9 Strap end. Fragment; thin rectangular sheet folded double to seatstrap. Upper plate with repoussé border, lower plate with two perforations at butt. Torn and bent. Similar decoration used on pieces from bucklemaker’s workshop at Blossoms Inn, London, dated c 1500 (Goodall, A, 1981, fig 61, 6 & 9). L: 41 mm. W: 30 mm. Th: 0.25 mm. WP71 Ae35–6. Unstratified (I)

Part of another buckle plate, 7 almost certainly of 13th/14th century type, was found in the demolition/collapse debris of the oven/kiln in Area I. This is a narrow rectangular sheet, folded in similar fashion to no 9, but with a slot for the buckle pin. It is in several fragments with extreme corrosion obscuring details, and is the only other costume fitting apart from a possible lace tag fragment from the occupation material associated with the stone building. 5

Toilet implement

10 Tweezers. Fragment; thin rectangular strip bent double to form (constricted) loop head, now broken. Remaining arm with slightly expanded, inturned terminal (just possibly Roman residual). L: 48.5 mm. WP71 Ae19. Period 6b ?make-up for floor (I AT)

Textile working implement

11 Needle. Oval punched eye; circular-sectioned wire shaft bent. Corroded in places. L: 137 mm. WP71 Ae51. Period 7 pit (III BD)

Mounts and fittings

12 Mount, gilt. 9 Two originally adjoining L-shaped fragments forming square. Plano-convex strip with convex boss at each corner. Part of one boss broken and heavily corroded, but possibly fractured across perforation. Reminiscent of gilt binding strips found commonly on 12th and 13th century castle and manor sites (cf Goodall, A, in Saunders 1980, 164–5, fig 16; Goodall, A, in Coad & Streeten 1982, 235–6, fig 43) and which may have ornamented wood or leather, possibly as casket-fittings. 27 x 27 mm. Th: 1.75 mm. WP71 Ae6. Period 7 accumulation/dump (II AA)


14 Mount. Narrow rectangular-sectioned strip, upper face slightly convex, with expanded oval terminals separated from body of strip by a small sub-rectangular projection on each side. Surface ornamented with shallow incised obliques, obscured in places by corrosion. Small lug on reverse of each terminal for securing, one with scrap of thin sheet copper alloy adhering. Possibly belt-fitting rather than for ornamenting wood. Medieval? L: 46 mm. WP71 Ae11. Unstratified (II)

15 Binding. Sub-rectangular sheet, folded to angular U-shape. Secured by three rivets, two at corners (only one remaining) with third placed equidistantly on adjacent side. Similarly shaped piece but with only one (corner) rivet, from ?later 15th century context at Bordesley Abbey, described as strap end perhaps from book binding (Rahtz, P A, in Hirst et al 1983, 181, and fig 67, CA85). L: 22 mm. W: 15 mm. Th: 0.25 mm. WP71 Ae45. Period 6c accumulation/dump (II BO)

16 Ferrule/binding? Fragment; thin sheet folded to form tapering tube. One face ornamented with crudely incised shallow curves, interrupted by perforation at upper end; second perforation on reverse, in upper corner of sheet. Flattened and crumpled, with lower end broken. L: 44 mm. W: 25 mm. WP71 Ae12. Period 7 accumulation/dump (II AA)

Horse furniture

17 Harness pendant, gilt. 9 Cast, openwork fleur de lys within simple frame with suspension hook at top. Lower end with two small lobes projecting from corners. Harness pendants generally of 13th and mainly 14th century date, although recent finds suggest an earlier, 12th century origin in circular and openwork forms (Griffiths 1986). 10 This pendant, however, it has an open suspension hook rather than a closed loop. L: 40 mm. W: 24 mm. WP71 Ae44. Period 6c accumulation/dump (II BS)

18 Pendant boss, gilt. 9 Convex, disc-shaped boss of thin sheet, upper end extending into thin, rectangular-sectioned suspension loop. Medieval. May have been attached to reins, etc. L: 17 mm. Boss D: 8.5 mm. WP71 Ae9. Period 7 accumulation (I AJ)

19 Rowel spur. Fragment; short curved neck with remains of iron rowel at terminal. Arrows of plano-convex section, both broken; one also fractured and distorted. Heavily corroded. Short-necked spurs of 14th century
Figure 110  Later medieval and post-medieval objects of copper alloy nos 9–19
replaced by longer-necked spurs in 15th, but again became popular in 16th century. L: 59 mm. WP71 Ae53. Unstratified (III)

Iron

Roman (Fig 111)

Lock furniture

20 Lever-lock key. Rectangular-sectioned handle separated from small terminal loop by slight moulding. Stem circular-sectioned, lower end hollow and tapering. Projecting bit with deep slit front and rear, two smaller slits on lower edge. Lower part of stem, front of bit, and 1 corner of upper handle, moulding and loop broken. Heavily corroded, cracked and laminating. L: 83 mm. WP71 Fe83. Period 4 demolition debris of interval tower (III BF)

Structural fittings

No structural fittings were recognisable apart from nails; these, including the several dozen found within the demolition debris of the interval tower (III BF), are all of common types (as Manning 1985, 134, type IB) therefore none are illustrated here.

Tools

21 Bit head. Elongated pyramidal form, square-sectioned. Tip broken, short length of circular-sectioned shaft remaining. Heavily corroded and laminated. Manning notes (1985, 27) the difficulty of distinguishing between the heads of broken bits and those of pilae; the regular form of no 21, however, suggests that it is more likely to be the former. L: 73 mm. WP71 Fe165. Period 1 occupation accumulation (III CB)

The only other tools recovered were two small fragments from the tips of knife blades, both apparently with parallel backs and cutting edges. The tip of one angles downwards at approximately 45 degrees, and may be from a knife of Manning’s (1985, 108) type 1.

Late Saxon (Fig 112)

Lock furniture

22 Barrel padlock bolt. Two sets of leaf springs set at 90 degrees to one another; each made of thin rectangular-sectioned strip folded round central spine (secured by brazing?). One leaf broken; extremely corroded. L: 71 mm. WP71 Fe69. Period 6a pit 5 (II CG)

23 Barrel padlock key. Fragmentary. Upper end of circular-sectioned, swollen stem now broken, but originally with suspension loop in situ. Scattered patches of non-ferrous plating on stem; X-ray suggests originally with crossed spiral twists of non-ferrous wire. Flattened circular bit set in same plane as stem; now broken but originally with one small rectangular and one larger T-shaped slot. Extremely corroded. Keys with similar ornament known from Late Saxon and Anglo-Scandinavian levels elsewhere (eg Thetford: Rogerson & Dallas 1984, fig 132, 179; York: Roesdahl et al 1981, 111,
YDL18), also in Scandinavia (cf Lund: Mårtensson ed) 1976, pl 358) whence, it is suggested (Roesdahl op cit), they were probably imported. L: 71 mm. WP71 Fe40. Period 6a hearth (II BP). See also no 28

Fittings

24 Socket/ferrule? Fragment; hollow and tapering, of irregular pentagonal section. Extensive remains of non-ferrous plating. Extremely corroded and cracked. L: 105 mm. D: 27 mm. WP71 Fe49. Period 6c accumulation/dump (I EB)

Another plated fragment of similar shape was recovered from a Period 6a context sealed by this dump, the two pieces do not fit together but are probably parts of the same object.

25 Angle tie. Fragment, both arms broken. Vertical arm almost square-sectioned, bent; horizontal arm rectangular-sectioned, tapering. H: 54 mm. L: 44 mm. WP71 Fe124. Period 6b patch of cobbles; floor? (I EC)

Horse furniture


Several fiddle-key nails were also found in pit 15.14

Medieval and post-medieval (Fig 113)

Lock furniture

27 Barrel padlock key. Fragmentary. Rectangular-sectioned stem with expanded loop terminal, broken. Stem 'waisted' in profile; expands into, and set centrally on bit. One ward remaining at end of bit, projecting at 90 degrees on either side of stem to form T-shape. Stumps of two others, parallel to this, remaining. Developed form of common Viking type, in use mainly during the 12th and 13th centuries in England (cf LMMC 1940, fig 45, 8; Goodall 1990, 1006: type B). Similarly complex bits on Scandinavian keys, generally dated to 13th and 14th centuries (cf Andersen et al 1971, 189 BZL; 191–4). L: 111 mm. WP71 Fe158. Period 6c pit 1 (II AJ)

28 Slide key. Rectangular-sectioned stem with flattened, perforated terminal set at 90 degrees to line of bit. Latter set in same plane as stem, with transverse rectangular slot; another, open-ended, centrally placed at 90 degrees to this forming double prong to front of bit. One prong broken; corroded and spalling. L: 109 mm. WP71 Fe4. Period 7 accumulation/dump (II AA)

Figure 113 Medieval and post-medieval iron objects nos 27–36
Number 28, with a rectangular bit, is almost certainly for use with a box padlock having two sets of leaf springs set at 90 degrees to one another in similar fashion to no 22. Although found in a Period 7 context, it is likely to be residual; box padlocks and keys occur in 9th to 11th century contexts elsewhere (cf Ottaway 1992, 677–8) but do not seem to have continued in use beyond the 11th century. Barrel padlocks were in use throughout the medieval period and into the 18th century; no 27 was designed for a relatively complex lock, with four sets of leaf-springs arranged in two parallel pairs.

**Domestic fitting**

29 Pricket candleholder. Fragmentary; two volutes remaining, with extensive corrosion between: remains of original spike? Narrow projecting collar (partially broken) separating volutes from spiked base; point, and terminal of one volute, broken. X-ray suggests non-ferrous (tin?) plating. Extremely corroded; traces of altered wood within corrosion products on base. Similar candleholders from mid 14th century contexts in London (Tatton-Brown 1974, fig 38, 69, 70). L: 73 mm. WP71 Fe123. Period 6c pit 8 (I DO)

**Structural fittings**

30 Staple. Angular; heavily corroded, cracked and laminated. L: 33 mm. W: 21 mm. WP71 Fe161. Period 6c accumulation/dump (II AL)

The only other structural items apart from nails are two fragmentary angle-ties from Period 6c contexts 15 and two hinge pivots, 16 both broken, from levels of Periods 6c–d and 7.

**Tools**

31 Knife. Fragment; part of rectangular-sectioned whittle tang, blade broken at shoulder. Latter plated with band of copper alloy, series of heater-shaped copper alloy plates threaded onto tang. Plates may have alternated with others of organic material. Iron heavily corroded. Similarly ornamented knife handles from Eastgate, Beverley (Goodall 1992, 155; fig 80, 329) and Swan Lane, London (Cowgill et al. 1987, 54, 15), are from 11th to 13th century contexts. L: 51 mm. WP71 Fe11. Period 6c dump (II AH)

32 Knife. Fragment; rectangular-sectioned whittle tang broken. Sloping shoulder; blade broken, with curved back? Cutting edge sharply incurved, from whetting? L: 62 mm. Blade L: 43 mm. W: 20.5 mm. Th: 3 mm. WP71 Fe119. Period 6d debris from upper part of oven/kiln (I AW)

The tip of another knife blade 17 was found in a Period 6c dump, while part of a scale tang, broken at the shoulder but with one brass rivet remaining (cf Cowgill et al. 1987, fig 58, 63), came from a Period 6 pit in Area IV. 18

**Weapons**

33 Arrowhead. Flat, leaf-shaped blade with angled shoulders; flanged socket with iron rivet remaining. Heavily corroded and laminated; parts of surface spalled away. Similar to LMMC 1940, type 1: pre-Conquest, used until 13th century. L: 71.5 mm. WP71 Fe3. Period 6c robbing of stone building (I AR)

34 Bullet-shaped arrowhead? Fragment; point and butt broken. Remains of non-ferrous plating on surface, and of mineralized wood on interior. Type used with crossbow, possibly replaced other forms to some extent in late 15th century (cf LMMC 1940, 68 & 70, fig 16; Shoesmith 1985, fig 2, 9–13). Plating unusual; this could be part of a ferrule rather than an arrowhead. L: 27 mm. Butt D: 10 mm. WP71 Fe66. Period 7 pit (IV AW)

**Horsefurniture**

35 Horseshoe. Fragment; arm with three countersunk nail holes and wavy edge. Calkin folded over, thickened. Extremely corroded, cracked and laminated. L: 94 mm. W: 21 mm. Th: 5 mm. WP71 Fe64. Period 6c pit 2 (II BU)

36 Fiddle-key nail. Tip broken; extremely corroded. L: 25 mm. WP71 Fe24. Period 6c pit 6 (I BZ)

Part of another horseshoe similar to no 35 came from a Period 6c dump; 19 the wavy outline, produced by countersinking the nail holes, is characteristic of a mid or late 11th to 13th century date (cf Goodall, I, 1981, 61; fig 60, 1). Several other Period 6c contexts in Areas I and II produced fiddle-key nails (as no 36), which were used with this type of shoe.

**Antler**

**Roman (Fig 114)**

**Toilet implement**

37 Comb, double-sided composite. Fragments only. Connecting plates with bevelled edges and two horizontal parallel grooves, deepened to produce stepped profile. Edges of connecting plates notched from saw-cutting of opposing coarse (5 per cm) and fine (7 per cm) teeth. Pieces of tooth segments, fragments of teeth, beaded from wear; single iron rivet. Too fragmentary for reconstruction. Combs with similarly stepped profile from late 4th century contexts elsewhere (cf Clarke 1979, figs 30–1; Crummy 1983, figs 58–9). WP71 B15. Period 4 pit 16 (& 117) (II CW)

**Late Saxon**

**Toilet implement (Fig 115)**

38 Comb, single-sided composite. Fragment; connecting plates triangular in section, both ends broken. Back angles upwards towards centre. Paired parallel incised lines along edges (these cross-hatched with
shallow obliques) and centre of connecting plates. Within horizontal zones thus created, series of somewhat irregularly placed double ring-and-dot, interspersed on one face with single ring-and-dot. Narrow end with series of converging obliques, adjacent to terminal (now missing). Lower edges of connecting plates notched from saw-cutting of coarse (6 per cm) teeth. Three tooth segments remaining, secured by four iron rivets, but teeth broken. Upper edge of one (central) tooth segment, projecting slightly above connecting plates, ornamented with shallow oblique lines. L: 104 mm. WP71 B11. Period 6a pit 7 (I DM)

This comb displays several unusual features, one of which is the slight projection of the central tooth segment above the connecting plates; this appears mainly on Frisian combs (developing into a crest, cf Roes 1963, pls 21–6) and occasionally on Late Saxon pieces in England (cf Addyman & Hill 1969, pl VII). The back of no 38 angles upwards in a straight line rather than a curve, suggesting that it may originally have been triangular in profile (in which case it was almost certainly symmetrical and when complete would have measured at least 200 mm). Angled (triangular) backed combs are uncommon in Late Saxon contexts in this country, although two (smaller) combs from Anglo-Scandinavian levels at York have a similar profile (Tweddle 1986, 230; fig 101, 743). The paired lines running parallel to the edges of the connecting plates of no 38, and the use of ring-and-dot ornament, are reminiscent of 9th and early 10th century combs from Birka (Arbman 1943, pl 160), Hedeby (Tempel 1970, fig 3, 5–8), and Frisia (Roes 1963, pl 19, 20).

The most distinctive feature of this piece, however, is the triangular cross-section of the connecting plates. This, Ambrosiani notes (1981, 23), occurs on combs from Hedeby and Wollin, which appear to be...
local (south Baltic) variants of common Viking types.\textsuperscript{20} Part of another single-sided composite comb,\textsuperscript{21} a broken tooth segment, was also found in a Period 6a pit.

**Tool (Fig 116)**

39 Handle. Curved; double moulding at butt, with adjacent plain zone separated by single moulding from four decorative panels. Alternate panels ornamented with double ring-and-dot or deeply cut lattice, each separated by single groove. Terminal ornamented with shallow notches, producing scalloped effect. One face broken across two perforations set c 5 mm from terminal; these connect with short, broad socket (L: c 24 mm). Shallow groove on interior of socket runs between lips of perforations. Smooth and polished. Natural curve of antler fits snugly into the hand and is well suited to use as a handle, although its purpose is uncertain. Unlikely to be from comb because it is socketed; one-piece comb handles generally split to seat connecting plates (cf Waterman 1959, fig 17). L: 98 mm. WP71 B13. Period 6a pit 16 (I EO)

**Bone**

**Roman (Fig 114)**

Furniture fitting

40 Box mount. Fragment, trapezoidal; originally triangular, but apex broken. Ornamented with two parallel longitudinal grooves. Surface scratched but smooth and polished; tool marks visible on reverse. Similar ornament on some of mounts from Richborough (Cunliffe (ed) 1968, 106, no 225, pl LXI; found in 4th century pit but with redeposited 2nd century material). Most of Richborough fragments secured by small bone pegs (\textit{ibid}) or by glue (Bushe-Fox 1949, 152). No perforations on remaining part of no 40, so latter method may have been used although no trace now remains. L: 31.5 mm. W: 12 mm. Th: 1.5 mm. WP71 B12. Period 5 demolition/collapse debris of oven (IIBB)

**Late Saxon (Fig 117)**

**Tool**

41 Socketed point. Cattle metatarsal cut and trimmed to point, part broken. Hole bored in proximal articular surface connects with medullary cavity. Similar pieces from late 9th to late 11th century contexts at Flaxengate, Lincoln (Mann 1982, 31, fig 32) and Anglo-Scandinavian contexts elsewhere (cf MacGregor 1982, fig 51, 518–21), suggesting that this is residual here. Purpose uncertain, although MacGregor suggests (1985, 174–5) that the occurrence of several in a leather-working shop at York may imply their use as craft tools. L: 120 mm. WP71 B12. Period 6c dumping/levelling (I AP)

**Figure 116 Late Saxon antler handle no 39**

**Figure 117 Late Saxon bone objects nos 41–2**
Music?

42 ‘Toggle’. Fragment; pig metatarsal, unfused, with slightly irregular anterior–posterior perforation. Similar pieces from early 10th to late 11th contexts at Flaxengate interpreted as dress-fasteners (Mann 1982, 12–3); they occur on late Saxon, Anglo-Scandinavian and medieval sites elsewhere in Britain and on sites of similar date range on the Continent. Comparison with folk parallels, however, has prompted the suggestion that they may be simple musical toys (‘buzz-bones’; cf Megaw in Allan 1984, 349; MacGregor 1985, fig 29c). L: 61 mm. WP71 B19. Period 6b Floor level? sunk into pit 12/14 (I EG)

Post medieval (Fig 118)

Textile working implement

43 Cotton reel. Intricately made, of three pieces. Hollow cylindrical shaft with perforated disc pushed onto each end. Both faces of upper disc bevelled; inner face of thicker lower disc bevelled, external face (base?) flattened. Extremely smooth and polished. Almost certainly Victorian. H: 36 mm. D: 28 mm. WP71 B4. Period 7 stone-lined pit (I AF)

Miscellaneous


45 ‘Dummy’-shaped object. Hollow, made in three pieces. Upper shaft hollow with external thread, slightly waisted below. Separated from lower shaft by plano-convex disc with central perforation. Lower shaft hollow, slightly waisted below disc. Iron staining on one face at lower end, part of external thread on upper shaft chipped; otherwise extremely smooth and polished. Perhaps a (?)bells-(?) nozzle rather than a dummy (compare Mayes & Butler 1983, 284, fig 14, 6)? Almost certainly Victorian. L: 67 mm. WP71 B3. Period 7 stone-lined pit (I AF)

Stone (Fig 119)

Tools: hones

Roman

46 Kentish Ragstone. Fragment, rectangular-sectioned. Both ends broken, longitudinally split and part of remaining broad face broken away. Slight rebates on narrow faces. L: 76 mm. W: 25 mm. Th: 11 mm. WP71 M52. Unstratified

Although no 46 was unstratified, its rebates are characteristic of Roman hones found elsewhere, as at The Park (see above, p 166; Fig 83, no 118). A single small hone fragment was stratified, this is also of Kentish Ragstone and was found in the Period 4 demolition debris of the interval tower.

Late Saxon

47 Norwegian Ragstone. Fragment; rectangular-sectioned but well worn, especially on broad faces, producing waisted profile tapering to point at remaining
Hones of Norwegian Ragstone first appear in late 9th century contexts in England, and from the 10th century onwards seem to have displaced native rock types (Moore 1978, fig 3). Hones of this type predominated in early medieval levels at Flaxengate, Lincoln (Mann 1982, 30–1, table 1). Part of another hone, of sandstone (of unknown provenance), was found in a Period 6a pit.

Medieval

48 Blue phyllite. Fragment; split longitudinally through drilled perforation at upper end, lower end broken. Originally rectangular in section. All remaining faces worn extremely smooth. L: 47 mm. W: 6.5 mm. Th: 6 mm. WP71 M6. Period 6c accumulation/dump (I AH)

Hones of this material are of similar date to those of Norwegian Ragstone (Moore op cit), and formed a high proportion of those found in early medieval levels at Flaxengate (Mann op cit) although they also occurred in later contexts. The small size and fine grain of no 48 would suit the sharpening of small or delicate blades and tools.

Miscellaneous (Fig 119)

49 Disc: gaming counter? Chalk; crudely worked, one edge chipped. Upper face with incised ornament: circle bisected by single line, with shorter radial strokes on each side. D: 22 mm. Th: 9.5 mm. WP71 M10. Period 6c robbery of stone building (I AR)

Ceramic

Late Saxon (Fig 120)

Textile working implement


Medieval (Fig 120)

Pastimes

51 Disc: gaming counter. Body sherd, Roman grey ware (jar?). Irregularly shaped but edges partially ground smooth. Chipped. D: 44 mm. Th: 16 mm. WP71 P8. Period 6c pit 2 (II BU)

52 Disc: gaming counter. Base sherd, Lincoln Sandy ware (Saxon, 10th/11th century). Crudely shaped. D: 44 mm. Th: 7.5 mm. WP71 P15. Period 7 accumulation (I AC)

Two other ceramic discs were found, both of Roman fabrics. Both nos 51 and 52 may be residual in their respective contexts, although finds from elsewhere in Lincoln suggest that the reuse of pottery in this manner continued until at least the 17th/18th century (see above, p 169, note 39).

Pipeclay

Post-medieval (Fig 121)

53 Wig curler. Reused tobacco pipe stem fragment, with broken ends ground smooth. 18th century. L: 66 mm. D: 8 mm. WP71 Cp41. Period 7 stone-lined pit (I AF)

Notes

1 The possibility that this may be a pilum head is discussed above, p 229.
2 Published in Mann 1977.
3 Inv no WP71 Ae42 (II BH).
4 The copperworking will be discussed in a forthcoming publication.
5 Copperworking crucibles and waste have been recovered from a number of other sites in Lincoln.
6 Inv no WP71 Ae10 (I AR).
7 Inv no WP71 Ae23 (I AW).
8 Inv no WP71 Ae28 (I CG).
9 Gilding confirmed by X-ray fluorescence analysis; Paul Budd, Ancient Monuments Laboratory.
10 No 17 was associated with a short-cross penny of 1180–1247.
11 Inv nos WP71 Fe80 (II BW), WP71 Fe55 (II BR).
12 Suspension loop shown by original X-ray, but disintegrated during storage prior to conservation. Inv no WP71 Fe77 (I CP).
13 Inv no WP71 Fe112 (I CY).
15 Inv nos WP71 Fe16 (I BX), WP71 Fe41 (II BS).
16 Inv nos WP71 Fe14 (I AR), WP71 Fe157 (II AA).
17 Inv no WP71 Fe36 (I CZ).
18 Inv no WP71 Fe65 (IV AW). Part of a plano-convex strip with two copper alloy rivets may be one side of a similar knife handle. It is extremely corroded however, and its precise shape and dimensions cannot be ascertained. This is from a Period 6b dump (I CC) predating the construction of the medieval building. Inv no WP71 Fe27.
19 Inv no WP71 Fe6 (II AL).
20 Recent examination of this object by I Riddler has confirmed the suggestion that this is typologically a late Viking piece. Mr Riddler also noted the presence of a small wedge to compensate for the ill fitting of some of the tooth segments.
21 Inv no WP71 B14 (I EK).
22 Suggestion that this may be a bellows-nozzle, from Mrs Catherine Wilson, Lincolnshire Museums.
23 The bones were identified by Mr D T Moore.
24 Inv no WP71 M46 (III BF).
25 Inv no WP71 M43 (I EJ).
26 Moore suggested (1978, 68) a German or central European provenance for blue phyllite hone, but more recent work indicates that blue phyllite may be a facies variation of Norwegian Ragstone (Moore, pers comm).
27 Fabric of this, and no 52, identified by Mrs Jane Young.
28 Fabric of this, and of the other, unillustrated discs, identified by Miss Margaret Darling.

(9) Lead waste from late 4th century oven flue (II CU) by Brian Gilmour

A sample of the solidified pool of lead found in the base of the narrowed flue of the oven converted into a makeshift furnace was examined by energy dispersive X-ray fluorescence analysis. The results of the analysis were as follows: lead, 99.78%; silver, 0.11%; tin, 0.10%.

This silver content is higher than the previously highest recorded silver content for a Romano-British lead object: 0.056% of silver in a lead ingot from Green Ore, Somerset (Tylecote 1986, 69). The nearest lead ore deposits to Lincoln are in the Peak District of Derbyshire, although these are now amongst the lowest silver-bearing lead ores in the Britain or Ireland (ibid, 55). However ores with a much higher silver content may still have been available from this area in the Roman period. Alternatively, the lead from West Parade was smelted using lead ore from further afield.

Either way the lead had clearly not been desilvered. The remains of the oven or furnace in which it was found do not correspond with a cupellation hearth. The lead may have been part of a batch of scrap metal, possibly taken from nearby buildings.

(10) Animal bones by Sally Scott

Introduction

A large proportion of the bone from the site was recovered from medieval features such as pits, dumps and redistributed wall and rampart material. This forms a useful complement to other groups so far studied from the City (cf The Park, above; Dobney et al, 1996). For the purpose of this report, the bone material has been organized into 10 chronological groups:

1 1–5: Roman
2 6a: late 11th century
3 6a–b
4 6b: mid/late 12th century
5 6b–c
6 6c: late 12th/early 13th century
7 6c–d
8 6d: late 13th–early/mid 14th century
9 6d–7
10 7: mid 14th–19th century

In addition, there was a very tiny proportion of unphased material, which is not included in the report as the sample was too small to make comparisons valid.

In total, the site yielded 9342 bone fragments, of which 66% proved to be identifiable (see Table 45 for a list of the species identified). The preservation of the bone was very good, for whilst it was very fragmentary, less than 1% was heavily abraded, and only 1.2% of all identified bone showed signs of having been gnawed. The bone in general was ochre-brown in appearance and not friable; in com-
plete contrast, however, the bone from context BF was very ‘fresh’ in appearance and pale in hue.

Methods and techniques were as in the report on The Park (qv, above, p 169). Recording sheets, index cards and other archive material are stored at the Environmental Archaeology Unit, University of York, and the bones themselves are to be deposited in the collections of Lincolnshire Museums.

Results

Cattle and sheep were the most abundantly represented species in terms of fragment numbers and frequency and were fairly evenly distributed throughout all phases of the site, particularly during the medieval phases (Tables 46, 47). The markedly low abundance percentage figures for both species during the Roman period is largely due to high counts of other species fragments from context BF. Pig and horse were fairly frequent but never abundant, throughout all phases of the site. Small mammals and amphibians were only represented in the Roman phase, and then only in one context (BF), but this is almost certainly a consequence of not having sieved material from the site. Similarly the proportions of small fish such as eels in no way represent their true importance as a food item during the medieval period as highlighted at sites such as Lurk Lane, Beverley (Scott, 1991) where only when soil samples were sieved did such species become apparent. The considerable fluctuation observed in the frequencies of bird species is probably a consequence of the small numbers involved.

Carcass components (Table 48)

The four largest contexts from the site, which were recorded in full, were further examined to assess the proportions of various skeletal elements being deposited. This was achieved by calculating the total number of fragments of a specific carcass component, and dividing it by the number of times that component occurs in the body of one individual; eg if a context contained twelve sheep horn cores, the standardized figure for horn cores would be six, as each individual normally possesses one pair of horns. The results are presented in Table 48.

Sheep were under-represented by ribs throughout all contexts, which is slightly surprising, but may suggest that the major meat bearing portions of the skeleton were being distributed elsewhere. Overall, contexts AJ (6d–7) and EM (6a) were the most alike, both containing high proportions of sheep leg bones including the metapodials, and head bones excluding horn cores. Context AR (6c) also contained a large number of sheep limb bones, but not such a high proportion of skull fragments. Context EK (6a) was significantly different from the other three contexts in terms of sheep carcass components, containing as it did high percentages of scapula, pelvic and skull fragments, metapodials

<table>
<thead>
<tr>
<th>Table 45 Animal bones: complete species list</th>
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<td>Animal</td>
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<td>Woodcock</td>
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<td>cf. Redshank</td>
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<td>Small sandpiper sp.</td>
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<td>Dove sp.</td>
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<td>Small passerine</td>
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<td>Songthrush</td>
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and horn cores, but a disproportionately small number of limb bones, eg humerus, femur, radius and tibia.

The distribution of cattle carcass components produced rather a different picture. Bones of the skull predominated, and throughout all phases rib was under-represented. As with sheep bones, the earliest and latest of the contexts (EM and AJ respectively) appeared to be the most alike, containing a high proportion of fore limb only, and context AR, a disproportionately large number of scapula and pelvic fragments. The paucity of pig bone meant it was pointless to analyse the distribution of carcass components.

Because the contexts cover such a time span, and such patterns as existed (ie, the similarity of EM and AJ) cannot justifiably be explained as evidence of specialized butchery continuing in the same area of the city in the same way over several hundred years, the contexts probably represent a random distribution of butchery and household debris.

Biometry

Where possible, measurements were taken on the more complete bones using the standardized system of measurements devised by von den Driesch (1976). The results are available in the biometry archive.

No one bone produced a large enough measurable sample with which to make direct comparisons with material from other sites, but generally the range of measurements matched those from other sites in Lincoln, eg Flaxengate (O’Connor, 1982) and The Park (above).

### Table 46 Animal bones from West Parade: abundance of species in each phase

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<th>6a–b</th>
<th>6b</th>
<th>6b–c</th>
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Key: 1 horse; 2 cattle; 3 sheep; 4 goat; 5 red deer; 6 fallow deer; 7 roe deer; 8 pig; 9 wild boar; 10 cat; 11 dog; 12 brown hare; 13 rabbit; 14 human; 15 other mammal; 16 amphibian; 17 fish; 18 domestic fowl; 19 goose; 20 other birds; 21 total identified fragments; 22 total unidentified fragments; 23 TOTAL; 24 total abraded; 25 total gnawed.
Butchery

Only a relatively small number of bones from the site showed signs of butchery (3.3% of the total number of identified bone fragments). Because there is an almost infinite number of ways of carving up a bone, taking into account the direction in which the blow was struck, and the portion of the bone being butchered, specific butchery methods were not quantified: rather, the most frequently repeated butchery practices are discussed in general terms.

Most of the butchered bone was cattle, although some horse, pig, red deer and sheep bone had been reduced to smaller units. A high proportion of the butchered cattle bone was vertebrae which had been cleaved down the median sagittal plane. This indicates the practice of splitting the carcass into sides (a whole beast was often too heavy to be hung, and a 'side' was a far more manageable unit). This procedure has been recorded at other medieval sites, eg Flaxengate (O’Connor 1982) and Lurk Lane, Beverley (Scott 1991).

In addition, the proximal and distal ends of long bones such as tibia, femur, radius and humerus exhibited a variety of butchery marks which suggest the further reduction of the carcass into the major meat bearing portions of the body. However, because so few bones were butchered, no real patterns in butchery technique could be discerned, and coupled with a study of the carcass components which showed no concentrations of specific skeletal elements, there appeared to be no evidence of specialized butchery of cattle on a large scale.

Evidence of the butchery of other animals, such as there was, consisted of paramedially split vertebrae (for sheep and pig) and a random selection of chopping and knife cuts to the limb bones.

Age at death

Two methods of estimating the approximate age at death of cattle, sheep and pig were applied to the data. Firstly a study was made of the enamel tooth wear patterns of the lower molars and premolars
using the system devised by Grant (1982). This was coupled with a study of the eruption times of the lower dentition (Silver 1969) with amendments by Bull and Payne (1982) for pigs, and Payne (1984) for cattle and sheep. All mandibles with teeth still in situ were examined and these methods applied. The results are given in Table 49.

What the results show for the cattle is a remarkable consistency over all phases of the site with no immature individuals whatsoever (less than two years of age at death). However the sample was so small as to make further conclusions purely speculative. Similarly, the small sample of pig mandibles produced a typically diverse distribution of ages with a high proportion of immature individuals, and no apparent change in age distribution over time. The sheep did produce a reasonably large sample with some Roman material, and there did seem to be some change in the age distribution, with a higher proportion of immature sheep in Phases 6a, 6b and 6c than in the other levels, although this could be a result of sampling error.

The second ageing technique applied to the data was that of calculating the proportions of fused long bone epiphyses to unfused based on the work on Watson (1978), in the four largest contexts from the site (Table 50). Whilst the numbers were rather small, they appear to validate the dental evidence in that the majority of cattle appear to have been mature. Sheep fell into the sub-adult to adult category, whilst the scant evidence for pig does seem to indicate that they were being killed off young. Variation between the contexts is slight and probably not significant.
Nonmetrical traits

A number of discontinuous genetically determined traits were recorded in the bones and teeth of the major domesticates and the results are presented in Table 51. With reference to the absence of a second premolar, only one cattle mandible exhibited this feature (from Phase 6c), whilst in Phase 6a deposits, 28.6% of sheep mandibles (4 out of 14) did not possess a second premolar. It is likely that this represents the remains of a single small population and/or that inbreeding was taking place. Throughout the other phases the percentage of sheep without a second premolar is very small indeed, as one would expect on an urban site of this date.

The sheep femora showed a characteristically high proportion of nutrient foramina in the proximal locus (87.5% of identified fragments of this section of the femur shaft), with very few distal foramina and even fewer in the midshaft position. This is a typical distribution amongst modern sheep populations and is also replicated at sites such as Flaxengate, Lincoln (O’Connor 1982).

Polled sheep were in a minority (11 cases in 79) but there did appear to be quite a concentration in Phase 6c contexts (6 cases in 29). This is interesting in that at Flaxengate (O’Connor 1982), polled sheep were not represented before about 1120 and continued to become progressively more abundant throughout the medieval period until they actually outnumbered horned sheep. Whilst the numbers for West Parade are small, the observed frequency of polled sheep seems to confirm the long term change in the sheep population seen at Flaxengate. The one polycerate individual is simply a random occurrence. The trait is very uncommon in medieval unimproved breeds.

Disease and injury

Only a very small number of bones showed signs of disease and injury and these are listed below:

1 WPII-CW Horse: two 1st phalanges with boney growth along the lateral edge of the diaphysis.
2 WPII-CY Cattle: one lumber vertebra with ossification of the longitudinal periarticular ligaments.
3 WPI-AV Cattle: one 1st phalanx with exostosis around the proximal articular surface.
4 WPI-BO Cattle: one left metacarpal with boney growth around the proximal articular surface.
5 WPI-CU Cattle: one 1st phalanx with boney change around the distal articular surface.

### Table 49 Dentition: age of cattle, sheep and pig

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Key: Cattle: 1 perinatal; 2 M1 not yet in wear; 3 M1 in wear, M2 not yet in wear; 4 M2 in wear, M3 not yet in wear; 5 M3 in wear; 6 advanced wear on M3 and P4 (over wear stage 13); Sheep: 7 perinatal; 8 M1 not yet in wear; 9 M1 in wear, M2 not yet in wear; 10 M2 in wear, M3 not yet in wear; 11 M3 in wear; 12 advanced wear on M3 and P4 (over wear stage 13); Pig: 13 perinatal; 14 M1 not yet in wear; 15 M1 in wear, M2 not yet in wear; 16 M2 in wear, M3 not yet in wear; 17 M3 in wear; 18 advanced wear on M3 and P4 (over wear stage 13)
6 WPI-EG Cattle: one right pelvic acetabulum and ischium fragment with massive osteomyelitis lateral to the acetabulum apparently associated with a dislocation of the hip joint.

**Fish bones**

A small fish bone assemblage, consisting of 53 fragments, was recovered from all phases of the site of which it was possible to identify 48 to species or genus (Table 52). Identifications were made by Andrew Jones, then of the Environmental Archaeology Unit, University of York.

The most commonly represented species was cod, which constituted 50% of all identified fragments, and other members of the cod family (Gadidae), haddock and ling made up a further 12.5%. The Roman fish came from the interval tower and included the tiny bones of eel (normally only found when soil is sieved), which reflects the excellent preservation of the bone material and its careful
The freshwater species chub and pike were probably taken from the nearby River Witham. The presence of a salmon bone in a context from 6d, if presumed to have been taken locally, suggests that by this date the water source was still relatively free flowing and clean.

There does not appear to be any great change in the species distribution or diversity over time, but the sample is very small. The assemblage is typical of that of an urban medieval site, and contains no 'luxury' or unusual species.

### Table 51 Non-metrical traits

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Key: Cattle: A1 – P2 present; A2 – P2 absent; B 0 reduced third molar; Sheep: C1 – P2 present; C23 – P2 absent; D – reduced third molar; E1 – proximal nutrient foramina present; E2 – proximal nutrient foramina absent; E3 – midshaft nutrient foramina present; E4 – midshaft nutrient foramina absent; E6 – distal nutrient foramina absent; F – horned; G – polled; H – polycerate

### Table 52 Fish bones: by phase

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Key: 1 Cod; 2 Haddock; 3 Pike; 4 Eel; 5 Chub; 6 Gadid; 7 Ling; 8 Salmon; 9 Indeterminate

The sexing of pig mandibles (Table 53)

Although the sample was small, there was clearly a high proportion of immature females, ie, the 3rd molar had not yet come into wear. This is slightly unusual, as on medieval sites there is often a disproportionate number of immature males. This would represent surplus stock being killed off young, as female pigs are normally kept for breeding. It should be borne in mind, however, that the mandibles are spread throughout many phases
and thus the figures may be distorted by sampling error.

**Context BF**

Whilst no material from the site was bulk sieved, one context (BF) produced a large assemblage of small mammal, bird, fish and amphibian bones. Consequently, this particular context is discussed separately from the bulk of the report, as it was felt that the bone warranted study in greater detail.

The context, of late Roman date, represents the demolition levels of an interval tower set into the colonia wall, and probably constructed during the 3rd century. The assemblage consisted of two boxes of bone, and the preservation of the material was excellent. Easily the most abundant species represented was dog (Table 54). MNI estimates revealed the presence of at least six individuals. A study of the wear on the teeth, and the fusion of the long bone epiphyses indicated that of the six dogs, two were of advanced years (extensive wear on the teeth). There was also the partial skeleton of a puppy, which was probably less than 3 months old when it met its death (all of its long bones were unfused). As the dogs were represented by complete skeletons, the obvious interpretation is that the corpses were deposited in the tower which had been abandoned, and may well have already begun to fall derelict.

There was a small percentage of cattle, sheep, pig, domestic fowl, goose, mallard, fish and possibly golden plover bones which represent typical domestic debris, and it is likely that this marks the last phase of occupation debris. As the tower fell into disuse, dead dogs were dumped within the structure and eventually it became home to roosting and nesting birds, probably including owls, hence the concentrations of small bird, mammals and amphibians.

**Discussion and summary**

West Parade produced a small but rather interesting assemblage of animal bones. The preservation was good, which meant that it was possible to identify over 65% of the bone fragments. Although no material from the site was sieved (during the early 1970s the practice was not common), one context (BF) produced a very large volume of small mammal, bird and fish bone. This particular context of late Roman date formed the contents of an interval tower set into the city wall, and showed quite clearly the stages of abandonment as reflected in the bone remains, the deposition of dead domestic animals and the arrival of roosting birds such as owls whose pellets contained the bones of large numbers of amphibians, small mammals and birds.

Aside from Context BF, the rest of the material
from West Parade appeared to represent mainly domestic rubbish. As only a small fraction of the bones showed signs of gnawing and abrasion, it would seem to imply that deposition of bone was a fairly rapid process and that exposure to the elements was not prolonged within any of the phases. Cattle and sheep appeared to form the mainstay of the diet, being almost equally represented in terms of frequency and abundance throughout all phases of the site. What is slightly surprising is the low frequency and abundance of pig (approximately half as much as recorded at Flaxengate). There are, however, two possible interpretations for this. It could be argued that the lower proportions of pig bones are matched by low counts of domestic fowl, goose and other bird species which may indicate problems of recovery; certainly the figures for cattle, sheep and horse (larger species) match those from Flaxengate. Another interpretation is that the low frequency and abundance of the smaller species may be due to the nature of the site itself. During the medieval period, the area is described as being ‘waste land’, and it could be that only the largest elements of bone debris were being dumped on this land, away from areas of occupation. The smaller bones were deposited in dumps and pits close to the house themselves. If this is the case, then there are parallels from the site of Coppergate, York (O’Connor 1989), where the proportions of pig and birds were higher in deposits close to 10th and 11th century buildings, whereas at the furthest reaches of some tenement plots, the contexts contained mainly fragments of cattle, sheep and horse. Whatever the case, the numbers of bones involved makes it impossible to distinguish subtle differences between phases, but it is clear that no one phase contained evidence of splitting of cattle and sheep carcasses into sides (vertebrae split down the medial sagittal plane) and jointing into the major meat bearing portions of the body.

Cattle were in general sub-adult to adult, ie at least three years of age at death, with no very immature individuals represented. It is likely therefore that they were not being kept primarily for any one product, but were a multi-purpose resource. Similarly, sheep were mainly being killed off when adult, ie, in their third season, although there is a higher proportion of immature sheep in Phases 6a, b and c. Pigs produced a wide range of age distribution although most were being killed off before adulthood. This picture is typical for most urban medieval sites. The biometrical record suggests no obvious improvement in the breeding of cattle and sheep, as size remained fairly constant over all phases of the site, and correlated closely with the range of measurements from sites elsewhere in the city.

Discontinuous genetic traits such as the absence of a second premolar in sheep mandibles suggests that inbreeding may have been practiced during Phase 6a (late 11th century). Of the 14 cases, four did not possess a P2, but otherwise this evidence proved inconclusive.
As stated above, the absence of significant numbers of bird and fish remains may be due to poor recovery, but amongst the wild species identified, the assortment was typical of an urban assemblage of this date, ie, woodcock, golden plover, and corvid species. Thus the animal bone collection consisted of accumulations of household debris dumped in a sparsely populated area of the town, over quite a considerable period of time.

The careful recovery of bones from context BF in the interval tower produced a large, diverse and informative assemblage quite different to any other samples from the site, showing how a single context may yield important evidence concerning the history and usage of one particular structure.

**Acknowledgments**

I would like to thank my colleague Dr Terry O’Connor for his help and advice during the period of this project, and Andrew Jones for his identification of the fish bone assemblage.
Summary and conclusions: the Roman period (Fig 122)

By Brian Gilmour and M J Jones

While it is inherently likely that the street frontages at least were built up by this time, excavations at West Parade yielded no clear evidence of any settlement pre-dating the construction of the defences. The earliest colonia wall found at West Parade was very similar to and survived rather better than that at The Park, and in both cases it is clear that the wall and rampart were built in the late 2nd century as part of the same major operation. The rampart here consisted of mixed bands of the same sand and clay which formed the subsoil in this area, and the digging of the ditch outside the town wall may have provided the material for it. Presumably a gateway existed on the line of West Parade: cremation burials are known from the area outside the postulated gate.

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The tower added to the colonia wall in the 3rd century lay about 55 m (c 180 ft) north of the centre of the modern West Parade, rather less than a quarter of the distance from the conjectured gateway position to the south-west corner of the upper town. However, along this stretch of the town wall the hillside is very steep (rising from about 15 m OD to 60 m OD) and this may have had a bearing on the layout of the defences here. The steepness of the hillside certainly appears to have affected the construction of this tower which had much thicker walls than other known examples found elsewhere on the circuit. Nails, presumably from its collapsed joists, turned up in some quantity amongst the debris resulting from its abandonment and partial demolition. The same deposit, (BF), also yielded some picturesque information about the subsequent use of the tower, including nesting by an owl (see report on animal bones, above, p 244).

Although at least parts of the interval tower were left standing, in the early to mid 4th century the tower at West Parade, like that at the Eastgate Hotel site (Jones, MJ 1980, 23–5), appears to have been replaced by a solid masonry platform. Again, as at other sites, the platform was about 3 m wide above stepped foundations. The West Parade platform was c 10 m long. The thickening of colonia wall internally and externally at the southern end of the West Parade site is comparable with the mid 4th century work associated with The Park gateway (above, p 181). Since the only externally projecting masonry yet found on the Roman walls of Lincoln has been associated with gate towers, the additions to the wall at West Parade can best be interpreted as buttressing or remodelling of an existing gateway. It is also likely, since the construction was so similar, that this buttressing was contemporary with the building of the gate towers and the thickening of the southerly wall at The Park in the mid 4th century. So far, the site immediately to the south of West Parade, which might provide evidence for this suspected gateway, has not been available for investigation (see note on recent observations in Part III, p 253).

The thickening of the town wall in the north-west corner of the West Parade site (ie in Area III) probably also took place during the mid 4th century as part of the same major operation as the work further south. The rampart was c 15m wide, similar to that found at Silver Street (qv, Part III, p 256), but narrower than the later rampart at The Park.

Immediately inside the town wall at West Parade a timber building was found which appears to have been constructed before the rampart was completed (see above, p 186). Its function is unknown, but as it seems to have been built on top of material levelled out after the construction of the wall, it is unlikely to have been associated with the first building of the wall, but may have some relationship with an intermediate phase in the provision of the defences in this part of the town which must have taken several years to complete (cf Colchester: Crummy 1984, 14–15).

Roman occupation inside the defences

There was little indication from Areas I and II at West Parade of any occupation in the immediate vicinity inside the town defences before the 4th century AD, although the area sampled may not be very representative. One would have expected that the frontage on both sides of an east–west street running to the postulated gate to have been built up, but the 1971–2 excavations lay c 35 m to the north of that street.

The site investigated may have been used as a garden, perhaps of a building which lay to the east. The sequence of pits and dumps or levelling deposits of Period 4 found in these two areas, and containing much domestic rubbish, could only be roughly dated to the late 3rd/mid 4th century. Nearly all of these features lay in the north-east part of Area II, and Roman levels elsewhere in the two Areas had mostly been removed by later activity. They are difficult to interpret without further information on their topographical context, but they may have been subsidiary features which related to an earlier phase of the building associated with the Period 5 features.

The Period 5 oven, the roughly paved floor on which it lay, and the narrow (?internal) wall against which it was built may have been part of a back room in a larger range of rooms, possibly a mid 4th century extension to a late Roman town house next to the
Figure 122 Plans of the defensive sequence at West Parade (Periods 2–4)
defences, similar to others found on the hillside (eg at Spring Hill: Snell 1984; publication forthcoming in Lincoln Archaeological Studies). Alternatively, the oven and the room in which it lay may have formed part of an outbuilding constructed a short distance away from the house to which it belonged, or even a trader’s house including accommodation as well as space for commercial and industrial activity. There was no evidence of its function. If its use was something like a wash house with its cauldron, that might explain the absence of evidence for its actual function.

The rather makeshift conversion of the oven into a furnace appears to have been short-lived and to have been closely followed by the abandonment and demolition in the very late 4th or early 5th century of both oven/furnace and at least that part of the building in which it stood. The improvised furnace appears to have been specifically intended for the melting down of scrap lead. As well as heat-distorted lumps, raw material in the form of several pieces of lead sheet and strip was found in associated contexts. Whether or not the furnace was intended for further use is impossible to say, but it was clearly abandoned after the first firing had resulted in a pool of lead among the cinders in the flue. It may even have been used to form a roof for a new church (see above, p 197).

The significance of the medieval discoveries is discussed in their historical context in Part IVb, below.
III   OTHER SITES ON THE LOWER DEFENCES
by M J Jones
Figure 123  Sites on the lower defences discussed in Part III; sites at Flaxengate (F), Grantham Place (GP) and Grantham Street (GS) also indicated
Introduction

Even though the work at The Park and West Parade was on a large scale, it is salutary to compare the results with those from other sites on the lower enclosure and with the upper enclosure. The benefits of examining all available evidence in this way were demonstrated by the study of the upper city (Jones M J 1980). The evidence from the two other largest investigations on the lower circuit is being published in detail elsewhere (Lincoln Archaeological Studies, forthcoming) but are taken into account in the synthesis presented below (Part IV). The interpretation of the sequences at those sites is not unambiguous and could be taken to suggest a different sequence on the east side, and perhaps on the south, from that on the west.

Summaries of each site which has provided detailed information about the location and construction of the defences are presented below. The sites are arranged in topographical order, from the south-west corner of the upper enclosure to its south-east corner (sites as numbered on Fig 123). Many of these notes are based on often brief antiquarian accounts or notes in the local newspapers (notably the Lincoln, Rutland and Stamford Mercury: henceforth LRSM) and some were mentioned by Richmond in his detailed survey of the Roman city (Richmond 1946). References to the line of the wall without information on its construction are not included here. Dimensions are given as they were recorded, i.e. for the most part in imperial measurements.

1 Motherby Hill (upper)

As the wall was being described here in 1853–4, the base of a ‘monumental pillar’ was noted in the core (LRSM, 15 December 1854). Thomas Sympson (1737, 6) noted that it had ‘almost indissoluble mortar, full of little pebbles’. A section of the wall core was exposed in 1979 with courses c 300 mm high and mortar which, when analysed, showed affinities with the rebuilt wall.

2 Walnut House, Motherby Hill: ditches noted 1977, 1989

Excavations and recording on a limited scale took place in 1977 and 1989. In 1977 three small areas were opened by R H Jones and D Perring on behalf of the Lincoln Archaeological Trust, with the objective of checking that no remains of either the wall or any projecting tower might be damaged by a proposed redevelopment scheme. In the event the investigations revealed evidence for three phases of cut features, including at least one ditch, but this was probably of medieval date. The sequence has subsequently been elucidated by C J Guy (Lincoln Archaeological Studies, forthcoming). A candidate for the earliest ditch was at least 1.7 m wide and at least 1.15 m deep, and, from the date of its fills (mid 3rd–4th century), might best be associated with the earliest defences at this point. Yet it was not found in all trenches, so may not represent a continuous feature. It was succeeded by a ditch-like feature whose sump lay to the east of its predecessor, and which might represent a late Roman replacement, at least 4.2 m wide. Its fill included pottery of mid 10th to mid 11th century date, so that it may have been recut in this period, but it was certainly replaced by a medieval ditch at least 1.8 m wide further to the west. This was filled in the late medieval period.

After partial landscaping of the site, fills visible to the west of the 1977 investigations were recorded during 1989. These seem to indicate that the outer lip of the latest ditch lay c 12 m west of the inner scarp.

Unfortunately all the interpretations from the above work must be tentative in view of the limited areas of each feature which were uncovered. They do provide a plausible sequence, but this steep point on the hillside cannot be taken as representative of the whole circuit.

3 West Parade/Motherby Hill: excavations 1971–2

See report, above, Part II, p 185.

4 West Parade 1975, 1979

The cutting of a service trench in the pavement on the north side of West Parade in 1975 revealed a small area of Roman masonry immediately south of Motherby Hill and of the south-west corner of the Divisional Police Headquarters. The remains were recorded by C Colyer and M J Jones. Three distinct periods of masonry were uncovered, closely comparable with those noted at the southern end of the 1971–2 excavations (qv, p 193): the original colonia wall, c 1.5 m wide, an internal thickening c 1.2–1.5 m wide cut into the existing sand rampart, and a frontal addition. The last was c 800 mm wide at the surviving top course, with two offsets each c 300 mm wide beneath. Its front face was subsequently observed during service works in April 1979. It is presumed that the projecting masonry represented in some way a gate tower for the gateway presumed to lie on the line of West Parade.

5 West Parade 1986

C J Guy observed service works in February 1986 on the south side of West Parade between Orchard Street and The Park. The only discoveries of note were the bottom of a stone foundation wall running north–south c 12 m west of the line of the Roman city wall, and the occurrence of ‘natural clay’ on the
line of the ditch. The latter indicates that any ditch was not carried across the line of West Parade, thus corroborating the idea that a gate-way existed here. The wall foundation cannot easily be interpreted, for it lies too far forward to represent a gate tower.

6 The Park, excavations 1948–50 and 1968–72

See report, Part I, above (p 1).

7 The Park, 19th century finds

During construction work between 1813 and 1853 remains of the Roman city wall were noted on several occasions (for instance seen to be ‘7 feet thick’, LRSM 28 Feb 1844) in the stretch between the south-west corner and the site of the 1968–72 excavations. Among the discoveries was much reused masonry including a number of tombstones and architectural fragments. They included the famous tombstone set up by the decurion Aurelius Senecio to his wife Volusia Faustina (RIB 250) found in 1859 and a notable collection of pilasters, entablatures, and other moulded stones which came to light in 1821 and were described by the City Surveyor and antiquarian E J Willson. The stones, which included a military inscription (RIB 259: the original find-spot was not known to the authors of RIB), are discussed above (p 47) by T F C Blagg. A sculpture which was formerly attributed to Newland is also now known to have come from The Park (White 1982).

The principal value of these finds for present purposes is the extent to which they demonstrate reuse of funerary and monumental architecture in the late rebuilding of the city wall, an unusual feature in Britain.

There was a discovery in 1845 (LRSM 25 April) referring to the uncovering of a ‘perfect postern .... with the voussoirs on which the door had hung and the stones forming the arch were cut so that a door would fit in’. This probably refers to the postern found at West Parade (p 201) rather than to the single-carriageway gate at The Park.

8 Newland/Guildhall Street, 19th century discoveries

The line of the south wall was noted in c 1840 when the foundations of the Independent Chapel were being constructed (mentioned by Nicholson 1843) and later in the century when houses were being built on Guildhall Street. Here it was ‘of massive stones, 6 feet thick’ (Drury 1890, 5), and elsewhere there is a reference to its standing ‘up to 15 feet high’ on its south side (Sympson, 1906, 34).

9 The Stonebow area

Ground disturbances in the immediate vicinity of the 15th century Stonebow have allowed only glimpses of the Roman wall and gate on this site. In 1841, the wall was noted to the west of the gate, having foundations set in clay with mortared stone above (Nicholson 1843, 89), and in 1846 to be ‘harder than the solid rock’ (LRSM, 13 Feb 1846). At a similar date the line of the Roman wall face (ie, its south side) was noted on the same line as, but not quite parallel to, the north wall of the Stonebow. The Roman wall – or gate structure – was at least 5 ft thick and its face showed signs of repairs (Nicholson 1843, 90). During construction work in 1971, staff of the City and County Museum noted ‘massive foundations’ to the east of the Stonebow (plan in Lincolnshire Sites and Monuments Record). These were presumably those of the rear and west walls of the east gate tower, but interpretation is made more difficult because the medieval gate also underlies the Stonebow.

10 Falcon Hotel, Saltergate 1937

Substantial traces of the wall were uncovered in 1937 when a basement was constructed for the Falcon Hotel, the remains being recorded by Mr F T Baker (note and plan in Lincolnshire SMR). The wall appeared close to the modern ground surface, being c 6 feet wide at the top; but with five offsets on its rear face, it was 11 feet wide at its base, and stood 10 feet high. The ‘stepped feature’ was at the time an unusual discovery, and the identity of the wall as Roman rather than medieval was uncertain. Several other examples of this construction have, however, come to light at various sites on the lower circuit, including on the adjacent site (no 11 below) to the east. Late Roman pottery and coins were found at the time but their association with any particular structural feature was not established.

11 Saltergate, excavations 1973–4

Excavations on a large scale were carried out by J S Wacher and N M Reynolds between October 1973 and May 1974 in advance of the redevelopment of the former Corporation Offices (now occupied by the Stonebow Centre). A brief interim account was published in 1979 (Reynolds 1979) and recently a stratigraphical report has been prepared. This will be published in a forthcoming volume in the Lincoln Archaeological Studies series, so that it is only necessary here to extract the significant results in terms of the general sequence for the lower city.

The earliest rampart consisted of clay, rubble and mortar. The presence of the last suggests that wall and rampart were contemporary, but no definite relationship was established because of internal
thickening or rebuilding of the wall. Gangwork was clearly visible, with several offsets (cf site 10). The rebuilding followed the addition to the first wall of internal and external towers immediately west of a single-portal gateway. It could not be determined whether the gate was an original feature of the defences. The wall to the east had been rebuilt on a wider scale, the lowest courses here (and of the threshold) containing remains of a monumental inscription.

The early rampart which survived (though not necessarily the earliest) is dated to the mid–late 3rd century, the latter to the mid–late 4th century, contemporary with the thickened wall. The road surfaces through the gate also indicated use to the very late 4th century as did a berm or road outside the wall (the Roman river-front lay only c 15 m to the south of the wall). It is presumed therefore that no ditch was provided on the south side.

12 St Swithin’s Churchyard
(Medieval site: west of Free School Lane)

Richmond (1946, 41) records that the wall was noted in 1868 (sic) to be 7 feet thick, and its rear face 8 feet 9 inches to the north of the south wall of the original churchyard. This may have been an error in date (and site) for the next find (site 13).

13 St Swithin’s Churchyard
(Modern site: east of Free School Lane)

Fowler (1889) recorded that the wall was 7 feet thick when it was found during digging the foundations for the new churchyard wall in 1888. A fragment 8 ft 6 in thick was also revealed at the junction of Free School Lane with the new churchyard in 1733 (note and plan in Lincolnshire SMR). Observations during the installation of services in 1989 showed the wall to be at least 1.5 m (c 5 feet) thick. The new church lay on the site of the former sheepmarket and part of the east wall, near the south-east corner, was removed when this was levelled (Nicholson 1843, 88).

14 Broadgate: antiquarian accounts

Along the eastern side the wall survived in places to a considerable height until well into the 18th century, and was noted by several antiquarians. They included Stukeley (1722: see 1776 edition), Buck (1724) and Thomas Symson (1737), while Mansel Symson noted that the wall’s foundations had been seen when the Constitutional Club was being erected at the corner of Silver Street (Symson 1906, 33). Stukeley’s record is most valuable (1776 edition: ch 90):

‘And the(r)e below Claskgate a great part of the Roman wall is left, made of stones piled sideways, first with one direction, then with another, as was a common method with them: one piece of it is now eighty foot long, eighteen high; a little bit of it lower down is twelve foot long, as much high; between that gate upwards and the old city wall, by the Greestone stairs, is the old ditch to be seen, much talked of, but not understood: it is called Weredyke....

To the west [of Greestone Stairs] the ditch and foundation of the wall is still left, though many times repaired and demolished in the frequent sieges this town has sustained.’

The coursing of the core as described by Stukeley is commonly observed on existing fragments.

Buck’s sketch book (p 19) shows Claskgate and rough walling to its south, probably part of the late Roman rebuild. Thomas Symson (1737, p 6) recorded that the foundations of the east wall were visible ‘right up, but everywhere miserably peeled and excoriated’. Ross (1850, 26) also drew a section of the wall, perhaps the smaller of the fragments described by Stukeley, based on earlier accounts. A record in LRSM for 6 November 1863 refers to the road at the gateway being ‘8 feet down’.

A 12–14 ft thick fragment of wall was noted in 1932 during the construction of the Duke of Wellington Inn (Smith 1934). An altar to Mars (RIB 248) was found here at a depth of about 10 feet.

15 Greyfriars/Central Library excavations, 1991–4

Limited investigations on the line of the defences took place in 1991 and in 1994, in advance of and during construction of the new Central Library building on Broadgate by Lincolnshire County Council (Jarvis, 1996). The rear face of the wall was found standing four courses high, bonded with light-brown sandy mortar (yet to be analysed). Apart from part of the adjacent core the rest of the wall had been removed: its exact width at this point could not be determined, but appeared to be at least 3 m. The inner face was also noted further south surviving to the same height, but here a stretch of the outer face of the hall also survived for a length of c 2.5 m, at a width of c 2 m. There were indications of a projecting wall, possibly to be associated with a tower or postern.

The adjacent rampart had been noted in trial investigations in 1991. The group of sandy deposits possibly to be interpreted as the earliest rampart had a terminal date of mid–late 2nd century. They were sealed by a further dump of clay and sand deposits of 3rd century date, cut into by pits and post-holes, and succeeded by more dumps not earlier than the late 3rd century, and a final undated dump. This sequence should be compared with that from The Park (Part I) and from Silver
Street (no 16, below); it has a bearing on the chronology of the fortification of the lower city, discussed in Part IV, below.

16 Silver Street excavations, 1973

Rescue excavations by J S Wacher took place over several months from July 1973 on a site between Silver Street, Free School Lane, and Broadgate. An interim report appeared in 1979 (Wacher 1979), while subsequent post-exavation study has resulted in the production of a detailed account. This will be fully published in a volume in *Lincoln Archaeological Studies*, devoted to the Lower Walled City, and only essential details are mentioned here.

Interestingly, the earliest definite rampart, c 11 m wide, was dated to the mid–late 3rd century, at least 50 years later than found on the west side. But there is a possibility that an earlier phase existed, dating no later than the early 3rd century, and quite possibly earlier. This phase of rampart measured c 7.5m in width, the same as the earliest one at The Park. The 11m width is similar to that found in the second phase (Period 2b) at The Park, also of 3rd century date. There were large posts along the ‘top’ of the 3rd century rampart, but we cannot be sure if these represented a breastwork at the crest, a temporary palisade, or a structure to the rear of a contemporary wall. No remains of an early wall were encountered, but the wall here had been robbed and the robbed wall may have represented an internal thickening (cf site 15). The wall cutting dated to the early–mid 4th century, and probably as part of the same operation the rampart was heightened to c 5 m. It was now at least 16 m wide.

17 Lindum Road

During the making of this ‘New Road’ in 1785, an inscribed and moulded stone (*RIB* 271) was found east of the wall. In 1830, during the construction of the then No 17 Lindum Road (the house of the surveyor Mr J S Padley), the foundation of the wall was uncovered, together with a Legionary tombstone (*RIB* 256) presumably incorporated into it (*Gents Magazine*, new series, XVIII, 350). Soon afterwards, building work adjacent brought to light a further tombstone, that of the nonagenarian Claudia Crysis (*RIB* 263). More recently, work in the pavement outside the (renumbered) 3–4 Lindum Road was observed in 1969 by J B Whitwell. The wall was seen to include large blocks, including moulded fragments. Obviously much of the rebuilt wall hereabouts contained reused masonry: the cemetery area to the east would have provided a ready source.

18 Temple Gardens (Usher Gallery Grounds)

More carved stones, including tombstones, were noted in 1889 when the wall was exposed (Roach Smith 1890, 53).

19 Old Bishop’s Palace/Vicars Court

The wall immediately south of the junction with the upper city survives to some extent within the east wall of the Old Bishop’s Palace, and was noted in 1848 to be stepped on its internal face (*RAI* 1850). Richmond and Webster noted the fragment immediately south of the Palace as being over 10 feet thick and 14 feet high (Richmond 1946, 40) and this is still the case.

Doubt was subsequently thrown on the Roman date of the wall along the east wall of the Palace when this was under investigation in 1968–70 (Chapman et al 1975, 39). Two sections were examined at this time. It was concluded that no part of the existing Palace wall was of Roman date, and that only a small part of the rampart remained at a distance of c 40 feet from the wall.

During a recent survey of the Palace remains, however, several courses of Roman work were identified at one point close to the base of the wall over a length of 5.75m. The distinguishing feature was that the coursing followed the natural slope of the hillside, unlike the medieval replacement and rebuild. The Roman fabric was also visible and recorded in 1973 below the level of the present courtyard for a depth of 1.6–1.8m. There was the stub of an east–west wall 1.7m wide abutting the suggested Roman fabric, which might represent the southern wall of an interval tower c 50m south of the junction of the upper and lower circuits (Barron forthcoming).
IV GENERAL DISCUSSION
Introduction

While it is clear that many of the statements and hypotheses presented in the detailed reports above will stand for themselves, there remains the task of drawing together the disparate fragments of evidence for the topographical and structural development of the south-western part of the lower city. The post-Roman discoveries are dealt with in their historical context; accordingly a detailed discussion is presented below (pp 262–7). The rest of this section is devoted to a brief synthetic account of the fortifications of the lower walled city, including their structural development, dating, style and strategic function, as well as adjacent internal occupation. Since these are subjects which have already been discussed in relation to the upper defences (Jones M J 1980; cf Wacher 1998), less detail needs to be presented here.

The Roman period by M J Jones

Internal occupation

Occupation of this part of the Roman city began soon after the *colonia*’s foundation: at the end of the 1st or in the early 2nd century with (at The Park) a series of timber buildings probably associated with a street at right angles to Ermine Street, c 200m to the east. Their alignment implies that a sheet grid was laid out well before mid-century, and a similar date has been established for a street found at Silver Street near to the eastern defences (publication forthcoming in *Lincoln Archaeological Studies*). The construction of the fortifications was accordingly a much later operation, but since no definite burials have yet come to light within the lower walled city with the exception of the two cremations at The Park, (p 29 above), it may be that an area of the city similar to that later defended was designated in advance. There is even a possibility that it was defined by an arch on the site of the later gate as at Colchester and Verulamium (Crummy 1984; Frere 1983).

The function of the early structures (see above pp 26–35) remains uncertain. The internal arrangements were modified with each rebuilding, few floor levels survived and no diagnostic artefacts could be directly associated with their use. The layout of the slots, hinting at the possibility of a raised floor, means that a function as a granary or some sort of storage building is possible – especially in view of the site’s proximity to the river – but the slots were not as closely or regularly set as in military granaries. Civilian builders may have been responsible, as suggested for similar structures at Coney Street, York, outside the fortress (Hall 1986). It is also possible that they represent accommodation for traders setting up in the town as the *colonia* developed, and they may have continued in that function throughout, their designs adapted to changing requirements. A third interpretation, that the slots were dug for horticultural purposes, cannot be ruled out.

The buildings found at the West Parade site were all of late date and probably represented structures added to the rear of existing domestic and/or commercial properties fronting on to a street to the east. Unfortunately, access was not possible to the southern fringe of the site which might have contained remains of buildings on the main east–west street through the lower city. The presence of these late structures does however confirm the picture gained from elsewhere of continued growth in the 3rd–4th centuries, only a slow decline during the late 4th century, and some occupation to the end of the Roman period.

The earliest defences (Fig 124, A)

The line of the lower fortifications is now clearly established, and as noted above there is a hint that they enclosed an area already classed as part of the city (Jones 1985, 90). Their construction would have had an impact on occupied areas now excluded and not close to the gates. Although not all of the area inside the new wall had yet been built up, cremation burials pre-dating the fortifications are also known from those areas excluded eg along West Parade. Presumably street frontages leading to the gates were already occupied.

Good evidence is available from both The Park and West Parade sites that a rampart and contemporary wall were being erected on the western side of the lower city no earlier than the last quarter of the 2nd century and possibly later. The fortifications were apparently extended almost to the existing riverfront (whose line was found in 1989), so that a ditch may not have been provided on the south side. At the same time it is not clear if the southern defences of the upper city were then abandoned. The few fragments of evidence at our disposal suggest, interestingly, that they were maintained. At least the wall appeared to have been rebuilt in the 3rd or early 4th century and the upper south gate maintained (Jones M J 1980, 27–8). This may imply that there was something in the upper city to be protected which was distinct from the lower enclosure, eg, houses or offices of high ranking officials (see further below). It may stem from the religious status ascribed to the *colonia* boundary; and, in pure logistical terms, repair might have been less problematical than demolition.

The interpretation of the excavations at Silver Street (above, p 256) is uncertain; it is possible to follow the original reading of the evidence, and argue that the earliest defences were not built before the mid to late 3rd century. Yet the recently excavated evidence from the Central Library tends to indicate that there was a late 2nd century rampart on the east side, and the Silver Street section can be interpreted in this way. If, however, this wide discrepancy is real, the reason for it is not finally soluable. A rampart and wall contemporary with the western defences on another line must be ruled out, for the effort of
rebuilding would have been enormous, probably lasting several decades. No other course for the eastern fortifications is conceivable: the lower defences merely extended the lines southwards of the upper enclosure as far as the river. Whether they followed a geological fault on the east side (Richmond 1946, fn 72) is unclear. The construction of the fortifications over such a great length (c. 1.5 km), while at the same time maintaining those of the upper city and other essential municipal services, was no doubt a considerable drain on available resources.

Several of the towns of Roman Britain were also building fortifications, most purely of earth, at roughly the same period (see most recently Wacher 1995, 71–81; 1998), and one school of thought has always associated their construction with a particular historical context, arising from a threat to security in the late 2nd century (see Frere 1984a for a recent discussion; Crickmore 1984 for a detailed treatment; Jones and Bond 1987 for a summary of other recent work). In the case of Lincoln, the existence of an enclosure uphill and the construction of a carefully built wall down the hillside seem to preclude such an explanation. Not all of the hillside was densely occupied at that time or later. Perhaps, then, we could regard the fortification of the lower city as a long-term aspiration of the civic community which could have taken perhaps half a century to complete: financial reasons could have been to blame (see Wacher 1998, on the likely costs). But, like London and the other coloniae, Lincoln could apparently afford a stone wall and imperial permission would have been a formality (Jones 1983). Precise dating remains impossible without the aid of either inscriptions or dendrochronological analysis.

The rampart, of clean sand and clay, was 7–8 m wide, and c. 3 m high. The wall was c. 1.5 m wide and up to 4 m high. At some date in the 3rd century the rampart was widened in places to c. 11 m, a width found on both the east and west sides and slightly wider than the contemporary bank of the upper enclosure. Might this only have happened where material had to be removed for interval towers (see below)? The increased dimensions compare with a width of more than 11 m at Gloucester, and 11.5 m at Exeter, and approximately 9 m at Leicester: the general size of the barrier presented by the fortifications at all these towns was within a certain range, including also the ditch system. There is only poor evidence for the early ditch or ditches at Lincoln; presumably that provided for the lower city compared fairly closely with the upper city (Jones M J 1980, 52–3): if so, the presumed earliest ditch found at The Park (above, p 23) may represent only part of a system.

**Interval towers (Fig 124, B)**

During the mid–late 3rd century, towers were added to the internal face of the lower city wall, as had previously happened in the upper city (ibid), and which also took place at, for instance, Gloucester and London. The earliest occurrence of such towers in the lower city is at Lincoln (Fig 124, B), where they are associated with major alterations to the rampart and ditch system. The towers were probably built to provide additional strength to the fortifications and to improve the overall defensive capability of the lower city.

![Figure 124 Reconstruction drawings of the Roman defensive sequence](image-url)
Exeter. Should the later dating of the rampart and wall be accepted, this begs the question of their provision on those stretches of the fortifications which might not have been built until approximately that date: they might then have formed part of the same operation as the building of the wall here? Building contemporary towers would have extended the process of completing the circuit and no tower has yet come to light which can be shown to be contemporary with the wall; as such the earlier dating seems more acceptable. Yet only two definite towers have been located so far on the lower circuit (although another may have been found at the Bishop’s Palace: see Part III, p 256), that at West Parade being built with thicker walls, presumably to counter the slope. Normally, such towers would have had a further storey above the wall to provide extra scope for defence, but they would also have allowed access to the wall walk.

From their spacing, it is more likely that sections of wall between the gates were divided equally by the spacing of towers at regular distances apart, than that they were spaced equally all around the circuit. The former would make more strategic sense in any case, and distances vary: c 50 m at York for instance, and c 70 m at Gloucester (Sumpter 1984; Hurst 1986). Those to the north of the gate on the line of West Parade would be c 50 m apart, centre to centre, those to the south c 40 m (or c 80 m) apart. These figures compare with a suggested 40 m for the upper city (Jones M J 1980, 10, 23, 36, 52).

**Late Roman fortifications (Fig 124, C)**

The vast majority of structural information from the sites related to the refurbishment of the fortifications in the 4th century and the apparently contemporary construction of the new gateway at The Park. The reason for a new gate is unknown: its position close to the Brayford Pool may have been significant but there are several possible explanations for its construction. Evidence for the rebuilt wall is known from several other sites on the circuit (above, Part III).

The changes consisted of either internal thickening in places – as if to provide platforms – or complete rebuilding of the wall, which was also heightened; widening and heightening of the rampart; and widening of the ditch. External projections were provided for the gate towers, and are in fact only known at Lincoln at the gates. The new wall was now c 3 m wide at its top, but often over 4 m wide at its base, and in several sections there were a large number of stepped offsets on the internal face. At particular points – to the south of the lower west gate (The Park), to the north and perhaps the south of the east gate (Lindum Road/Broadgate), and adjacent to the southern postern (Saltergate) – the wall incorporated a number of reused architectural fragments and inscribed stones, including tombstones. This is a fairly rare occurrence in Britain, although common in Gaul (Blagg 1983) but in itself does not necessarily argue for a late 4th century date. It may have come about largely from the availability of the material in cemetery areas close the east and west gates. The introduction of legislation against the despoliation of funerary monuments may have been a reaction against an increasingly common practice (Wightman 1985, 223).

Stukeley noted the wall on the east side as still standing 18 feet in the early 18th century; originally its height may have been c 7–8 m, as suggested for the upper city (Jones, loc cit), quite a respectable height for late walls (see for instance, Todd 1978 on Rome, 8m high on average in its Aurelian phase to the top of the gallery; Christie and Gibson 1988 on Ravenna – estimated at c 9m – and Italian Sites; Johnson 1983). Although much was apparent about the method of construction, no study has yet been undertaken of the source of building materials for this lower circuit, but presumably it should be seen as one with the upper enclosure (cf Jones M J 1980, 37–47). Nor has any trace come to light, either in situ or tumbled, of any string course or coping stones as recently discovered at Chester. A wall of this width could have incorporated a walkway.

The rampart was up to 25m wide, although this dimension was only found at The Park and is probably exceptional: it was at least 16m wide at Silver Street. More rubbish was dumped on the rampart at some sites than at others, and it could be that some of the dump was excavated from the site of the new gate, and transported through the gateway from the recutting of the ditch. The late ditch was of a similar width to the rampart, but its profile cannot properly be gauged owing to problems with the water table at the only site where it was investigated to any extent. On analogy with some contemporary sites, it was probably fairly flat-bottomed in shape – or ‘saucer-shaped’ (Woodfield 1995, 40–2). All in all, the new fortifications constituted a substantial barrier: no wonder that they were rarely breached for many centuries, and continued to stand in some form until the 18th century.

Unfortunately no dating is available to suggest a recognisable historical context for the rebuild, nor would we expect such a huge undertaking to take less than a decade, but most of the construction work appears to have been carried out towards the middle of the 4th century and soon after – but late enough for tombstones and funerary monuments to be plundered. This may have stemmed partly from a need to refurbish the existing fortifications, or from a perceived need for more security in the light of the city’s status as the capital of one of the four new provinces and its role in the taxation system as well as to enhance its prestige. In the 4th century, there was a correlation between towns of high status (and/or official function) and the provision of fortifications. The walls of Tours in Gaul seem to date from roughly the time that it was awarded provincial capital status (Wood, 1983; King 1990, 177) and those at the other British capitals were also strengthened – but so were those at other towns. What is
remarkable at Lincoln is the sheer scale of the area defended – both upper and lower cities must have contained features essential to the survival of the Roman administrative system (for recent discussions of 4th century towns, see Esmonde Cleary 1989, 63–85; 1993). Perhaps, as Wacher (1998) has suggested there was an almost continuous programme of repair and rebuilding, which no doubt had an impact on the city's ability to fund other public works. It is also of interest that the authorities chose to strengthen both enclosures: does this suggest that the lower circuit also contained structures essential to the survival of the imperial system (Jones 1993, 17)? We have a great deal to learn on this subject: finds such as a late building (Jones, ibid), and a brooch of Free German origin (Fig 60, no 4) offer only tantalising hints.

As with the upper city, the style of the new fortifications was conservative, and while it did not incorporate the new thinking which can be seen at some continental sites, it did represent a step towards the tendency to greater strength in terms of the scale of both walls and ditch (Johnson 1983). This might suggest the use of civilian builders rather than military (op cit, 63), but in itself is far from conclusive. Lincoln is unusual among British towns in lacking semi-circular projecting towers, except at certain gates, and in this way it resembled some military bases. Some of the artefacts recovered at The Park were fragments of military equipment, but unless and until finds definitely associated with the late Roman army come to light we cannot presume any connection with the comitatenses, the mobile army which was billeted in towns when not on service and which was certainly in Britain in the later part of the 4th century (Tomlin 1987; James 1984: see now Southern and Dixon 1996). Poulter (1984) has elucidated the nature of defensive provision on the Lower Danube where fortified towns served as bases for the field army, but Britain was not subject to the same economic and political influences as that region.

Lincoln must have fulfilled an important role in the network of secure bases in eastern England, perhaps also connected in some way with the ‘Saxon Shore’; other local sites whose fortifications were also strengthened lay at Ancaster, Caistor, and Horncastle (Todd 1981; Whitwell 1982; Hurst and Field 1983). The latter two were new enceintes in truer late Roman style, so that the group as a whole cannot reflect a building campaign by the army, and this reinforces the idea of civilian construction for Lincoln (cf Johnson 1973). Our understanding of the strategic thinking behind any area defensive strategy is hindered by the paucity of evidence for the function of the two new fortifications at Caistor and Horncastle to the east of Lincoln. There may have been a connection with the control of river traffic, as suggested by Hurst for the Gloucester region (Hurst 1986, 122–4). However substantial the fortifications were, we have little evidence that they were being used as more than a symbol of power and as a deterrent, rather than being successful in actual defensive action.

### Post-Roman fortifications

The fate of the gate at The Park in the post-Roman centuries is unknown. It may well have survived beyond the 5th century, but any street into the city at this point was lost, and subsequently the ditch was recut across any causeway or bridge which had existed. This probably took place at the time when the fortifications were being remodelled in the 13th–14th centuries, a process which involved rebuilding or altering the existing gate structures. The evidence from Motherby Hill (Part III, site 2) might also indicate a late Saxon recutting. No evidence is available for the city wall, but it is clear that properties encroached on to its rear face (see below). It is clear also that the Roman city wall survived to a great extent and may have required little in the way of refurbishment. We must rather look to extensions to the circuit for evidence of medieval fortification in Lincoln. These will form the subject of separate studies.

### Medieval and later occupation of the SW part of the Lower City

by B Gilmour and D Roffe

(Fig 125)

Throughout the Middle Ages the character and development of the western part of the Lower City was conditioned by the dominance of three great urban fees held by the bishop of Lincoln, the honour of Bayeux, and the honour of Bolingbroke. The first, comprising the suburb of Willingthorpe or Westgate, subsequently known as Newland, constituted a manor which may have had some association with the churches of St Stephen and St Faith (Hill 1948, 50, 61–2); the second, situated around the present Beaumont Fee and possibly associated with the church of St Mary Crakepole, or Crackpole, was likewise a manor, known as Hungate, and from the late 11th century had been the caput of the honour granted to Alfred of Lincoln by William the Conqueror (Hill 1948, 50); while the third, to the east, primarily situated on the street later called Hungate and including in its area the church of All Saints, Hungate, constituted an urban estate which rendered its dues to the manor of Bolingbroke in the South Riding of Lindsey (CIPM V, 154, 309). The extent of direct association between the manors and the churches is uncertain.

Although such liberties were often of some considerable antiquity, only one of these fees can be unequivocally shown to have had a pre-Conquest identity: the manor of Hungate seems to have had its origins in the three tofts that were held by an otherwise unknown Sybi in 1066 (Foster & Longley 1924, p7/22). However, it is probable that the bishop of Lincoln's fee was an early feature of the medieval city. Domesday Book describes it as 'a small manor' (maneriolum), but furnishes no details of its pre-Conquest history (ibid, p 5/10). Nevertheless, the
Figure 125 Topography of the SW part of the lower city in the Middle Ages
estate is directly comparable with the bishop's extramural fee in Leicester, which was probably part of the endowment of the bishopric of Dorchester before it was moved to Lincoln in c 1072. The coincidence of post-Conquest episcopal manors and local government centres in the county of Lincoln suggests that it likewise possessed an extensive endowment in Lincolnshire before the Conquest, of which Stow was the most conspicuous element. It is therefore not unlikely that the manor in the city was an important asset of the bishopric before the Conquest. Only the Soke of Bolingbroke's estate in Lincoln may have been of comparatively recent origin in 1086. If, as seems likely, it is represented by Stori's message that Ivo Taillebois claimed against Countess Judith, it would appear that the fee was part of the city at the time of Domesday Book since it was held without sake and soke (Foster & Longley 1924, p5/9).

The effect of such fees on the development of urban settlements has been little studied. As liberties, they were typically outside burghal government, but nevertheless their tenants usually held in burgage (Willingthorpe was called a borough in the 12th century: Foster 1931, 189–90) and were little different from their fellow townsmen (Roffe 1987, 153–5). Seigneurial control, however, often remained strong. It is unlikely that any lord would have discouraged development where it increased his income, but administrative functions may have imposed other constraints. The paucity of settlement in the Beau- mont Fee area, for example, may reflect more on its role as the caput of the honour of Bayeux than its relative prosperity. In the following analysis, then, the full implications of both the archaeological and documentary evidence must be viewed in the light of the underlying estate structure.

The parishes

In the Middle Ages, most urban properties were primarily identified in documents by reference to the parish in which they were situated and secondarily by their neighbours. The initial problem in charting the history of the area of the excavation, then, lies in the identification of the relevant documentation by the reconstruction of medieval parish boundaries.

The main parish in the area was that of the church of St Mary Crackpole. The church was also referred to as St Mary in Hungate in an early 13th century property reference (Reg Ant VIII, 156, 2347) and St Mary Crackpole in Old Hungate in 1307 (Reg Ant VIII, 124D5, 2312). Its precise boundaries are not known, for it had absorbed the parish of St Stephen by 1540 when the two churches are listed together in a fee farm rental survey (Symson 1737, 95), and was itself united with St Martin's parish in 1549. Its approximate extent, however, can be reconstructed from various types of evidence. According to Symson (1737, 41), the church itself lay to the north of the present Quaker Meeting House, in what was then an orchard, and to the south of the modern street Beaumont Fee (Old Hungate) before this was extended southward to connect with Newland in the later 19th century (Fig 125). The site subsequently became a detached graveyard for St Martin's church and is marked as such on Padley's map of 1842. The church possibly acquired its distinctive epithet, 'crow or water-crake pool', from its proximity to Brayford Pool. Its original parish may have been bounded by the city wall to the west (probably so by 1274) and to the south, and was only extended southwards after the reclamation of the northern part of the Pool during the 11th and earlier 12th centuries. On the east the boundary probably followed Mint Street, as shown by Padley's 1842 map of the city, beyond which was St Peter at Arches, the neighbouring parish to the east both before and after the 1549 Act of Union of Parishes (a copy of the schedules is reproduced in Venables 1888, 352–3). To the north and north-east the parish boundary is not known. It probably lay between Beaumont Fee and (the present) Hungate to the north-east and might possibly have been bounded by West Parade to the north. The Park site, then, was probably situated within this parish, or possibly in that of All Saints, Hungate.

To the north of the parish of St Mary Crackpole was the parish of All Saints, Hungate. Since it was amalgamated into St Martin's in the early 15th century, its boundaries cannot now be reconstructed. However, the church is thought to have stood near the southern end of the present Hungate, and its parish may thus have encompassed the West Parade site if St Mary Crackpole did not extend this far north.

To the west of the city, outside of the wall, lay the parishes of St Stephen and St Faith, in the area known as Willingthorpe or Westgate, the manor of the bishop of Lincoln. The church of St Stephen was near the wall, almost opposite the late Roman gateway at The Park and next to the road which issued from the gate. Parts of its burial ground came to light during building operations in the 1970s and 1980s. St Faith's lay much further west, along the street now known as Newland Street West. Neither church survived into the modern period and it is therefore impossible to be certain of the extent of their parishes. Their close association with the bishop of Lincoln's manor of Westgate or Willingthorpe, however, suggests that they were substantially extramural. St Stephen would appear to be represented by the parish of St Martin beyond the walls, while St Faith became a large detached part of the parish of St Mary-le-Wigford (Fig 125; Padley 1842 map). There may also have been a Parish of St James, adjacent to Newland west of St Stephen.

Estates

According to Domesday Book's description of Lincoln, the bishop had a small manor of one carucate of land 'near the city', with two churches and
eighty-one mansiones, of which twenty were said to be waste (Foster and Longley 1924, p5/10). From later evidence this estate can be identified as the area to the west of the lower city in which stood the medieval churches of St Faith and St Stephen.1

In the early 12th century the manor was known variously as Willingthorpe or Westgate (Hill 1948, 329). The first name connotes a subordinate settlement by a willow copse and is presumably a prosaic reference to trees by Brayford Pool (Cameron 1985, 46). The name Westgate is of more interest. Hill suggested that it was derived from the west gate of the Bail and that it was from here that the bishop's men were accustomed to approach the estate. There is, however, no evidence to support this view. Indeed, the present street Westgate was known as St Paul's Lane until its name was changed in 1830 by the Lincoln Lighting and Paving Commission (Cameron 1985, 109) and it is more likely that the bishop's manor was named from a road issuing from a gate in the west wall of the lower city, possibly a Roman structure on West Parade or the gate at The Park.2

The original extent of the manor is not known. In 1139 reference is made to 'Westgate with its appurtenances as well outside the walls of the...city as inside' (Foster 1931, 205), but, as a standard formula, this cannot be taken as evidence that the bishop held land and tenements on both sides of the wall. From the 13th century the bishop was certainly assiduous in acquiring both intra- and extramural properties in this area, possibly with the intention of consolidating his estate (Foster 1935, 376–7; Lincs Arch Office, D&C Di81/1/19). By this time, however, much of the land beyond the walls may have been given over to agricultural use: in 1086, as waste, about a quarter of the estate rendered no income to the bishop, and after 1163 the area was known as the waste of Newland (Hill 1948, 329).

The manor of Hungate appears to have occupied about a third of the lower town (Hill 1927, 175–7). It was bounded by the town walls to the west and south, although it also had a fishery beyond the wall on the Brayford, and the present Hungate and Spring Hill probably constituted its eastern and northern limits.

Beaumont Fee, first recorded in 1475, was its principal thoroughfare and takes its name from the Beaumont family who held the lordship of the manor during most of the period from 1318 to 1507. The street was referred to as Old Hungate between 1275 and 1311, and again in 1369 (Cameron 1985, 50–9), and contrasted with New Hungate in 1307 (Cameron 1985, 75; Reg Ant VIII, 2312, 123). Earlier references to the name actually refer to the road later known as Beaumont Fee. It would therefore seem that the present Hungate may have gained its name in the later 13th century, possibly as the focus of settlement shifted eastwards. Its line further north was Parchemingate (now Michaelgate). The reference to New Hungate in 1307 was clearly to distinguish it from Old Hungate.

The remains of houses discovered during (and after) the excavation at the West Parade site on the west side of upper Beaumont Fee evidently related to tenements within the manor. Occupation in this area does not appear to have occurred before the 11th century, and if the West Parade area is typical, it is therefore possible that parts of the lower city were undeveloped before this time. But the site lay well away from major streets.

Neither the character of the houses that lay along this frontage from the 11th to the late 13th centuries, nor the size of the properties behind, the backlands, which may have stretched back from the houses to the city wall, can be judged from the results of the 1971 excavations at West Parade. However, although only one possible boundary line was found (p 199), this probably represented only one of a row of properties along here. No evidence was discovered of properties running north (or south) from the present street of West Parade, since the frontage was not accessible. Further work may clarify this.

**Occupation to the north and south of Hungate Manor**

More detailed evidence is available with which to elucidate the nature of tenements within the manor. The Hundred Rolls of 1275 preserve the record of thirteen encroachments on to the king's wall on the west side of the lower city (Rotuli Hundredorum I, 311b–312a, 318b, 3251–b). All occurred in the parish of St Mary Crackpole and had apparently been made at the expense of the strip of land or lane, here 14 ft wide, which should have been left inside the walls to allow access for its defence. They were reported by the jurors representing 'the greater citizens'. The first three properties can be identified (by ref to Reg Ant VIII, 160; Lincs Archives Office D&C Di75/1/23; 161, Di75/1/19; 164, Di75/1/22; 169, Di75/1/21) as running from Newland Gate northwards. If these properties are plotted according to the dimensions given and the plots are continued northwards, the property layout in Fig 125 is obtained. The reconstructed plots fit neatly into the space between the site of the city wall to the south and the southern boundary of Beaumont (Hungate) Manor to the north, and it is therefore likely that they substantially represent the tenements of the late 13th century.3

The juries representing the 'middling' and 'lesser' citizens (Rot Hund, 318b; 325a–b) list most of these properties and usually in the same order. However, a number of other encroachments are also given, and it seems likely that these relate to tenements to the north of Hungate manor house and therefore probably within the area of the excavation at West Parade. Only very approximate encroachment dimensions are given by the one jury and none by the other, but what measurements there are indicate that here too a 14 ft (4.2 m) wide lane should have run along the inside of the wall running northwards.
towards the castle. The properties all appear to have run east–west from Old Hungate (Beaumont Fee) towards the town wall. This would tally with one possible east–west property boundary wall found in Areas I and II at West Parade (above, p 199). No definite evidence for such a feature was encountered at The Park.

Such encroachments, one of which may be represented by the medieval stone structure in Area II (Fig 97), are probably indicative of fairly intensive land use in this part of the town in the 13th century. The pottery and finds from the many 12th and early 13th century pits point at moderate affluence, and also reflect some nearby industrial activity. In the later Middle Ages, however, the area appears to have been more sparsely populated. A description of 1322 refers to 'land...butting on the King's highway on the east and the wall of the city on the west formerly had buildings on it and is now waste in a waste part of the city' (Reg Ant VIII, 170, 2362). The record of the two excavations suggests progressive disuse of the sites, with only sporadic reoccupation between the 16th and 19th centuries. Later medieval subsidies and the like indicate that there were a few taxpayers in the parishes of St Mary Crackpole and All Saints, Hungate. Speed's 1610 map of Lincoln depicts only two houses on the strip of land running up from Newland Gate to the south side of the castle. Both are shown lying on the Beaumont Fee street frontage, one by West Parade/Motherby Lane, and one further south, which may be a representation of Beaumont manor house. There seems no reason to suppose that an area of housing was omitted by Speed so as to emphasise a major feature such as a church (as seems to have been the case south of the church of St Paul-in-the-Bail). Such evidence as there is, then, points to depopulation of this part of the city between the 13th and 16th centuries.

In 1722 Stukeley recorded, 'To the west the ditch and foundation of the wall is still left, though many times repaired and demolished in the frequent sieges this town has sustained' (Stukeley 1776, 90). Some nine years later the wall and ditch were tidied up, when part of a piece of waste land (used formerly as a dung heap) called Besome Park, the strip along the old wall from Newland to West Parade, was let to one Robert Gildon on condition that he set out a new footway to replace an earlier lane and mow it three times a year. A quick hedge and forty walnut trees were also to be planted (Hill 1927, 188). Thomas Sympon described this area shortly afterwards (Sympson 1737, 550, quoted above p 3).

It is likely that the Motherby Hill footway to the north was similarly laid out at about the same time. With the exception of the land adjoining the site of the old Beaumont Fee (Hungate) manor house, the land between Newland Gate and the castle to the north was progressively developed for housing during the 19th century.

The gates in the city wall

Evidence from the two excavations and chance finds have shown that there were probably two Roman gates on the west side of the lower city. The one presumed to be beneath the present West Parade belonged to the original city wall of the late 2nd/early 3rd century, while the second at The Park was inserted into the defences in the mid 4th century. As we have seen, the bishop's manor of Westgate was almost certainly named by reference to a road issuing from the west wall of the lower city, and it is therefore likely that at least one exit was still in use in the early 12th century. Their subsequent fate is difficult to determine. Neither appears on Speed's map, and no medieval references to them have come to light. However, the discovery of robber trenches and refuse pits in the road behind the gate suggests that the gate at The Park had been dismantled and blocked by the 13th century, and the West Parade gate may have become redundant at about the same time.

By 1275 Newland Gate, at the south-western corner of the lower city, was the principal means of ingress and egress (Hill 1948, 157). The date of its construction is uncertain. The east side of the gate arch shown in Buck's sketch would appear to be of about this date. In any case this road cannot be earlier than the development of Newland in the 11th or 12th century. Whether it was a replacement of the earlier routes further north cannot be determined, but it is not unlikely that the emergence of Hungate manor as a major estate centre obstructed former rights of way and forced the citizens of Lincoln to find alternative exits from the city.

No dating evidence was found for the postern gate which was inserted into the wall just to the north of the West Parade gate. The repairs associated with it, however, are unparalleled in a Roman context, and it therefore seems likely that it is of later date. Its significance is uncertain, and it may merely represent a private gateway giving access to two properties in the same ownership or usage either side of the city wall. No unequivocal reference has been found to the structure in medieval sources. In 1349 the 'Newyat' was cited as the northern boundary of a messuage in Hungate (Hill 1948, 363; Burwarmote Book, f 193), but this was probably further to the north in the vicinity of Spring Hill, for Saffron Garth (shown on OS 1888 and Padley 1842 maps) was said to be 'nigh newyate' in 1564 (Cameron 1985, 41). Whether this was the same gate that was said to be near the castle, probably at the junction of Spring Hill and Drury Lane, in 1275 is not clear (Rot Hund I, 918b).
Notes

1 In 1126 one description refers to Willingthorpe as a borough in the city of Lincoln and in 1139 another document refers to ‘Westgate with its appurtenances as well outside the walls of the same city as well as within’. A mention of 1163 refers to churches of St Stephen and St Faith as being in the bishop’s soke and also to a carucate of land in the bishop’s soke (Foster 1931, 189–90, 205; Hill 1948, 328). Willingthorpe means ‘the dependent settlement at a willow copse’ and is to be identified with the bishop’s manor of Westgate (Cameron 1985, 55). It is fairly clear from these descriptions that Willingthorpe lay in the area to the west of the lower town and to the north of the Brayford Pool in the vicinity of which willows would have thrived.

2 The street now called West Parade was open in 1731 when it was called Whong Lane (Hill, 1927, 188 n) (later Clay Lane/Motherby Lane (Padley 1842)). The finding of burials beside it, outside the city wall, suggests that it overlies a Roman road leaving the town on this side (Hill 1948, 5; Jones 1985) which may have become a (back) lane leading to St Faith’s church further west (Hill 1948, 156).

3 There is a narrow lane along the south boundary of Beaumont Manor shown on Marratt’s (1817) and later maps, which survives as a western extension of Park Street. It may be earlier than the 19th century, although it is not shown on Speed’s 1610 map. If it was the remnant of a street which once led through the gateway at The Park, it would also have given access to a back lane inside the town wall. No trace of this lane was found during The Park excavations.

4 The absence of any corresponding east–west boundary wall near the town wall in Area III–IV, along the inside of the town wall, may not be particularly significant as the encroachment of individual properties towards the wall could have been marked by fences of which no traces survived.
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Notes
1. Page numbers in italics indicate plates or line drawings. There may also be textual references on these pages.
2. Subheadings are in alphabetical order except for pottery chronology, whose subheadings are in chronological order. Pottery types are indexed in alphabetical order.

air-raid shelter 186, 201
Alfred of Lincoln 262
Alice Holt pottery industry 127, 134, 135
All Saints, Hungate 201, 262, 264, 266
altars 47, 49, 255
Ancaster, Lincolnshire 262
animal bones see bones, animal
Antioch, amphorae 120
antler 163, 164, 177, 224, 231–3, 232
Antonine period
  Hadrianic–Antonine 125, 126, 127, 207, 208
  pottery 70, 123, 124, 125, 126, 127, 128, 129, 131, 132
  rampart trenches 29–30, 33
apothecary’s glass flask 223
ArcADIUS, coins 21
architectural stonework see stonework, architectural
architraves 45, 47
arrowheads
  iron 225, 230, 231
  Late Neolithic 165, 166
Avenches, amphorae 119, 120
awl, bone 163, 164
axe/adze marks 44
Bagot’s Park, Staffordshire 145
bar, copper alloy 224, 226, 227
barrel padlocks 225, 229–31, 229, 230
Bath
  amphorae 120
  cornice finds 44
  façade of the Four Seasons 47
baulk 20, 26, 37
Bayeux, honour of 262, 264
beads
  bone 159, 160–1, 168
  glass 223, 224
  jet 164, 165
Beaumont Fee (Old Hungate) 3, 4, 37, 185, 203, 262, 264, 265, 266
  see also Old Hungate
Beaumont (Hungate) Manor 26, 265, 267
belt-buckle, Roman 5
Benghazi, Libya, amphorae 119, 120
berm 6, 10, 13, 14, 40, 181, 255
  metalled 13, 15, 22–3, 23, 24, 38, 51, 127
  pottery 52, 53, 124, 126, 127, 133, 134
Besom Park 266
Beverley, Lurk Lane 135, 237, 239, 244
Beverley Minster 135
bird bones
  The Park 173, 176, 177, 178
  chicken bones and votive offerings 10–11, 13
  West Parade 191, 237, 244, 245, 246
Birka, Sweden 232
bit head, iron 224, 229
Blickweiler, Germany 70
Bolingbroke, honour of 262
bone objects 146, 224
  Late Saxon 233–4, 233
  post-medieval 225, 234
  Roman 157–64, 159, 161–3, 164, 232, 233
bones, animal (The Park) xv, 32, 36, 70, 128, 130, 131, 135, 169–78
  abundance and frequency 169–73
  age at death 173, 177
  biometry 175–6
  butchery xv, 32, 169, 173–5, 177, 178, 181
  carcass components 173–4
  dentition 172
  disease and injury 176–7
  epiphyseal fusion 173
  methods and techniques 169
  non-metrical traits 176, 177
bones, animal (West Parade) 191, 236–46
  abundance of species 237, 238, 245
  age at death 239–40, 245
  biometry 238, 245
  butchery 238, 239
  carcass components 237–8, 240
  context BF 237, 244, 245, 246
  dentition 240, 241
  disease and injury 241–2
  epiphyseal fusion 240, 242
  frequency 237, 239, 245
  non-metrical traits 241, 243
  sexing of pig mandibles 243–4
  species list 237, 245
box fittings, iron 154–5, 155
bracelets
  copper alloy 147, 148, 224, 225–6, 226
  jet 163, 164
  shale 164, 165
BRAIVES, Belgium 121
Brancegate, Lincoln 157
Brayford Pool, Lincoln 261, 264, 265, 267
Breisach, Germany 180
British Museum 145
Broadgate East, Lincoln 169
Broadgate, Lincoln 255, 256, 261
brooches
  copper alloy 36, 147, 148, 262
  disc: lead 156–7, 158, 168
  iron 154
  Jellinge-style 152
Buck, S, sketch book 255, 266
buckle, copper alloy 152, 181
buckle plate 225, 227, 228
buildings/structures
  granaries 179, 259
Orchard Street, west of 23
The Park
  medieval 3
  post-medieval 19, 42
  rampart trenches 25, 31
  Roman 26
  Victorian houses 9, 41, 185
West Parade 195, 198, 199
see also stone buildings; timber buildings/structures
burials
  possible infant burial 35
  West Parade 185
see also cremation burials
butchery xv, 32, 169, 173–5, 177, 178, 181, 238, 239
Byzantine period, amphorae 120

Caerleon, bone pins 160, 168
Caister-on-Sea, Norfolk 128
Caistor, Lincolnshire 262
Cambridge, Fitzwilliam Museum 145
Camulodunum
  amphorae 117, 120
  beaker type 121
see also Colchester
Cantley, South Yorkshire, pottery 125
Carlisle, amphorae 120
cat bones 237

cattle bones
  The Park 128, 169, 172, 173–6, 177
  West Parade 237, 238, 239, 240, 241–2, 244, 245
cauldrons 197, 249

Celtic, see also Romano-Celtic
Celtic design: stonework 44
Central Library xvii, 255–6, 259
cess pits, rampart 37
charcoal fragments 29, 36, 186, 188, 197
Chester 261

chicken bones, ritual significance 10–11, 13
chisel marks, on stonework 44
Christianity 13
  first churches 197, 249
Cirencester
  amphorae 120
  beaker sherds 121
  butchery techniques 174
  cornice finds 44
City and County Museum, Lincoln 147
Clasketgate, Lincoln 255
clay
  floors 29, 30, 38
  fragments 197
tobacco pipe bowls 225
clay, fired 146
Clay Lane 267
cockerels 10–11
cod 242
coins 146, 224
medieval
  The Park 52
  West Parade
  Danish: Magnus the Good 225
  pennies 201, 206, 225
see also jetons; tokens
silver 206, 224
coins, Roman (The Park) 51–2, 135, 180, 181
Arcadius 21
Constantine I 23, 126
Flavius Victor 21
from berm 23, 51
from road 21, 51
Gallienus: antoninianus 51
and Roman gates 13
Theodosius, House of 10, 51, 52
Trajan: sestertius 51
Valentinian, House of 10, 16, 51, 52, 180
Victorinus: antoninianus 51
coins, Roman (West Parade)
  silver denarii 191, 206
Tetricus I 193, 206, 208
Valens 197, 206
Colchester 179, 259
  amphorae 115, 119, 120
  bone pins/pegs 160
  Culver Street site 115, 120
pottery 125
see also Camulodunum
colonia wall
  The Park 14–15, 14, 179, 180
  berm 23, 24, 24, 41, 127
  early excavation 3, 5
gate towers 8, 9–13, 16, 18, 19, 20, 25, 26
pottery 125, 126, 137
rampart 26, 30, 33, 38, 40, 41
and roadway 20, 22
West Parade 187, 188, 189, 190, 191, 192–3, 195, 202, 206, 247, 253
animal bones 244
construction 15, 179, 194
pottery 208
combs, antler 224, 231–3, 232, 236
comitatenses 262
Coney Street, York 179, 259
Constantine I, coin 23, 126
cooking pots see vessels
copper alloy objects 146
  Late Saxon 151–2, 152, 224, 226–7, 226
  medieval and post-medieval 152–4, 181, 225, 227–9, 228
Roman 147–52, 148–52, 224, 225–6, 226
copper-working 199, 225, 227, 236
Coppergate, York: animal bones 176, 177, 245
Corbridge, cornice find 44, 45
cornices, decorated 5, 44–5, 44, 46–7
costume fittings, copper alloy 147, 148
cosmetic grinder, copper alloy 147, 148
costume fittings, copper alloy 152–3, 152, 168, 225, 226–7, 226, 228
Cottesford Place, Lincoln 168
cotton-reel, bone 225, 234
Crambeck kilns, North Yorkshire 132
cremation burials 29, 31, 121, 124, 247, 259
crucibles
Stamford ware 225
cyprus, clay source 120
danube, river 262
deer bones 177, 237, 239
denny abbey, cambridgeshire 153
discs
Ceramic 166, 167, 169, 235
copper alloy 151–2, 168
stone 234, 235
ditch system, the park 13, 23–5, 24, 179
dog bones 175, 176, 177, 191, 237, 244
domestic fittings, iron 229, 230
domestic fittings, iron 230, 231
domestic utensils, shale 165
dorchester, bishopric of 264
drains
possible, gate towers 20
rampart trenches 30
drury lane, Lincoln 266
Duke of Wellington Inn, Lincoln 255
East Bight, Lincoln, pottery 59, 60, 119, 120, 125, 127
Eastgate Hotel 247
eels 237, 242
eggshells, ritual significance 10, 11, 13
egypt, amphorae 120
Ermine Street 33, 179, 259
Estates 264–5
Exeter 176, 177, 260, 261
Falcon Hotel, Saltergate, Lincoln 254
Faunus, Italic cult of 13
Faustina 191, 206
ferrule, iron 229, 230
ferrule/binding, copper alloy 225, 227, 228
fiddle-key nails 230, 231
finger-rings
Copper alloy 152–3, 152, 226
Jet 164, 165
fish, amphorae use 120
fish bones 178, 237, 242–3, 244, 246
Fishbourne, West Sussex, amphorae 120
Fitzwilliam Museum, Cambridge 145
flagstones, around well 19, 126
Flavian period, glass 139
Flavian-Trajanic period, south tower 13
Flavius Victor, coins 21
Flaxengate, Lincoln 252
animal bones 238, 239, 241, 245
hones 235
house plan 199
metalworking 152, 157, 168, 181, 225, 227
friese 165, 166
Flaxengate, Lincoln 252
animal bones 238, 239, 241, 245
hones 235
house plan 199
metalworking 152, 157, 168, 181, 225, 227
friese 165, 166
flaxengate, Lincoln 252
animal bones 176, 177, 245
hones 235
house plan 199
metalworking 152, 157, 168, 181, 225, 227
friese 165, 166
food and diet
bone evidence 177, 191, 237, 245
north tower oven deposits 10–11, 13
footpath, The Park 9, 26
fowl, domestic 173, 176, 177, 244, 245
chicken bones and votive offerings 10–11, 13
free school lane, Lincoln 255, 256
gardening/horticulture 25, 179, 247, 259
garderobe, Lurk Lane, Beverley 244
gate towers (The Park) 7, 8–20, 9, 14, 23, 37, 40, 41, 52, 194, 247, 261
conservation 42
construction 180–1
north tower 8, 9–13, 11, 12, 14, 15, 16, 17, 18–19, 18, 19, 21, 126, 180
architectural stonework 12, 13, 44, 47
berm 22
pottery 123, 135, 137
Roman coins 10, 16, 51
south tower 9, 13–14, 15, 16, 17, 18, 20, 24, 25, 32, 38, 126–7
berm 22
Roman coins 51
see also interval towers
gates
and deities 11, 13
The Park 3, 6
gatestop, The Park 20, 21, 22, 180
gateways
The Park 5, 20–1, 21, 23, 180, 267
West Parade 185
medieval postern gate 193, 201–4, 203
Gaul, architecture of 44
Gaza wine-jar 120
goose 11, 244, 245
Gildon, Robert 266
glass 224, 225
medieval and later (West Parade) 223–4, 224
glass (cont.)
post-Roman (The Park) 9, 145–6, 145
catalogue 146
colourless cristallo 145, 146
green 145, 146
window glass 146
Roman (The Park) 123, 130, 131, 138–45
blue/green 139, 142, 143–4
catalogue 139–45
colourless blown 139, 140, 141–3, 142
colourless cast 139–41, 140
Late Roman green 139, 144–5, 144
mould blown 139, 140, 141
Roman (West Parade) 222–3
blue-green 222–3
colourless 222
Late Roman green 222, 223
pale green 222
pillar moulded bowl 222
yellow/brown 222

Gloucester 153, 260, 261, 262

goat bones 177
Gokstad, Norway 151
grain storage buildings/granaries 179, 259

Grantham Place, Lincoln 70, 151–2, 157, 181, 252
Grantham Street, Lincoln 157, 181, 252
Great Casterton, Leicestershire, pottery 122
Green Ore, Somerset 236
Greyfriars, Lincoln 255–6
guardchamber, near south tower 15, 16, 17, 51
Guildhall Street, Lincoln 254
gullies 29, 195

haddock 242
Hadrianic period 191, 206
Hadrianic–Antonine period 125, 126, 127, 207, 208
Hallgate, Doncaster 213
hares 11
harness fittings 201, 225, 229, 230
HARROLD pottery kilns, Bedfordshire 134
hearts 10, 42, 198, 199, 211, 212, 215, 224, 236
Hedeby 232
Heighington tile kiln, near Lincoln 122, 123
herringbone work, wall core 41
Hetland, Norway 168
bones 166, 234–5, 234, 236
hooked tags 226
horn cores
cattle 173, 174, 175–6, 177
sheep 237–8
Horncastle, Lincolnshire 262
horse bones
The Park 173, 175, 176, 177
West Parade 237, 239, 241, 245
horse furniture
copper alloy 154, 225, 227–9, 228
iron 156, 157, 225, 229, 230, 231
horseshoes 156, 157, 230, 231
horticulture and gardening 25, 179, 247, 259
Housesteads, Mithraic sculpture 13
Hundred Rolls 265
Hungate, Lincoln 70, 168, 262, 264, 265
All Saints 201, 262, 264, 266
manor 265–6
Hutton glasshouse, North Yorkshire 145

Independent Chapel, Guildhall Street, Lincoln 254
infant burial, possible 35
infant cremation burial 29
inscriptions 47, 254, 255, 256, 260, 261
interval towers xv, 260–1
The Park 8, 19–20, 32, 50, 126, 179–80
West Parade 186, 188, 189–93, 190, 194, 198, 201, 247
animal bones 242, 244
demolition debris 224, 229
mortar samples 50, 189, 191, 205, 206
pottery 207–8, 209, 214
Iron Age ritual 11
iron objects 146
Late Saxon/early medieval 225, 229–30, 229
medieval and post-medieval 156, 157, 225, 230–1, 230
Roman 154–6, 224, 229
Israel, amphorae 120

Janus 10, 11
jet objects 146, 160, 163–5, 164
jetons 52, 206–7, 224
Jupiter 50
Kentish Ragstone 166, 234
keys
barrel padlock 225, 229–30, 229
slide, iron 225, 230–1, 230
kiln, malting/corn drying, West Parade 198, 201, 202, 204, 212, 213, 214, 215, 225, 227
Kingsholm, Gloucester, amphorae 120
knives, iron 229, 230, 231, 236

La Tradeliere, shipwreck 120
Lancaster 179
Lankhills, Winchester, bone beads 161
laystall (dung heap) 3
lead objects 146
Late Saxon 156–7, 158
Roman 156, 158
tokens 207, 224
lead-smelting, West Parade 197, 224, 236, 249
legionary fortress, hilltop 185, 186
Leicester 260
Lezoux, France, samian ware 70, 72, 188, 208
limestone blocks/rubble 50–1, 193, 206
colonia wall 15, 179
decorative stonework 45
gate towers 16
interval tower 19, 189
oven: West Parade 197
rampart 35, 36, 37, 41
wall construction 187
West Parade 191, 197, 199, 202–3
Lincoln Archaeological Trust 253
Lincoln, bishops of 262, 264, 265, 266, 267
Lincoln Divisional Police Headquarters 185, 199, 203, 253
Lincoln Lighting and Paving Commission 265
Lincoln, Rutland and Stamford Mercury 203, 253
Lindum Road, Lincoln 256, 261
lock furniture, iron 225, 229–31, 229, 230
London 179, 260
glass examples 145
New Fresh Wharf 128
louver 201, 213, 221, 222
Ludgershall Castle, Wiltshire 145
Lurk Lane, Beverley 135, 237, 239, 244
Lys, River 121
Ludgershall Castle, Wiltshire 145
Lurk Lane, Beverley 135, 237, 239, 244
Lys, River 121
Magnus the Good, coin 225
malting/corn drying kiln see kiln, malting/corn drying
manors, medieval 262–4, 265–6
Mansell glasshouse, London 145
Mars 50, 255
masonry platform, West Parade 191, 192, 193, 194, 208, 247
Mercury 10–11, 13
metalworking
copper-working 199, 225, 227, 236
Flaxengate, Lincoln 152, 157, 168, 181, 225, 227
lead-smelting 197, 224, 236, 249
mice 244
Michaelgate Chestnut House, Lincoln, pottery 60
Michaelgate, Lincoln 265
military fittings, copper alloy 150, 224, 226
Mint Street, Lincoln 264
Mithraic cult 11, 13
modillions, of cornices 44–5
Monks Road, Lincoln, School of Art 137
monumental stones see stonework, architectural
mortar types
The Park 13, 17, 18, 32, 50–1, 50
West Parade 51, 192, 194, 205–6, 205
interval tower 50, 189, 191, 205, 206
Motherby Hill, Lincoln 185, 186, 187, 189, 191–2, 195, 204, 253, 262, 266
Motherby Lane 266, 267
mounts
copper alloy 149, 225, 227, 228
iron 154–5, 155
see also pendant/mount
Much Hadham pottery industry 122
see also pottery
music ‘toggle’, bone 233, 234
mussel shells 10, 37, 40
nails
fiddle-key 230, 231
iron 156, 224, 225, 231, 247
needles
bone 161, 162
copper alloy 147–8, 149, 227, 228
Nene Valley pottery industry 75, 121, 122, 123, 125, 129, 194, 207
see also pottery
Neumagen, Germany, funeral monuments 47
New Fresh Wharf, London 128
New Hungate, Lincoln 265
Newland Gate, Lincoln 265, 266
Newland, Lincoln 254, 262, 264, 265, 266
Newland Street West, Lincoln 264
Norwegian ragstone 234–5, 234, 236
Old Bishop’s Palace, Lincoln 256, 261
Old Hungate (Beaumont Fee) 264, 265, 266
buildings fronting 181, 198, 198, 199, 201
see also Beaumont Fee
Orchard Street, Lincoln 23, 253
Ospringe, Kent, amphorae 120
oven, north tower (Feature 1, The Park) 10, 10, 12, 13, 22, 52
oven/furnace (Area II), West Parade 195, 196, 197–8, 197, 208, 224, 236, 247, 249
oven/kiln (Area I), West Parade see kiln, malting/corn drying
ovoid lamps 214
owls 177, 191, 244, 247
Oxfordshire pottery industry 122
see also pottery
oysters 127, 178
Padley’s Lincoln maps 204, 264
padlocks 225, 229–31, 229, 230
Parcheminating (now Michaelgate), Lincoln 265
parishes 264
Park Street, Lincoln 267
Park, The xv, xvi, 1–181, 2, 6, 185, 259, 260, 261, 262, 265, 266
19th century finds 254
Area I (1971) 25
Area I (1972) see rampart
Area II (1971) 55, 56–7, 59, 179
see also rampart
Area II (1972) 19, 39, 135
Area III (1971) 55, 58, 59, 69, 179
see also rampart
Area III (1972) 135
see also rampart
Area IV (1972) 135
see also rampart
Area V (1970) 23
Area V (1971) metalled berm 22–3, 23
see also rampart
Area VI (1970) 23
Period 1 8, 123–4, 179
Period 2 8, 125, 126, 127, 179
Period 2a 124
Period 2b 124–5
Period 3 8, 125, 126, 179–80
Period 4 8, 126, 127, 180
Period 5 8, 126–7, 180–1
Period 6 8, 127
Period 6a 181
Period 6b 181
Period 7 8, 181
Period 8 8, 136–7, 181
see also pottery; rampart (The Park)
pathway, cobbled 30
Peak District, Derbyshire 236
pegs, bone 160, 161
pendant boss, copper alloy 225, 227, 228
pendant/mount, copper alloy 151–2, 152
personal ornaments
bone 157–61, 159
copper alloy 147, 148, 152–3, 152, 224, 225–6, 226
iron 154
jet 163–5, 164
lead 156–7, 158
shale 164, 165
pig bones
The Park 169, 172, 173–4, 175, 176, 177
West Parade 237, 239, 240, 241, 243–4, 245
pike 243
pilasters 47, 49, 50, 254
pins
bone 157–60, 159, 161, 168
glass 223, 224, 225
jet 164, 165
pipeclay 225, 235
pipeclay figurine 166
pits 26, 195, 201
plaster, painted, Roman 167–8, 167, 179
posterns 193, 201–4, 203, 254, 261, 266
postholes 21, 26, 32–3, 36, 51
pottery, Roman (The Park) xv, xvii, 52–135
aims of analysis 53
comparison with other sites 59–61
condition and fragmentation 53, 54
fabrics and functions 61–7
functional analysis 67–70
gate towers 14, 123, 135, 137
groups analysed 52–3, 54
lamp chimney fragments 122–3, 123
measures 53
plotdate analysis 53–8, 69
pottery objects 166–7, 166, 169
rampart see rampart (The Park)
stratified groups 55–9
TYPES
amphorae 53, 114–21
catalogue 114–15, 115
Dressel 20 53, 115, 116, 119
Gauloise 4 115, 116, 119
mid-Roman ribbed 114, 115, 117–20, 131
North African 115, 116–17, 119, 131
quantitative aspects and incidence 116, 117, 118
stamps 116, 117
weight percentage 118
beakers 75
Camaro 88, 90, 121, 126
colour-coated 124, 125, 126, 127, 128, 129, 130, 131, 132, 133
cornice-rimmed 64, 65, 90, 91, 125, 128, 130, 133
curved rims 64, 128
funnel-necked 64, 65, 124, 128, 129, 131, 132, 133
grey ware indented 124, 126, 133
Mica-dusted 86, 88, 90, 121, 126, 128
oxidized indented 125
oxidized rouletted 125
pentice-moulded 64, 65, 127, 130, 132, 133
plain rims 64, 124, 128, 131
rough-cast 86, 90, 91, 125
black egg-shell wares 86
Black-burnished ware 65, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 99, 100, 101, 103, 104, 105, 106, 123, 124, 125, 126, 127, 131, 132, 134
Castor box lid 127
Central Gaulish Black Colour-Coated ware 97, 98
Central Gaulish Colour-Coated ware 86, 88, 90
coarse wares 55, 61, 84–108, 124, 125, 131, 132, 133
catalogue 88–108
colour-coated 10, 11, 64, 86, 94, 95, 97, 98, 103, 104, 105, 106, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133
colour-coated and late fine wares 85–6, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 103, 104, 105, 106, 107
Cream ware 84–5, 88, 89, 90, 91, 92, 93, 94, 95, 97, 98, 99, 103, 104, 105, 106, 107
Dales ware 61, 87, 94, 95, 100, 102, 105, 106, 107, 108, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133
Early oxidized Sandy ware 85
Early Red Slipped ware 85–6, 88, 89, 90, 91
fine wares 64
Gallo-Belgic White ware 86
Gallo-Belgic Yellow Ware 86
grey wares 29, 123, 124, 125, 126
grog-tempered fabric 87
imported oxidized and fine wares 86–7, 88, 90, 97, 98
late fine wares 85–6, 88, 89, 90, 91, 92, 93, 94, 95, 97, 98, 99, 103, 104, 105, 106, 107
Late Coarse ‘Pebbly’ ware 61, 65, 87, 134
Late Roman Grooved ware 85, 107, 108, 127, 134
Later Cream-sandy ware 85, 103, 104, 105, 132
‘Legionary’-type Cream/Light Grey ware 65, 85, 88, 89, 90, 91
local/British oxidized and fine wares 84–5, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 103, 104, 105, 106, 107, 108
Lyon ware 86, 123
Mica-dusted wares 86, 88, 90, 100, 105, 106, 133, 134
Mid to Late coarse wares 65
mortaria 53, 127
analysis of sources 113
catalogue 108–11
fabrics 108
Nene Valley 108–11, 110, 113, 114, 127, 132
Nene Valley colour-coated 108
Oxfordshire 127
Oxfordshire red colour-coated 108
Oxfordshire white ware 108
samian 113, 114
pottery, Roman (The Park), TYPES, mortaria (cont.)

stamps 108, 111–12, 112, 125, 128, 129, 131
for individual locations see pp111–12
Swanpool 108, 110, 111, 113, 114, 131, 135
Verulamium region 108
Moselkeramik – East Gaul, Trier imported 86, 97, 98
Much Hadham ware 86, 127, 129, 130, 132, 133, 134, 135
Much Hadham/Oxfordshire colour-coated ware 86
Native Tradition Grit-tempered ware 65, 87, 88, 89, 94, 95, 90, 100, 102
Native Tradition Shell-tempered ware 65, 87, 88, 89, 94, 95, 96, 97, 98, 99, 103, 104, 105, 106, 107, 125, 128, 135
Nene Valley grey wares 87, 96, 97
North French pentice beakers 86–7
North Gaulish Cream ware 103, 104
North Gaulish reduced beakers and bowls 87, 96, 97
Oxfordshire red colour-coated wares 86, 127, 134
Oxfordshire ware 121
oxidized imitation samian 125
oxidized wares 65, 85, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 103, 104, 105, 106, 107, 129
Parisian-type ware 87, 88, 90, 91, 92, 94, 96, 97, 98, 105, 106, 107, 123, 126, 133, 134
Pink Micaceous ware 85, 88, 89, 91
Pompeian Red ware 86
Reduced ware 61, 65, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 130
Rhenish ware 126, 127, 133
samian 19, 53, 55, 59, 64, 70–84, 123, 124, 125, 126, 127, 128, 129, 130, 131–2, 133, 134, 135, 167
Central Gaulish 70, 73, 75, 114, 129, 130, 132
dating 72–5
decorated 70, 72, 73, 125, 126
incised and rouletted 79, 80
moulded 79–84, 80, 83
post-Roman/indeterminate 84
distribution 72
East Gaulish 70, 72, 73–5, 128, 129, 130, 132
forms, weight and catalogue 71
fragmentation 75
imitation 125, 127, 129, 130, 134
imports 70
Lezoux 70, 72
plain wares 72
quantitative analysis 76
Rheinzabern 70, 132
site evidence 72
South Gaulish 70, 72, 73
stamps 70, 72, 73, 75–8, 123, 125, 126, 128
(see pp77–8 for non-Lincoln locations)
stratified groups 73–5
Trier 70
see also mortaria
Sandy Cream ware imported 86
shell-gritted wares 132, 133, 134, 135
shell-tempered 53, 65, 87, 104, 105, 126, 127, 129, 132
shell/calcite-tempered wares 87, 88, 89, 90, 91, 94, 95, 100, 102, 104, 105, 106, 107, 108
South Carlton colour-coated wares 86, 90, 91
South Carlton ware 125
Swanpool colour-coated ware 86, 103, 104, 105, 107, 126, 135
Swanpool oxidized wares 85, 121–2, 121, 122, 123, 134
Terra nigra 86
white eggshell fabric 86
White-slipped oxidized ware 85, 92, 93, 94, 96, 103
pottery, Roman (West Parade) 85, 86, 87, 211, 212, 213
TYPES
amphorae 207
Argonne bowl 208
beakers
barbotine decorated colour-coated 207
colour-coated 188, 207
funnel-necked colour-coated 208
grey indented 208
South Carlton rough-cast cornice-rimmed 207
Black-burnished-type ware 207
coarse wares 188, 207, 208, 210
colour-coated ware 188, 208, 210
Cream ware 208
Dales ware 208
Farnham/Alice Holt 208
grey wares 208
imported 208
London type ware 207, 210
mica-dusted platter 207, 210
mortaria 207, 208, 210
Much Hadham ware 208, 210
Oxfordshire red colour-coated wares 207, 208, 210
Oxfordshire/Much Hadham-type ware 208
oxidized Later Cream-sandy ware 208
parisian beaker 207
red-slipped grey-cored fabric 207
Rhenish ware 208
samian 188, 207
decorated 209
East Gaulish 207, 208
imitation 207
stamps 188, 207, 208, 210
shell-gritted 208, 210
Swanpool oxidized 208, 210
Swanpool red-slipped 208
pottery, Romano-Saxon wares 122, 134
pottery, post-Roman (The Park) 135–8
Oxfordshire wares 122, 133
pottery, Saxo-Norman and medieval (The Park) 25, 135, 136, 138

TYPES
Crowland Abbey-type ware 135
Late Lincoln Glazed ware 135
Lincoln Fine-Shelled wares 135
Lincoln Glazed ware 135
Lincoln Late Saxon Sandy ware 135
Local Early Medieval Shelly ware 135
Local Saxo-Norman 135
Paffrath-type ware 135
Potterhanworth ware 135, 136, 214
Stamford wares 135
Torksey ware 135

pottery, Late Saxon (The Park) 135
pottery, medieval and later (The Park) xv, 210–22
catalogue 216, 217–22, 218–21
louver 201, 213, 221, 222
pottery objects 235

TYPES
Beverley ware 212, 213, 216, 217, 220, 221
Bourne fabric 213
Developed Stamford 211
Dunning-type louver 201, 213, 221, 222
Early Medieval Handmade ware 212
imports 214, 215
late Nottingham Splashed ware 212
Lincoln Fine-Shelled ware 211, 212, 216, 217
Lincoln Glazed ware 212, 213, 214, 220, 221
Lincoln Medieval Sandy ware 21, 214, 220
Lincoln Sandy ware 213, 219, 220
Lincoln wares 213, 215
Local Early Medieval Shelly wares 211, 213, 217, 218
medieval glazed ware 211
North African Magrebi ware 214, 215, 220, 222
North-West French jug 212
Nottingham Glazed ware 213, 215
Paffrath-type 214
Potterhanworth 213, 214, 219, 220, 221
Rouen-type 213, 214, 217, 218
Saxo-Norman 210
Saxo-Norman Sandy wares 211
Saxo-Norman Shelly wares 211
Shelly ware 213, 214, 215
Siegburg beaker 213, 220, 222
South Humberside-type 214, 220, 222
Sparsely Glazed ware 211, 212, 216, 217, 218
splashed glazed wares 211
Stamford spike lamp 211
Stamford ware 211, 212, 213, 214, 215, 216, 217, 225
Thetford-type ware 211
Torksey ware 211
unglazed Stamford ware 212
York Glazed ware 213, 216, 217

pottery, post-medieval (The Park) 136–7, 136, 138
17th century 9, 137
18th century 137
catalogue 136, 137–8, 138

TYPES
Bartmann jug 137, 138
Blackwares 137
Copper Bichrome 137
early Glazed Red Earthenware 136
Frechen-type wares 137
German stonewares 137
Glazed Red Earthenware 137
iron-glazed Red Earthenware 137
Langerwehe-type wares 137
Late Cistercian ware 137
Late Lincoln Glazed ware 136, 137
Lincoln Fine-Shelled ware 136
Lincoln Glazed ware 137
local 16th-century wares 136
Local Blackware 137
local fabrics 137
Local Post-medieval Fine ware 137
Local Slipwares 137
Raeren-type wares 137
Staffordshire fluted bowl 137
Staffordshire Slipwares 137
Toynton/Bolingbroke wares 137

pottery (West Parade), pottery objects 224

Quaker Meeting House 264
querns 166

rampart xv, 255, 256, 259–61
rampart (The Park) 3, 6, 7, 15, 20, 21, 25–37, 43, 51, 179, 181
Area I (1972) 40–2
Area II (1971) 25, 26, 27, 35, 36, 37, 38, 39, 40, 136
Period 1 26, 31
Period 2 29, 31
Period 2b 30
Period 6a 32
Phase I 26–9, 29
Phase II 29, 30, 31
Phase III 29–30, 31
Phase IV 30, 31
Phase V 30–1
Phase VI 31–2
Phase VII 31, 32
Area II (1972) 39
Area III (1971) 25, 26, 28, 32–3, 34, 37
Phase I (Period 1) 33
Phase II 33
Phase III 33, 35
Phase IV 33, 36
Phase V 33–5, 36, 126
Phase VI 35–6
Phase VII 36, 37
Phase VIII 36–7
Phase IX 37
Phase X 37
Phase XI 37
rampart (The Park), Area III (1971) (cont.)
    Phase XII 37
    Area III (1972) 39–40
    Area IV (1972) 39, 40–2, 136, 137
    Area V (1971) 25, 26, 37, 38–9, 40
    pottery 32, 36, 37, 52, 53, 55–8, 59, 65, 68, 70,
        124–5, 130, 131, 132–3, 136–7
    ‘retaining’ wall (LO) 30, 31, 35–6, 37, 126, 129,
        167, 179
rampart (West Parade) 187, 188, 189, 191, 192,
    195, 207, 208, 209, 247
ravens 177, 191, 244
Ravenna 261
ravens 177, 191, 244
rectangular features 26
religion and ritual
    architectural stonework 47–50, 49
    cultic boundary 259
    votive offerings, north tower oven 10–11, 13
Rheinzabern, Germany, samian ware 70, 132, 207
Richard I, King, penny 201, 206, 225
road, The Park 6, 13, 20–2, 21, 22, 25, 39–40
    pottery 134, 135
    Roman coins 21, 51
Roman army 262
Roman Research Trust xvii
Romano-Celtic religion and ritual 10–11, 13
Rome 261
Rookery Lane pottery kiln, Lincoln 129, 130, 132, 133
Rosedale glasshouse, North Yorkshire 145
Roxby pottery kilns 127, 134
rubbish deposits
    berm 52, 53
    gate towers 10, 21, 22, 51–2
    pottery 58–9, 127–8, 129, 130, 131, 132, 133–4
    rampart 25, 31–2, 37, 52, 53
St Faith’s Church, Lincoln 262, 264, 265, 267
St James, parish of 264
St Mark’s Church, Lincoln 61, 70, 134, 169, 197
St Mark’s Station, Lincoln 168
St Martin’s Church, Lincoln 264
St Mary Crakepole (Crackpole), Lincoln 201, 262,
    264, 265, 266
St Mary in Hungate see St Mary Crakepole
    (Crackpole)
St Mary-le-Wigford parish, Lincoln 264
St Paul-in-the-Bail Church 266
St Paul’s Lane, Lincoln 265
St Peter at Arches, Lincoln 264
St Stephen’s Church, Lincoln 262, 264, 265, 267
St Swithin’s Churchyard, Lincoln 255
Salamis, Cyprus, amphorae 120
salmon 243
Saltergate, Lincoln 38, 254–5, 261
Sambre, River 121
Samos, Greece, amphorae 120
Saxo-Norman period, The Park 8, 181
’saxon Shore’ fortifications 262
School of Art, Monks Road, Lincoln 137
scoop, bone 163, 164
seal boxes, copper alloy 150
sewers 23, 38, 39
shale objects 146, 164, 165, 224
sheep bones
    The Park 169, 172, 173–4, 175, 176, 177
    West Parade 237–8, 239, 240, 241, 244, 245
Sheepen, Camulodunum, amphorae 120
Silchester 174, 177
silver
    base silver tag 225, 226
    coins 206, 224
    lead ores 236
Silver Street, Lincoln 3, 38, 247, 255–6, 259, 261
1973 sites: pottery 59, 60
Constitutional Club 255
slaughteryard 130, 177
see also butchery
slots
    The Park 13, 20, 26, 32, 33, 37, 39, 259
    West Parade 187–8, 199
South Carlton potters 123, 125
see also pottery
South Riding of Lindsey 262
Southampton, glass examples 145
spear-shaped object, copper alloy 151, 152
Springhead, Kent, temples 10
spur, copper alloy 225, 227–9, 228
staple, iron 230, 231
‘stepped feature’, Falcon Hotel, Saltergate 254
stone buildings
    West Parade 198, 199–201, 200, 266
    late Roman 195, 196, 197, 197, 198, 208
stone fragments 197
stone objects 146, 165–6, 166, 224, 234–5, 234
stone and tile structure (Feature 1) 10
Stonebow, Lincoln 254
stonework, architectural 12, 13, 15, 44–50, 44, 49,
    180, 181, 254, 256, 261
Lindum Road 256
pilasters 45–7, 49, 50, 254
plain mouldings 45, 47, 48
relief sculpture 47–50
see also cornices, decorated; inscriptions;
tombstones
Stow 264
strap slips, copper alloy 152, 153
strap-end fittings, copper alloy 150, 227, 228
structural fittings
    copper alloy 148–9, 149
    iron 154–6, 155, 157, 229, 230, 231
structures see buildings/structures; stone
    buildings; timber buildings/structures
studs, copper alloy 149
Stukeley's map (1722) 204, 255, 261, 266
Surrey Weald, glass examples 146
Swanpool pottery industry 121–2, 127, 129, 131, 132, 133, 134
see also pottery
Sympson, Mansel 255
Sympson, Thomas 204, 255, 266
tacks, copper alloy 148–9, 149
tags
-base silver 225, 226
copper alloy 226–7, 226
hooked, copper alloy 224, 226, 227
Temple Gardens (Usher Gallery Grounds), Lincoln 256
Tetricus I, coins 193, 206, 208
textile working implements
bone 161, 162, 225, 234
-ceramic 235
-copper alloy 147–8, 149, 153, 227, 228
-shale 165
Theodosius, House of, coins 10, 51, 52
timber
-rampart palisade 38
roof of twigs 29
in well 19
timber buildings/structures xv
The Park 179, 259
-Area II rampart trenches 26, 29
-Area III rampart trenches 33
-overlaid by road 20
-possible, south tower 13
-pottery 124
-West Parade 188, 199, 200, 247
toads 191, 244
toilet implements
-antler 224, 231–3, 232
-bone 159, 161
-copper alloy 147, 148, 227, 228
-stone 166
tokens, lead 207, 224
tombstones 38, 47, 254, 256, 261
tools
-antler 233
-bone 161–3, 162, 164, 233
-iron 224, 229, 230, 231
-stone 166, 234–5, 234
Torksey, Lincolnshire, pottery 125, 129
Tours, Gaul 261
towers, interval see interval towers
-trade
-in amphorae 120
-and Mercury 13
trade objects
-copper alloy 153–4, 153
-lead 157, 158
-token 207
Trajan, Emperor, coins 51, 206
Trajanic period 124, 191
-Flavian-Trajanic period 13
-tray, shale 165
Trier, Germany
-beakers 75
-samian ware 70
Tudor period, tokens 207
Turkey, amphorae origins 120
Usher Gallery Grounds, Lincoln 256
Valens, coin 197, 206
Valentinian, House of, coins 10, 16, 51, 52, 180
Värby, Sweden 151
Verulamium 259
cornice finds 44
pottery 120, 134
vessels, ceramic (The Park) 29
-beakers see under pottery
-bowls 126, 127, 128, 129, 130, 131, 132, 134
-bead-and-flange 65, 126, 127, 129, 132, 133
-flanged (flat-rimmed) 65, 126, 127, 131, 133
-samian 70, 75, 127
-cooking pots 65, 124, 125, 126, 131, 132, 134
-cups, samian 75
-dishes 65, 126, 127, 128, 131, 134
-drinking 58, 68, 70, 75
-flagon 10, 11, 65, 125, 130, 134
-Hofheim type 126
-functional analysis 67–70
-jars 65, 128, 129, 130, 131, 134, 135
-Gaza wine-jar 120
-shell-tempered 65, 126
-jugs 128, 130
-kitchen ware 58, 68, 70
-Raeren mug 136
-Romano-Saxon 134
-vase, samian 70
-see also pottery (The Park) and pottery catalogue pp88–108 (The Park)
vessels, ceramic (West Parade)
-bowls 211, 212
-bead-and-flange 208
-jars 208, 211, 212, 213, 214, 219
-jugs 211, 212, 213, 214, 215, 217, 218, 219
-pipkins 213, 214, 219
-pitchers 211, 212, 214
-spike lamp 211, 213, 216, 217
-see also pottery (West Parade)
vessels, glass see glass
Vicars Court, Lincoln 256
Victorian houses 9, 41, 185
Viking-type combs 232, 233, 236
Vindolanda, amphorae 120
votive offerings, north tower oven 10–11, 13
-voussoirs 15, 254
walkway, 18th century 3, 181
walls
and rampart north of gate (The Park) 40–1, 41, 42
rampart ‘retaining’ wall LO (The Park) 30, 31, 35–6, 37, 126, 129, 167, 179
and rampart south of gate (The Park) 37–9, 38, 39
see also colonia wall
Walnut House, Motherby Hill, Lincoln 253
warehouses, for grain 179, 259
Water Newton, pottery 123
Waterside, Lincoln xv, 174, 177
weapons see arrowheads; spear-shaped object
well, gate towers 19, 20, 126
West Parade xvii, 2, 3, 184, 185–249, 248, 259, 261, 264, 265, 267
Area I 185, 188, 191, 195, 198, 198, 199, 200, 201, 202, 208, 211–12, 213, 214, 215, 222, 224, 225, 227, 231, 247, 266
Area II 185, 188, 191, 195, 196, 197, 198, 199, 200, 201, 208, 211, 212, 213, 214, 215, 222, 224, 225, 231, 247, 266
Area III 185, 186, 187–8, 189, 194, 195, 198, 214–15
Area IV 185, 187, 192, 193, 194, 195, 201, 203, 213, 214–15, 231
Area V 185, 187, 193–4, 201
AreaVa 193, 195, 201
Period I 186–7, 188, 207, 208, 209, 210, 224
Period II 186, 187–8, 189, 207, 208, 209, 210
Period III 189–91, 195, 207, 208, 209, 210
Period IV 191–3, 195, 208, 209, 210, 224
Period V 195–8, 195, 208, 209, 210, 224
Period VI 198–204, 214–15
Period VIa 198–9, 211, 214, 215, 224–5
Period VIb 198, 199, 200, 211–12, 214, 215, 224–5
Period VIc 198, 199–201, 200, 211, 212–13, 215, 225, 231
Period VIId 198, 201, 213–14, 215, 225
Period VII 204, 213, 214–15, 225
service works 253–4
see also pottery (West Parade)
Westgate, Lincoln 262, 264, 265, 266, 267
see also Newland; Willingthorpe
Whitwell, J B 8
Whong Lane 267
wig curler 225, 235
Wigford, Lincoln, samian pottery 75
wild boar 177, 178
William the Conqueror 262
Willingthorpe, Lincoln 262, 264, 265, 267
see also Newland; Westgate
Winchester, funerary symbols 10
window glass 146, 223
Winnowsty Cottage, Lincoln, pottery 60–1
Winterton, Lincolnshire 127, 134
Witham, River 243
Wollin 232
Woodchester glasshouse, Gloucestershire 145
writing objects, copper alloy 150
Wroxeter, Shropshire
amphorae 120
cornice find 44–5
hones 166
York
Anglo-Scandinavian brooches 157
Anglo-Scandinavian combs 232
bone pins 160
Coney Street 179, 259
Coppergate: animal bones 176, 177, 245
funerary symbols 10
hones 166
Jellinge-style brooches 152
town wall 261
THE DEFENCES OF THE LOWER CITY

EXCAVATIONS AT THE PARK AND WEST PARADE 1970–2
AND A DISCUSSION OF OTHER SITES EXCAVATED UP TO 1994

This latest report, the largest to date in the Archaeology of Lincoln series, forms a companion volume to those on the Upper Defences (1980,1984), and includes accounts of the impressive remains of the defences. It also presents comprehensive studies of the Roman pottery and other artefacts and contains useful specialist sections on animal bones, medieval finds and pottery. The findings are discussed in the light of the previous and subsequent discoveries of the lower circuit and the south-western quarter of the Roman and medieval walled city.