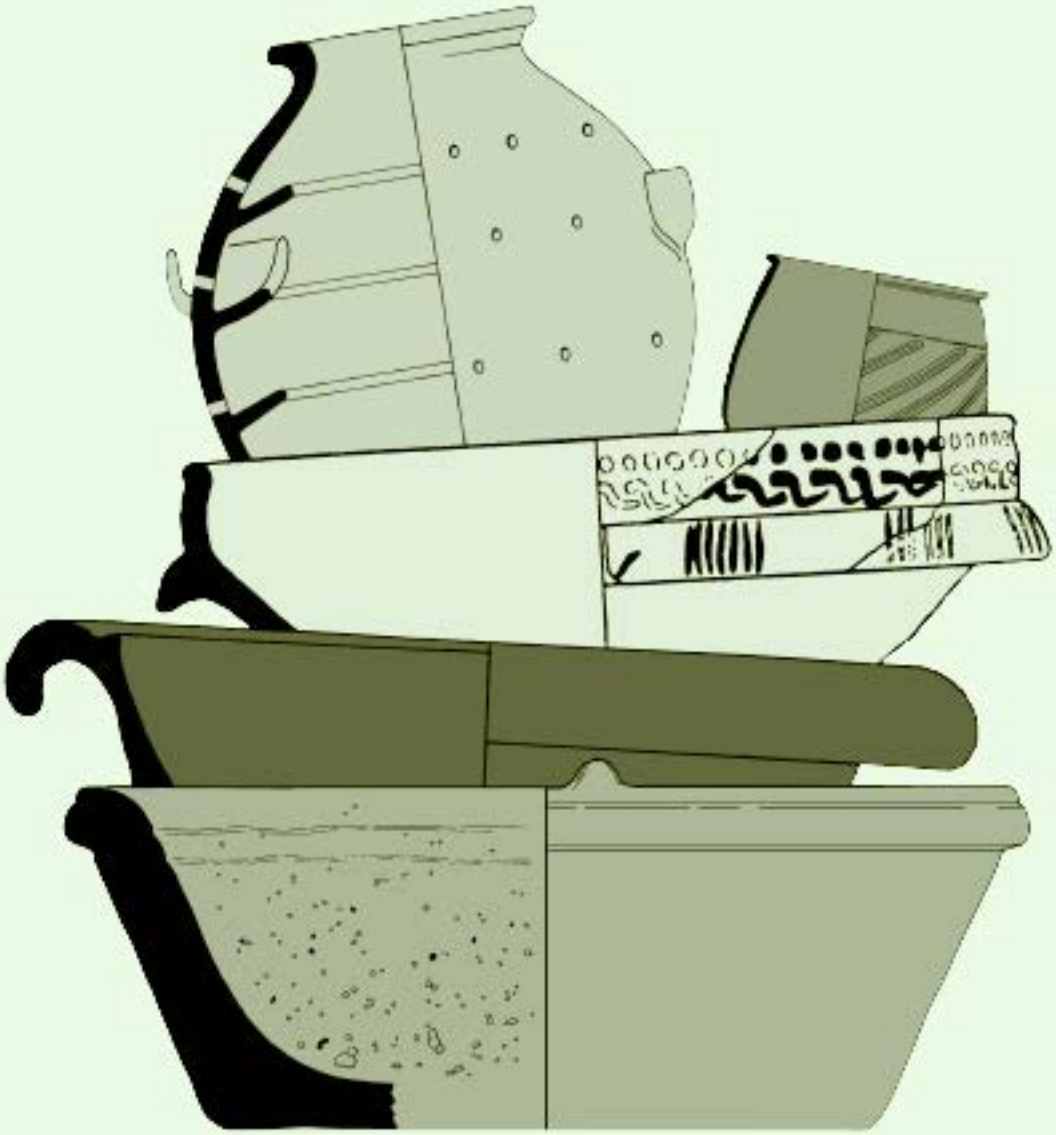
# JOURNAL OF ROMAN POTTERY STUDIES

## Volume 12



*Papers in honour of K. F. Hartley*

# Journal of Roman Pottery Studies

# The Study Group for Roman Pottery

The Study Group for Roman Pottery was founded in 1971 to provide a forum for the discussion of all matters relating to Roman pottery found in Britain. The Group holds an annual conference in different locations each year and there are regional sub-groups which meet occasionally. Since 1986 it has published the *Journal of Roman Pottery Studies*. The Group also aims to provide a lead in Roman pottery studies and guidance towards best practice and has produced *Research Frameworks for the Study of Roman Pottery* and *Guidelines for the Archiving of Roman Pottery.* It also collaborates with other specialist groups, for example on the United Kingdom Ceramic Thin-Section Database and on Minimum Standards for Project Designs and Assessments. The Study Group has its own website – www.sgrp.org.uk.

Membership of the Group is open to all those with an interest in Roman pottery.

*Mr Ginger Wilson (from a photo by B Dickinson)*

# Journal of Roman Pottery Studies

Volume 12
An Archaeological Miscellany:
Papers in honour of K F Hartley

*edited by Geoffrey B Dannell and Pamela V Irving*

*Published by*
Oxbow Books
*for*
The Study Group for Roman Pottery

*Published by*
Oxbow Books
Park End Place, Oxford OX1 1HN

*The first full draft of this volume was presented to Kay Hartley at the annual conference of the Study Group for Roman Pottery in London in July 2004*



ISSBN 1 84217 185 2
ISSN 0958-3491

This book is available direct from:
Oxbow Books, Park End Place, Oxford, OX1 1HN
*(Phone 01865-241249; Fax 01865-794449)*

*and*

The David Brown Book Company
PO Box 511, Oakville, CT 06779, USA
*(Phone 860-945-9329; Fax 860-945-9648)*

*and*

via the website
*www.oxbowbooks.com*

*Printed in Great Britain at*
The Alden Press
Oxford

# Contents


Dedication ..... ix

K F Hartley a biographical note ..... 1

Chronological list of the published works of K F Hartley ..... 2

Personal appreciations *by Sheppard S Frere* ..... 11

*by Colin Baddeley* ..... 12

*by Roland Sauvaget* ..... 13

*by Viv Jones* ..... 14

The dating of Crambeck Parchment Ware *by Paul Bidwell* ..... 15

Reflections on the choice of Brockley Hill as a pottery production site *by David Bird* ..... 22

Varro's *dolia*: jars for fattening dormice *by Joanna Bird* ..... 26

Un Potier du Rozier (Lozère) *by Ariane Bourgeois and Michel Thuault* ..... 32

Late Roman pottery kilns at Goodison Boulevard, Cantley, Doncaster: excavations by JR Lidster in 1957 and 1962 *by Paul C Buckland and John R Magilton* ..... 36

Roman stone mortars – a preliminary survey *by HEM Cool* ..... 54

The mixed grill over-egged *by Nina Crummy* ..... 59

A Study in Scarlet: samian pottery and the Claudian invasion *by Geoffrey B Dannell* ..... 64

Brough-on-Humber fine wares production *by Margaret J Darling* ..... 83

P-14 unmasked, and what happened next *by Brenda Dickinson* ..... 97

Thomas May and Castor Beakers *by JP Gillam* ..... 106

Pots for tables; tables awaiting pots: an exercise in speculative archaeoeconomy *by BR Hartley* ..... 112

The Pitt Rivers Collection of samian ware in Salisbury and South Wiltshire Museum *by Robert Hopkins* ..... 117

The Great Essex Earthquake (AD60/1)? *by Raphael MJ Isserlin* ..... 126

A bird in the hand *by Catherine Johns and Val Rigby* ..... 132

Food and drink in Wales: the impact of the Roman occupation *by Myfanwy Lloyd Jones* ..... 136

Size matters: the role of smaller temporary camps in North Britain *by Gordon S Maxwell* ..... 141

Les mortiers Drag 45: leur place dans l'étude des céramiques d'époque romaine *by P-H Mitard* ..... 145

The Roman Pottery Industry of West-Central Leicestershire *by Richard Pollard* ..... 149

'A glass vessel of peculiar form': a late Roman mould-blown bottle found with a burial at Milton-next-Sittingbourne in Kent *by Jennifer Price* ..... 155

Why save anything? *by Richard Reece* ..... 164

The latest ceramic mortaria in Bulgaria? *by Vivien G Swan* ..... 167

A collection of samian ware found close to the first bridge at Piercebridge *by Margaret Ward* ..... 179

'The hidden paw' the mystery of the cat in Roman Britain *by Janet Webster* ..... 184

Roman pottery production at Gelligaer *by Peter Webster* ..... 192

Paternus, I or II? *by Felicity C Wild* ..... 201

A Roman paint pot from Castor, Normangate Field, and its contents *by HGM Edwards, PS Middleton and JP Wild* 204

Rare tazze, paterae and a broad hint at a *lararium* from *Lactodorum* (Towcester) *by Charmian Woodfield* ..... 209

# Dedication

This extended volume of the Journal of Roman Pottery Studies is offered as a tribute to Kay Hartley. Her published works, of which an extensive list is included here, shows how much of a continuing personal contribution Kay has made to Roman pottery scholarship in over 50 years involvement, and how few Roman excavation projects have been completed without her contribution.

*Kay Hartley: a simian encounter, Lezoux 1964 (Photo: Felicity Wild)*

The editors would like to thank all those who have given their time to facilitate the successful completion and production of this volume, not only the contributors who have cheerfully met impossible deadlines, but also those who wished to contribute but were unable to do so, and the numbers of people who have helped `behind the scenes', in particular Robert Hopkins who has scanned material for the illustrations of a number of contributors, Robin Symonds who helped with the French texts, Peter Goodhugh for a figure for Richard Pollard's paper, Jude Plouviez for help with production and Brenda Dickinson and Mark Dixon for the frontispiece.

This volume is dedicated not only to Kay's scholarship and academic work over the years, but is also a testimony of the affection, friendship and personal esteem which she has engendered in those she has come into contact with over the years, both in the Study Group in particular, and in the wider archaeological community at large. There can be few who follow her who could hope to match her achievements.

*Geoff Dannell and Pamela V Irving*

# K F Hartley a biographical note

*Compiled by G B Dannell, with the assistance of B Hartley and family*

Katharine Freda Kaine (Kay) was born in Burnley on the 2nd August 1929, the second child of four. Her formative years were spent at Gisburn Toll Bar, ten minutes walk from Gisburn itself which was then in Yorkshire, where she was brought up by an aunt and uncle. Her uncle was a postman and watch and clock mender, while her aunt made ice cream, which left Kay a stern critic of ice cream quality. The view from her window was dominated by that of Pendle Hill. Her favourite pastime as a child was being a detective with her friend Annie, solving all the major crimes of the time. This led to being frequently ejected from cousin Norah's car, which Kay thought a necessary attribute to her profession!

The family moved to to Burnley in 1939 where she won a scholarship to the Girls' High School. She then went to the to the Municipal College in Burnley where she studied for an external degree of London University and graduated in 1950 with an honours degree in history, specialising in the social and economic history of the Tudor period.

Kay's interest in archaeology started when she was eight or nine as a result of reading long articles about ancient Egypt in the Sunday newspapers of the time. It was also at this time that an excavation took place near Gisburn at Bomber Camp off Coal Pit Lane, on the way to Barnoldswick; Kay's class was taken to see it. However, there seemed to be no hope of furthering this or any other of her admittedly rather vague interests and after completing her degree she spent three months at Lewis's as a trainee manageress, followed by a few months interviewing for the Social Survey Branch of the then Ministry of Information while waiting to go to Leicester University College (where she first met fellow student Dennis Petch) to study for a Diploma in Education before teaching for a couple of years.

As soon as her degree had been obtained she and her widowed aunt removed to Hawkyard, a hamlet on the edge of the moors outside Greenfield in Saddleworth, where cousin Norah kept cows, pigs, poultry, a pony and a donkey on a smallholding. This unlikely setting provided, by chance, just the opportunity to develop her interest in archaeology. The WEA began a series of lectures on archaeology in Uppermill, the next village. The class secretary was a Miss Edith Pressley, a lady of independent means who became a lifelong friend. The tutor was Margaret Fowler, a young woman from Manchester University whose lectures, mostly covering the prehistory of Britain, were both excellent and inspirational. During the year the class visited the Grosvenor Museum, Chester where the Curator, one Graham Webster, provided a brilliant conducted tour of the Roman collection, particularly the gravestones and altars. Margaret sponsored Kay's membership of the John Rylands Library in Manchester and provided information about other archaeological events, and Kay went to all of them: a week of lectures and visits with Ian Richmond and RJC Atkinson, and the seminal teaching excavation at Great Casterton. It was there where she met Brian Hartley. They married in 1955; they subsequently parted in 1971 but remain the best of friends. They moved to Leeds in 1957 to the attic flat at Shire Oak Road; she remained in her third residence on this road until 2003.

About 1956 Kay took examinations in Ancient History and Roman Britain as a qualification for doing a PhD. She began to study stamps on amphorae and mortaria (with encouragement from Professor Eric Birley), but soon settled down to concentrate on mortaria. She rapidly realised that to know anything about mortaria she needed to study all the details of the pottery itself, including unstamped as well as stamped mortaria. In the sixties and seventies, with the aid of two grants from London University, she visited France, Belgium and the Netherlands to find out which of the mortaria in Britain were made on the Continent, but she always took a lively interest in all the mortaria she saw. She continues to assemble data on mortaria and to write reports on them. The original plan to do a PhD was gradually abandoned to be replaced by the hope and intention to assemble the data onto a comprehensive database.

Kay served for many years as a Trustee for the Roman Society on the committee of the Malton Museum. Among peripheral activities, she visited many foreign museums collecting rubbings of stamps for the revision of Oswald’s Index of Potters Stamps, which

Brian had begun at Leeds (this gave her added opportunities to examine the much more elusive mortaria along the way) and drew a substantial number of them to publication standard. She is also, as noted elsewhere, a regular participant in the group of aficionados of samian who have worked over the last 25 years to record the collections at la Graufesenque.

Excavations to which Kay had a particular input include those of Heronbridge, Lexoux (LAS), Mancetter/Hartshill, Much Hadham and Slack, Yorks. She dug on a number of sites in the Nene valley and in Yorkshire where Brian was joint or sole director.

Kay's approach to any problem raised by the work she undertakes, be it the acquisition of a foreign language, the realisation of a recipe or the nuances of a mortarium stamp, is to worry it to death by minute attention to detail. She has refused to be defeated by any problem which life has thrown at her. Her interests are manifold: cooking (and eating) and the history of food, she regularly attends the Leeds Symposia on Food History; gardening; board games like Scrabble; cats; computers; opera; languages and local history, including that of 22 Shire Oak Rd and its architect, Francis W. Bedford; and, last but not least, people.

Kay has made many friends throughout her life, and particular mention should be made of Bernard Barr, Brenda Dickinson and Val Rigby together with May, a fellow student at Leicester. The late John Gillam and Philip Corder were particular favourites. She has offered her expertise widely to those who have needed help; while not 'suffering fools gladly' she has offered encouragement to all serious students. No record can ignore the other important, sometimes dominating, influences from the sixties of Mr Augustus Nimrod Gingerpuss, Robin, Pip-Pip, Teddy and latterly Mr Ginger Wilson, named for a well-known figure in the archaeology of the lower Nene valley and who appears at the front of this volume.

Kay has developed a well-deserved reputation in Brtiain, and ever-expanding recognition abroad as the doyenne of her discipline. It is a measure of her supremacy that no serious excavation report of the Roman period can be completed without either a contribution from her, or a reference to her work.

# Chronological list of the published works of K F Hartley

*Compiled from various sources, particularly the bibliographic information collected as part of the English Heritage funded Mortaria Bibliography project, to be published as JRPS volume 13*


**1954**

With BR Hartley, Heronbridge Excavations: Roman dock and buildings, *J Chester N Wales Archaeol Soc* **41,** 15–37

**1957**

Notes on the mortaria stamps, in FH Thompson and FW Tobias, Excavations in Newgate Street, *J Chester N Wales Architect, Archaeol Hist Soc* **44**, 35–6

**1958**

An amphora stamp found near Mildenhall, Suffolk, *Antiq J* **38**, 91–2

Stamp, in DR Shearer, A note on the discoveries at the Market Hall site, Worcester, 1955–6 *Trans Worcestershire Archaeol Soc* **34** (for 1957), 59

Stamped mortaria in I Walker, Excavations on a Romano-British site at Astley, *Trans Worcestershire Archaeol Soc* **35,** 47–8

**1959**

Stamped mortaria, in R Hemsley, A Romano-British pottery kiln at Manduessedum, *Trans Birmingham Warwickshire Archaeol Soc* 77, 8–13

Notes supplied for a report on the excavation of the Roman site at Rocester 1958, ND, *Oldfields Secondary Boys School Archaeol Soc,* 2p 4 illus, *(cf* Soc Antiq London catalogue)

**1960**

Mortarium stamps, in MG Jarrett, Roman coins and potters stamps from Halton Chesters, *Archaeol Aeliana,* ser 4, **38**, 158–60

Note, in MG Jarrett, The Roman fort at Ebchester, County Durham, *Archaeol Aeliana,* ser 4, **38**, 219–20

Stamp, under no 15, in N Smedley, Roman Long Melford, *Proc Suffolk Inst Archaeol Natur Hist* **28**, 283–4

**1961**

Mortaria, in JMT Charlton, Excavations at the Roman site at Holditch, 1957–9, *N Staffordshire J Field Stud* **1**, 43–4

A stamped mortarium (20a), in P Corder (ed), *The Roman Town and Villa at Great Casterton Rutland. Third report for the years 1954–1958*, Univ of Nottingham, 41

Contributions to BR Hartley, The pottery, in The Roman Fort at Bainbridge: Excavations of 1957–9, *Proc Leeds Philosophical and Lit Soc* **11**, 119–27

Stamps, nos 7 and 14, in KM Richardson, Excavations in Lewis's Gardens, Colchester, 1955 and 1958, *Trans Essex Archaeol Soc* 3rd ser **1**, 21–2

Mortarium stamps, in G Webster, An excavation on the Roman site at Little Chester, Derby, 1960 *Derbyshire Archaeol J* **81**, 105–6

**1962**

Mortaria, in JMT Charlton, Excavations at the Roman site at Holditch, 1960–61, *N Staffordshire J Field Stud* **2**, 70

Notes on mortaria, in P Wenham, Excavations and Discoveries within the legionary fortress in Davygate, York, *Yorkshire Archaeol J* **40**, 507–87

With G Webster and BR Hartley, Material from stratified deposits, in G Webster, Excavations on the Roman site at Rocester, Staffordshire, 1961, *N Staffordshire J Field Stud* **2**, 43–7

**1963**

Distribution of stamped mortaria from the Colchester potteries, in MR Hull, *The Roman potters kilns at Colchester*, Res Rep Soc Antiq London **21**, 114–16

Brief note, in AG Hunter, Excavations at the Bon Marché Site, Gloucester, 1958–59, *Trans Bristol Gloucestershire Archaeol Soc* **82**, 46

The stamped mortaria, in KA Steer, Excavations at Mumrills Roman fort, 1958–60, *Proc Soc Antiq Scot* **94** (for 1960–61), 110–13

**1964**

Report on the coarse pottery, in L Alcock, The defences and Gates of Castell Collen, *Archeol Cambrensis* **113**, 92

Note, in D Charlesworth, Recent work at Kirkby Thore, *Trans Cumberland Westmorland Antiq Archaeol Soc* new ser, **64**, 69–70

Note and Appendix III, in SS Frere, Excavations at Dorchester on Thames, 1962, *Archaeol J* **119,** 143, 145–6

Mortaria, in E Greenfield, Excavation of a bombed site in Chapel Street, Exeter, *Trans Devon Archaeol Soc* **96**, 346

A mortarium stamp from Lease Rigg Camp, in R Hayes and J Rutter, Wades Causeway: a Roman road in north-east Yorkshire, *Scarborough and District Archaeol Soc* res rep **4**, 91

Notes on the mortaria stamps, in AS Robertson, *The Roman Fort at Castledykes*, 196–205

With PL Waters, Coarse pottery, in A Romano-British Tile Kiln at Upper Sandlin Farm, Leigh Sinton, Worcestershire, *Trans Worcestershire Archaeol Soc* new ser **40** (for 1963), 4

**1965**

Notes on mortaria, in T Potter, The Roman Pottery from Coldham Clamp, *Proc Cambridgeshire Antiq Soc* **58**, 14, 19

Mortaria, in IC Walker, Excavation at the Roman fort at Walltown Farm, Shropshire, 1960–61, *Trans Shropshire Archaeol Soc* **58,** 15–16

Mortarium stamps, in LP Wenham, Blossom Street excavations York, 1953–5, *Yorkshire Archaeol J* **41**, 552–3

With J Gould, The Coarse Pottery, in J Gould, Excavations in advance of road construction between Shenstone and Wall, Staffordshire, *Trans Lichfield S Staffordshire Archaeol Hist Soc*, **6**, 11–14

With EE Richards, Spectrographic analysis of some Romano-British mortaria, *Bull Univ London Inst Archaeol* **5**, 25–43

**1966**

Observations on mortaria, in G Boon, 'Legionary ware' at Caerleon?, *Archaeol Cambrensis* **115**, 51–2

Mortaria, in AP Detsicas, An Iron Age and Romano-British site at Stone Castle Quarry, Greenhithe, *Archaeol Cantiana* **81**, 180–2

Mortaria from Ilkley, in BR Hartley, The Roman fort at Ilkley Excavations of 1962, *Proc Leeds Philosophical Literary Soc* **12**, 63–6

The mortarium, in N Smedley and EJ Owles, A Romano-British bath-house at Stonham Aspall, *Proc Suffolk Inst Archaeol Natur Hist* **30**, 247

**1967**

Appendix IIIb: Archaeological notes: the kilns at Mancetter, Warks, SP 327 967, in MJ Aitkin, and HN Hawley, Archaeomagnetic measurements in Britian iv, *Archaeometry* **10**, 132–3

Mortarium stamps, in D Charlesworth, Excavations on the Carrawburgh car park site, 1964, *Archaeol Aeliana,* ser 4, **45**, 4–6

Note, in P Salway, Excavations at Hockwold-cum-Wilton, Norfolk, 1961–2, *Proc Cambridgeshire Antiq Soc* **60**, 60, 66

Note, in DA White, Excavations on a Romano-British Settlement on the Fenland Edge at Earith, Hunts, 1963–6, *Proc Cambridgeshire Antiq Soc* **60**, 14

With J Gould, The Romano-British Coarse Pottery, in J Gould, Excavations at Wall, Staffs, 1964–6, on the site of the Roman Forts, *Trans Lichfield and S Staffs Archaeol Hist Soc* **8**, 23–31

**1968**

Mortaria from kilns at *Verulamium*, in IE Anthony, Excavations in Verulam Hills Field, St Albans, 1963–4, *Hertfordshire Archaeol* **1**, 33–6

Mortaria, in M Brassington, Roman material recovered from Little Chester, Derby, 1965, *Derbyshire Archaeol J* **87** (for 1967), 55–7

Notes on the mortarium stamps from *Tripontium*, in H Cameron and J Lucas, *Tripontium*: First Interim Report on Excavations by the Rugby Archaeol Soc at Caves Inn, near Rugby, NGR SP 57, 535795, *Trans Birmingham Warwickshire Archaeol Soc* **83**, 168–72

Mortaria, in DW Crossley, Excavations at Pen y Gaer fort, Brecknock, *Archaeol Cambrensis* **117**, 101

Mortaria and their origins, in BW Cunliffe, *Fifth Report on the Excavations of the Roman Fort at Richborough, Kent*, Res Rep Soc Antiq London **23**, 172–83

Comments on the pottery mural crown, acknowledgement and contributions to the pottery report, in R Hanworth, The Roman villa at Rapsley, Ewhurst, *Surrey Archaeol Coll* **65**, 38–56

Contributions to Coarse wares, in AC Harrison and C Flight, The Roman and Medieval defences of Rochester in the light of recent excavations, *Archaeol Cantiana* **83**, 82–91

Mortaria, in AHA Hogg, Pen Llysten (Caernarvonshire) Roman fort and other remains, *Archaeol J* **125**, 170–3

Mortaria, in SC Stanford, The Roman forts at Leintwardine and Buckton, *Trans Woolhope Natur Field Club* **39**, 306–8

**1969**

Mortaria, in E Greenfield, The Romano-British settlement at Little Paxton, Huntingdonshire, *Proc Cambridgeshire Antiq Soc* **62**, 49–50

Mortaria, in B Hobley, A Neronian-Vespasianic military site at The Lunt, Baginton, Warwickshire, *Trans Birmingham Warwickshire Archaeol Soc* **83** (for 1966–7), 103–4

Mortaria from a kiln-site at Ecton, in DE Johnston, Romano-British pottery kilns near Northampton, *Antiq J* **49**, 89–92

Mortarium stamps, in L Murray Threipland, The Hall, Caerleon 1964: Excavations on the site of the Legionary Hospital, *Archaeol Cambrensis* **118**, 122

Stamped mortaria, in JS Wacher, *Excavations at Brough-on-Humber 1958–61*, Res Rep Soc Antiq London, **25**, 132–3

Entries in PV Webster The coarse pottery, in GDB Jones and PV Webster, Mediolanum: excavations at Whitchurch 1965–6, *Archaeol J* **125**, 222–44

**1970**

Comments on mortaria, in JP Gillam and JC Mann, The Northern British Frontier from Antoninus Pius to Caracalla, *Archaeol Aeliana* ser 4, **48**, 37–8

The mortaria, in H Miles, Excavations at Fisherwick, Staffs, 1968: a Romano-British farmstead and a Neolithic occupation site, *S Staffordshire Archaeol Hist Soc Trans* **10**, 18–9

Mortaria, in PJ Woods, Excavations at Brixworth, Northants, 1965–70 The Romano-British Villa, Part 1 The Roman Coarse Pottery and Decorated Samian Ware, *J Northants Mus* **8**, 32–3

With BR Hartley, Pottery in the Romano-British Fenland, in C W Phillips (ed), *The Fenland in Roman times,* 165–9

**1971**

Mortaria, in M Brassington, A Trajanic kiln complex near Little Chester, Derby, 1968, *Antiq J* **51,** 53

Mortarium stamp 141, in ACC Brodribb, AR Hands and DR Walker, *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire Part I: Sites A & D*, Oxford, 72

Mortarium stamp 173, in ACC Brodribb, AR Hands and DR Walker, *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire Part II Sites B & H*, Oxford, 71–2

Stamps on mortaria and general note on the mortaria, in BW Cunliffe, *Excavations at Fishbourne 1961–69 Vol II: The Finds*, Res Rep Soc Antiq London **27**, 174

Mortarium stamps nos 51–2, in Other Wares, in PJ Fowler and CV Walthew, Archaeology and the M5 Motorway, *Trans Bristol Gloucestershire Archaeol Soc* **90**, 33

Acknowledgement for answering questions about the mortaria, in SS Frere, The Forum and Baths at Caistor by Norwich, *Britannia* **2**, 23

Mortaria, in E Greenfield, The Roman villa at Denton, Lincolnshire Part II The bath-house and well, *Lincolnshire Hist Archaeol* **6**, 38

Mortaria, in MU Jones, Aldborough, West Riding, 1964: Excavations at the south gate and bastion and at extra-mural sites, *Yorkshire Archaeol J* **43**, 64–7

Mortaria from Mancetter, 1964, in C Mahany, Excavations at Manduessedum 1964, *Trans Birmingham Warwickshire Archaeol Soc* **84**, 27

Notes in AA Round, The Coarse Pottery, in Excavations at Wall, Staffordshire1966–7, on the Site of the Roman Forts (Wall excavation report no 9), *Trans S Staffordshire Archaeol Hist Soc* **11** (for 1969–70), 18–24

Identification and dating in GJ Wainwright, The Finds, in The excavation of a fortified settlement at Walesland Rath, Pembrokeshire, *Britannia* **2**, 86–7

Entries in, PV Webster, The coarse pottery in, Melandra Castle Roman Fort: Excavations in the civil settlement 1966–1969, *Derbyshire Archaeol J* **91**, 89–112

With BM Dickinson, The evidence of potters stamps on samian ware and on mortaria for the trading connections of Roman York, in RM Butler (ed), *Soldier and Civilian in Roman Yorkshire,* 127–42

**1972**

A mortarium stamp, in DJ Breeze, Excavations at the Roman fort of Carrawburgh 1967–1969, *Archaeol Aeliana* ser 4, **50**, 124

Stamped mortaria, in SA Castle, A kiln of the potter *Doinus*, *Archaeol J* **129**, 82–8

Stamped mortaria, in SA Castle, Excavations at Brockley Hill, Middlesex *Sulloniacae* (NGR TQ 174941) 1970, *Trans London Middlesex Archaeol Soc* **23**, 156–7

Mortarium stamps, in SS Frere, *Verulamium Excavations 1*, Res Rep Soc Antiq London, **28**, 371–81

Mortaria, in AC Harrison, Rochester East Gate, 1969, *Archaeol Cantiana* **87**, 136–9

Information concerning mortaria; Stamped mortaria, in GBD Jones, Excavations at Northwich (*Condate*), *Archaeol J* **128**, 51, 74–5

Mortaria, in B Rawes, Roman pottery kilns at Gloucester 1972, *Trans Bristol Gloucestershire Archaeol Soc* **91**, 48, 50

Acknowledgement, in K Scott, Two Romano-British tile kilns, *Trans Birmingham Warwickshire Archaeol Soc* **84**, 15

Postscript, in CF Tebbutt, A Roman bloomery at Great Cansiron, near Holtye, Sussex, *Sussex Archaeol Coll* **110**, 13

Mortaria, in P Wenham, Excavations in Low Petergate, York, 1957–8, *Yorkshire Archaeol J* **44**, 106

**1973**

Notes on the mortaria; Notes on some of the unstamped mortaria and bowls, in H Cameron and J Lucas, 1971–3, *Tripontium* Second interim report on excavations by the Rugby Archaeol Soc at Caves Inn, near Rugby, NGR SP57, 535795, *Trans Birmingham Warwickshire Archaeol Soc* **85**, 117–22

Stamped mortaria, in SA Castle and JH Warbis, Excavations on field no 157, Brockley Hill (*Sulloniacae*?) Middlesex, February–August 1968, *Trans London Middlesex Archaeol Soc* **24**, 102–6

Mortarium stamps, in SA Castle, Trial excavations in Field 410, Brockley Hill, part 1, *London Archaeol* **2**, 38–9

Stamped mortaria, in SA Castle, Trial excavations at Brockley Hill, part 2, *London Archaeol* **2**, 82–3

Stamped mortaria, in H Chapman and T Johnson, Excavations at Aldgate and Bush Lane House in the City of London, 1972, *Trans London Middlesex Archaeol Soc* **24**, 39

The marketing and distribution of mortaria, in A Detsicas (ed), *Current research in Romano-British coarse pottery,* CBA Res Rep **10**, 39–51

The kilns at Mancetter and Hartshill, Warwickshire, in A Detsicas (ed), *Current research in Romano-British coarse pottery,* CBA Res Rep **10**, 143–7

Mortarium fragment, in PJ Fasham, DA Hinton and T Rowley (eds), Excavations near Lewknor, 1971–2, *Oxoniensia* **38**, 136–7

La diffusion des mortieres, tuiles et autres produits en provenance des fabriques Italiennes, *Cahiers d'Archéologie Subaquatique* **2**, 49–60

Stamped mortaria, in M Hebditch and J Mellor, The forum and basilica of Roman Leicester, *Britannia* **4**, 58–9

Mortaria, in B Hobley with D Charlesworth, Excavation at The Lunt Roman military site, Baginton, Warwickshire 1968–71, Second Interim Report, *Trans Birmingham Warwickshire Archaeol Soc* **85**, 51–5

Mortarium, in MU Jones, The Romano-British pottery kilns at Mucking with an interim report on two kiln groups by WJ Rodwell, *Essex Archaeol History* **5,** 46

Mortaria report, in F Pemberton, A Romano-British settlement on Stane Street, Ewell, Surrey, *Surrey Archaeol Coll* **69**, 17–8

The mortarium stamp; Mortarium stamps (from bath-building near Baston Manor, Hayes), in B Philp, *Excavations in West Kent 1960–70*, Kent Archaeol Rescue Unit Mono **2**, 61–2, 89

Contribution noted in PJ Woods, Excavations at Brixworth, Northants, 1965–70, the Romano-British Villa: Part 1, the Roman coarse pottery and decorated Samian Ware, *Northants Mus Art Gallery* **8,** 32–3

With RP Wright, The graffito, in SA Castle and JH Warbis, Excavations on field no 157, Brockley Hill (*Sulloniacae*?) Middlesex, February–August 1968, *Trans London Middlesex Archaeol Soc* **24**, 106

**1974**

Stamped mortaria, in SA Castle, Excavations at Brockley Hill, Middlesex, March–May 1972, *Trans London Middlesex Archaeol Soc* **25**, 261–2

Mortaria, in KJ Evans, Excavations on a Romano-British site, Wigginholt, 1964, *Sussex Archaeol Coll* **112**, 140, 142, 145

Mortaria, in RM Friendship-Taylor, Excavation of the Belgic and Romano-British site at Quinton, *J Northants Mus* **11**, 43–4

Mortarium stamps, in M Hassall and J Rhodes, Excavations at the New Market Hall, Gloucester, *Trans Bristol Gloucestershire Archaeol Soc* **93**, 39–40

Inspection and dating of the mortaria, in R Ling and A Ling, Excavations at Loughor, Glamorgan; the North East and South East angles of the Roman Fort, *Archaeol Cambrensis* **122**, 132

Mortarium stamps, in DS Neal, *The Excavation of the Roman Villa in Gadebridge Park Hemel Hempstead 1963–8*, Res Rep Soc Antiq London **31**, 212–3

Individual entries nos 36 and 102, in S Pollard, A Late Iron Age settlement and a Romano-British villa at Holcombe, near Uplyme, Devon, *Proc Devon Archaeol Soc* **32,** 122,130

Notes in AA Round, The coarse pottery, in The bath-house at Wall, Staffs, excavations in 1971, (Wall excavation report no 10), *Trans S Staffordshire Archaeol Hist Soc* **15**, 25–8

Stamped mortaria, in T Tatton-Brown, Excavations at the Custom House site, City of London, 1973, *Trans London Middlesex Archaeol Soc* **25**, 179–80

Stamped mortaria, in PV Webster, The coarse pottery, in GBD Jones with S Grealey (ed), *Roman Manchester*, 116–8

Comment relating to mortarium 147 in MG Wilson, Mortaria, in SS Frere and JK St Joseph, The Roman Fortress at Longthorpe, *Britannia* **5**, 111

With PV Webster, The Romano-British Pottery Kilns near Wilderspool, *Archaeol J* **130**, 77–103

**1975**

Acknowledgement, and contributions to the pottery report, in SA Castle, Excavations in Pear Wood, Brockley Hill, Middlesex, 1948–73, *Trans London Middlesex Archaeol Soc* **26**, 272

Note supplied to M Fulford, The Pottery, in B Cunliffe, *Excavations at Porchester Castle*, Res Rep Soc Antiq London, **32**, 332

Mortaria, in B Hobley, The Lunt Roman fort and training school for Roman cavalry, Baginton, Warwickshire Final report: Excavations (1972–3) with conclusions, *Trans Birmingham Warwickshire Archaeol Soc* **87**, 27–30

Mortarium stamps, in A Robertson, M Scott and L Keppie, *Bar Hill: a Roman fort and its finds*, British Archaeol Rep **16**, 142–7

Mortarium stamps; Mortarium fabric in North-west England and South-west Scotland; Raetian mortaria and Distribution list of Raetian and sub-Raetian mortaria, in AS Robertson, *Birrens (Blatobulgium)*, 236–9, 240, 241–2, 243–4

Mortaria and mortarium stamps, in FH Thompson, The excavation of the Roman amphitheatre at Chester, *Archaeologia* **105**, 209–10

**1976**

Entries on the mortaria in CM Green, The coarse pottery, in M Bell, The Excavation of an early Romano-British Site and Pleistocene Landscapes at Newhaven, *Sussex Archaeol Coll* **114**, 269, 274, 275, 281, 284, 286

Mortarium stamps, in SA Castle, Roman Pottery from Brockley Hill, Middlesex, 1966 and 1972–4, *Trans London Middlesex Archaeol Soc* **27**, 211–22

A note on the *Sullonia* stamps at Corbridge, *Trans London Middlesex Archaeol Soc* **27**, 226–7

Were mortaria made in Roman Scotland? *Glasgow Archaeol J* **4**, 81–9

Acknowledgement, and contributions to pottery report, in A Laws, Excavations at Northumberland Wharf, Brentford, *Trans London and Middlesex Archaeol Soc* **27**, 205, 187–200

The mortaria stamps, in TW Potter, Excavations at Watercrook 1974: an interim report, *Trans Cumberland Westmorland Antiq Archaeol Soc* **76**, 52–5

Mortaria, in IM Stead, *Excavations at Winterton Roman Villa and other Roman sites in North Lincolnshire, 1958–67*, Dept of Environment Archaeol Rep **9**, 116–26

*Sulloniacae* (Brockley Hill), in R Stillwell (ed), *The Princeton Encyclopedia of Classical Sites*, Princeton Univ Press, 867

The mortaria, in J Williams, Excavations on a Roman site at Overstone, near Northampton, *Northants Archaeol* **11**, 122–3

**1977**

Stamped mortaria, in SA Castle, Roman pottery from Radlett 1959, *Hertfordshire Archaeol* **4** (for 1974–6), 150–2

Mortaria, in A Detsicas, First-century pottery manufacture at Eccles, Kent, in J Dore and K Greene (eds), *Roman pottery studies in Britain and beyond Papers presented to John Gillam, July 1977,* British Archaeol Rep sup ser **30**, 25–9

Two major potteries producing mortaria in the first century AD, in J Dore and K Greene, (eds), *Roman pottery studies in Britain and beyond Papers presented to John Gillam, July 1977,* British Archaeol Rep sup ser **30**, 5–17

Mortarium stamps, in A Gentry, J Ivens and H McClean, Excavations at Lincoln Road, London Borough of Enfield, November 1974 to March 1976, *Trans London Middlesex Archaeol Soc* **28**, 152–4

Notes on mortaria, in CM Green, The pottery, in M Bell, Excavations at Bishopstone, *Sussex Archaeol Coll*, **115**, 163, 165

Mortaria from New Fresh Wharf, in B Hobley, Excavations in the City of London First Interim Report 1974–1975, *Antiq J* **57**, 62

Notes in R Hunter, The pottery, in R Hunter and D Mynard, Excavations at Thorplands near Northampton, 1970 and 1974, *Northants Archaeol* **12**, 109–33

Mortarium stamps from the *vicus*, in MJ Jones, Archaeological work at Brough under Stainmore 1971–2: I The Roman discoveries, *Trans Cumberland Westmorland Antiq Archaeol Soc* **77**, 29–30

Mortaria, in DC Mynard, and C Woodfield, A Roman site at Walton, Milton Keynes, *Records of Bucks* **20**, 369–70

Mortaria, in C Partridge, Excavations and Fieldwork at Braughing, 1968–73, *Hertfordshire Archaeol* **5**, 44–5

Mortaria, in A Rogerson, Excavations at Scole, 1973*, East Anglian Archaeol Rep* **5**, 195–7

Mortaria, in C Saunders and AB Havercroft, A kiln of the potter *Oastrius* and related excavations at Little Munden Farm, Bricket Wood, *Hertfordshire Archaeol* **5**, 139–41

Acknowledgement, and entries in the pottery report, in C Smith, A Romano-British site at Binscombe, Godalming, *Surrey Archaeol Coll* **71**, 13, 25–31

**1978**

Acknowledgement; contributions to pottery report; Stamped mortaria, in J Bird, AH Graham, H Sheldon, P Townend, with J Bailey, A Locker, H Chapman, and J Harries (eds), *Southwark excavations 1972–4*, London Middlesex Archaeol Soc and Surrey Archaeol Soc Joint Pub **1**, 102–25, 201–11, 265–80, 337–75, 440–59, 482–90; 128, 212, 282, 378, 459

Mortarium stamp, in ACC Brodribb, AR Hands and DR Walker, *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire Part V: Sites K & E*, Oxford, 88

Mortaria, in R Canham, *2000 Years of Brentford*, 82–4

A mortarium stamp from Heathrow, in R Canham, Excavations at London (Heathrow) airport 1969, *Trans London Middlesex Archaeol Soc* **29**, 36–7

The pottery; The potter *Dares*, in SA Castle, Amphorae from Brockley Hill 1975, *Britannia* **9,** 383–6, 388–9

Roman mortaria, in A Down, *Chichester Excavations 3,* 245–54

Appendix D, Mortaria fragments, in AWJ Houghton, The last mile of Watling Street east of Wroxeter, *Trans Shropshire Archaeol Soc* **59** (for 1973–4), 224

Mortarium stamp, in PJ Huggins, Excavation of a Belgic and Romano-British farm with middle Saxon cemetery and churches at Nazeingbury, Essex, 1975–6, *Essex Archaeol Natur Hist* ser 3, **10**, 80

Mortaria, in H James, Excavations at Church Street, Carmarthen, 1976, *Cambrian Archaeol Assoc Mono Coll* **1**, 102–4

Mortaria, in S Johnson, Excavations at Hayton Roman fort, 1975, *Britannia* **9,** 96

With PV Webster, Coarse pottery, in RB White, Excavations at Brithdir, near Dolgellau, 1974, *Cambrian Archaeol Assoc Mono Coll* **1**, 54–60

**1979**

Mortarium stamps from South Shields, in J Dore and JP Gillam, *The Roman Fort at South Shields*, Soc Antiq Newcastle upon Tyne Mono **1**, 161–3

Mortaria from Chilgrove, in A Down, *Chichester Excavations 4*, 186–7

Mortaria, in RM Friendship-Taylor, The excavation of the Belgic and Romano-British settlement at Quinton, Northants, Site B 1973–7, *J Northants Mus* **13**, 117–21

Mortaria, in WS Hanson, CM Daniels, JN Dore and JP Gillam, The *Agricolan* supply base at Red House, Corbridge, *Archaeol Aeliana*, ser 5, **7**, 51–3

A mortarium stamp from Brockley Hill, Middlesex, *Trans London Middlesex Archaeol Soc* **30**, 188–9

Ravenglass: Mortaria stamps; Watercrook: Mortaria stamps, in TW Potter, *Romans in North-west England Excavations at the Roman Forts of Ravenglass, Watercrook and Bowness on Solway*, Cumberland Westmorland Antiq Archaeol Soc Res Ser **1**, 120–2, 268

Readings and comments on stamped mortaria in JA Riley, The catalogue (of mortaria) in JA Lloyd (ed), *Excavation at Sidi Khrebish, Benghazi (Berenice)* **2,** Department of Antiquities, Tripoli, 296–8

Mortaria, in GH Smith, Excavations near Hadrian's Wall at Tarraby Lane 1976, *Britannia* **9**, 46–7

With KT Greene, DPS Peacock, V Rigby and VG Swan, Catalogue of the coarse pottery, in PT Bidwell, *The Legionary Bath-House and Basilica and Forum at Exeter*, Exeter Archaeol Rep **1**, 198

**1980**

Description of locally made stamped mortaria, in M Brassington, Derby Racecourse kiln excavations 1972–3, *Antiq J* **60**, 40–2

Mortaria, in DA Jackson, Roman buildings at Ringstead, Northants, *Northants Archaeol* **15**, 26–7

Stamps on Brockley Hill-Verulamium mortaria, in D Jones, *Excavations at Billingsgate Buildings, Lower Thames Street, London, 1974*, London Middlesex Archaeol Soc Spec Pap **4**, 49

Identification, in WS Hanson and GS Maxwell, An Agricolan Praesidium on the Forth-Clyde Isthmus (Mollins, Strathclyde), *Britannia* **11**, 47

Roman glass-furnace at *Manduessedum*, in R Hurst Vose, *Glass*, London, 132–4

Mortarium stamp from Aldborough, in HE Kilbride-Jones, *Zoomorphic Pennanular Brooches*, Res Rep Soc Antiq London **39**, 9

Mortaria, in G Lambrick, Excavations in Park Street, Towcester, *Northants Archaeol* **15**, 77–9

Inserts in The coarse pottery reports in D Mason, *Excavations at Chester, 11–15 Castle Street and neighbouring sites 1974–8: A possible Roman posting House (Mansio),* Grosvenor Mus Archaeol excavations and survey rep **2**, Chester

Mortaria, in B Rawes, The Romano-British site at Wycomb, Andoversford: excavations 1969–70, *Trans Bristol Gloucestershire Archaeol Soc* **98**, 34, 40

Mortaria, in IM Stead with L Barnetson *et al*, *Rudston Roman Villa*, Yorkshire Archaeol Soc Mono, 39–41

Mortarium, in D Whipp, Excavations at Tower Hill 1978, *Trans London Middlesex Archaeol Soc* **31,** 62

With P Payne, A stamped mortarium from Higham, *Archaeol Cantiana* **96**, 377–8

**1981**

Painted fine wares made in the Raetian workshops near Wilderspool Cheshire, in AC and AS Anderson (eds), *Roman Pottery Research in Britain and North-West Europe: Papers Presented to Graham Webster,* British Archaeol Rep Int Ser **123** (ii), 471–79

Hartshill, Kiln 6, in J Bird and C Young, Migrant Potters – the Oxford Connection, in AC and AS Anderson (eds), *Roman Pottery Research in Britain and North-West Europe: Papers Presented to Graham Webster* British Archaeol Rep Int Ser **123** (ii), 305, 310–11

Stamped mortarium from Toads Hole Piece, in MOH Carver, The archaeology of early Litchfield: an inventory and some recent results, *South Staffordshire Archaeol Hist Soc Trans* **22**, 1–12, 131–41

A mortarium from Rochester, in AC Harrison, Rochester 1974–5, *Archaeol Cantiana* **97**, 119

Note, in MG Jarrett and S Wrathmell, *Whitton: an Iron Age and Roman Farmstead in South Glamorgan*, Cardiff, 146

Mortaria, in I MacIvor, MC Thomas and DJ Breeze, Excavations on the Antonine Wall fort of Rough Castle, Stirlingshire, 1957–61, *Proc Soc Antiq Scot* **110** (for 1978–80), 257–68

Mortaria, in WH Manning, *Report on the excavations at Usk 1965–76*, 389–437

Mortaria, in C Partridge, *Skeleton Green A Late Iron Age and Romano-British Site*, Britannia Mono **2**, 196–9

Mortaria nos 400, 580 and some consultation on unstamped mortaria in JR Perrin, *Roman Pottery from the Colonia: Skeldergate and Bishophill,* Archaeology of York **16.2**, 84, 101

Mortaria, in B Philp, *Excavation of the Roman Forts of the Classis Britannica at Dover, 1970–77*, Kent Archaeol Rescue Unit Mono **3**, 203–7

With PV Webster, The Roman pottery, in LJF Keppie, 1981 Excavation of a Roman bathhouse at Bothwellhaugh, 1975–6, *Glasgow Archaeol J* **8**, 80–93

**1982**

Comment on a mortarium, in RL Bellhouse and GGS Richardson, The Trajanic Fort at Kirkbride; the terminus of the Stanegate frontier, *Trans Cumberland Westmorland Antiq Archaeol Soc* **82**, 43

Mortaria, in P Bennett, SS Frere and S Stow, *Excavations at Canterbury Castle*, The Archaeol of Canterbury **1**, 150–8

Mortaria, in AE Brown, and JA Alexander, Excavations at Towcester 1954: the Grammar School site, *Northants Archaeol* **17**, 34–5

Mortaria, in SM Elsdon, Iron Age and Roman sites at Red Hill, Ratcliffe-on-Soar, Nottinghamshire: excavations of E Greenfield, 1963 and previous finds, *Trans Thoroton Soc Nottinghamshire* **86**, 32–3

Mortaria, in R Leech, *Excavations at Catsgore 1970–73 A Romano-British Village*, Western Archaeol Trust Excav Mono **2**, 156

Mortarium stamps, in TW Potter and CF Potter, *A Romano-British village at Grandford, March, Cambridgeshire*, British Mus Occ Pap **35**, 78–9

Mortarium Stamps; Notes provided to V Rigby, The Coarse Pottery, in JS Wacher and A McWhirr, *Cirencester Excavations 1: Early Roman Occupation at Cirencester*, Cirencester Excavation Committee, 147–8, 161–200

Contributions to Other Coarsewares, in T Wilmott, Excavations at Queen Street, City of London, 1953 and 1960, and Roman timber-lined wells in London, *Trans London Middlesex Archaeol Soc* **33**, 34, 39–43

**1983**

Mortaria, in AE Brown, C Woodfield with DC Mynard, Excavations at Towcester, Northants: the Alchester Road suburb, *Northants Archaeol* **18**, 72–3

Notes on dating and attribution of mortaria included in C Ireland, the mortaria, in C Heighway, *The East and North Gates of Gloucester and associated sites: Excavations 1974–81*, Western Archaeol Trust, Excavation Mono **4**, 108–9

Mortaria, in S Johnson, *Burgh Castle, Excavations by Charles Green 1958–61,* East Anglian Archaeol Rep **20**, 102, 104

Mortaria, in GA Makepeace, A Romano-British settlement at Staden near Buxton, *Derbyshire Archaeol J* **103**, 80

Mortarium, in M Millett and S James, Excavations at Cowdery's Down, Basingstoke, Hampshire, 1978–81, *Archaeol J* **140**, MF 4/79

Mortaria, in KA Rodwell, The excavation of a Romano-British pottery kiln at Palmers School, Grays, Essex, *Essex Archaeol Natur Hist* ser 3, **15**, 22–4

Mortaria, in AA Round, Excavations at Wall (Staffs) 1968–72, on the site of the Roman forts (Wall excavation report no 12), *S Staffordshire Archaeol Hist Soc Trans* **23**, 39–41

**1984**

Acknowledgement, and report on mortaria, in TS Cooper, JL Gower and M Gower (eds), The Roman villa at Whitebeech, Chiddingfold: excavations in 1888 and subsequently, *Surrey Archaeol Coll*, **75**, 73, MF16–19

Acknowledgement and contributions to the pottery report; Stamps on mortaria, in KR Crouch and SA Shanks, *Excavations in Staines 1975–76, the Friends' Burial Ground site*, London Middlesex Archaeol Soc and Surrey Archaeol Soc Joint Pub **2**, 44–68, 68–71

Information supplied regarding the mortaria, in MJ Darling, *Roman Pottery from the Upper Defences*, The Archaeol of Lincoln **16–2**, 69–72

Mortaria, in JL Davies, Excavations at Trawscoed Roman fort, Dyfed, *Bull Board Celtic Stud* **31**, 286–7

Mortarium stamps, in SS Frere, Excavations at Dorchester on Thames, 1963, *Archaeol J* **141**, 172

Mortarium stamps; The mortaria from *Verulamium*: a summary, in SS Frere, *Verulamium Excavations 3*, Oxford Univ Comm Archaeol Mono **1**, 280–91, 292–3

A note on the mortarium potter *Verecundus*, in D Haupt, Beitrage zur Archäologie des Römischen Rheinlands 4, *Rheinische Ausgrabungen* **23**, 471–2

Entries in The Romano-British pottery, in DH Heslop, Initial excavations at Ingleby Barwick, Cleveland, *Durham Archaeol J* **1**, 31–3

Roman mortaria, in B Philp, *Excavations in the Darenth Valley, Kent*, Kent Archaeol Rescue Unit Mono **4**, 108–9

Report on the mortaria from the Cats Water Subsite, Fengate, Peterborough, in F Pryor, *Excavation at Fengate, Peterborough, England: The Fourth Report*, Northants Archaeol Soc Mono **2**, 195–6

Mortarium stamp, in B Rawes, The Romano-British Site on the Portway, near Gloucester, *Trans Bristol Gloucestershire Archaeol Soc* **102,** 45

Mortaria, in K Scott, Mancetter village: A first-century fort, *Trans Birmingham Warwickshire Archaeol Soc* **91** (for 1981), 9

With R Symonds, Summary of the products of the Roman kiln F1019 at Middleborough, in P Crummy, *Excavations at Lion Walk, Balkerne Lane, and Middleborough, Colchester, Essex*, Colchester Archaeol Rep **3**, App 13, MF 360–4

**1985**

The Mortaria, in F and N Ball, 'Rescue' excavations at Wall, (Staffordshire), 1980–81, on the site of the Roman forts, (Wall excavation report no 13), *Trans S Staffordshire Archaeol Hist Soc* **25**, 25–8

Mortaria, in PT Bidwell, *The Roman Fort of* Vindolanda *at Chesterholm, Northumberland*, Historic Buildings Monuments Comm England Archaeol Rep **1**, 182–4; MF 1:E1–D13

Notes on the mortaria, in PN Clay and JE Mellor, *Excavations in Bath Lane, Leicester*, Leicestershire Mus Art Gallery Records Service Archaeol Rep **10**, 47–9

Mortaria, in J Dool, Derby Racecourse: excavations on the Roman industrial settlement 1974, *Derbyshire Archaeol J* **105**, 206–8

Mortaria, in J Draper, *Excavations by Mr HP Cooper on the Roman site at Hill Farm, Gestingthorpe, Essex*, East Anglian Archaeol Rep **25**, 95–7

Mortaria, in E Evans, G Dowdell and HJ Thomas, A third-century maritime establishment at Cold Knap, Barry, South Glamorgan, *Britannia* **16**, 103, 106

Mortarium fabrics; The mortaria, in J Hinchliffe with C Sparey-Green, *Excavations at Brancaster 1974 and 1977*, East Anglian Archaeol Rep **23**, 98–100, 116–23

Mortaria, in AG Hunter, Building-excavations in Southgate Street and Quay Street, Gloucester, 1960, *Trans Bristol Gloucestershire Archaeol Soc* **103**, 69

General summary of Mancetter-Hartshill and first-century mortaria, in HR Hurst, *Kingsholm Excavations at Kingsholm Close and other sites with a discussion of the archaeology of the area*, Gloucester Archaeol Rep **1**, 77, 86–7

Mortaria, in LJF Keppie, Excavations at the Roman fort of Bar Hill, 1978–82, *Glasgow Archaeol J* **12**, 73, MF M43–52, M92

Mortaria: discussion and conclusions, in R Niblett, *Sheepen: An early Roman industrial site at* Camulodunum, CBA Res Rep **57**, 92–7, MF 2E7–G5

Mortaria, in LF Pitts, and JK St Joseph, *Inchtuthil The Roman legionary fortress excavations 1952–65*, Britannia Mono **6**, 330–3

Mortarium fabrics, in F Pryor and C French, *The Fenland Project, No 1: Archaeology and Environment in the Lower Welland Valley,* East Anglian Archaeol Rep **27**, 124–7

Notes on a mortarium stamp, in D Rudling, Excavations on the site of the Southwick Roman Villa, *Sussex Archaeol Coll* **123**, 79–80

Comments on the mortaria, in S Taylor and B Dix (with contributions on the pottery by E MacRobert), Iron Age and Roman settlement at Ashley, Northants, *Northants Archaeol* **20,** 105

Insertions in PV Webster, Coarse pottery from the 1970 excavations, in BJN Edwards and PV Webster, *Ribchester Excavations Part I: excavations within the Roman fort 1970–80*, 59–83

Mortaria, in HM Wheeler, North-West sector excavations 1979–80, *Derbyshire Archaeol J* **105**, 124–30

Mortarium stamps, in HM Wheeler The Racecourse Cemetery, *Derbyshire Archaeol J* **105**, 267–8

Mortaria, in AR Wilmott and SPQ Rahtz, An Iron Age and Roman settlement outside Kenchester (*Magnis*), Herefordshire Excavations 1977–9, *Trans Woolhope Natur Field Club* **45**, 36–185, 142–5

With DF Williams, Mortaria fabrics, in JA Dacre, An excavation on the Roman fort at Stanwix, Carlisle, *Trans Cumberland Westmorland Antiq Archaeol Soc* **85**, MF 66–7

**1986**

Mortarium stamps from the civil settlement, Doncaster; mortarium fabrics, in PC Buckland and JR Magilton, *The Archaeology of Doncaster: 1 The Roman Civil Settlement*, British Archaeol Rep **148**, 149–53

Mortaria, in J Draper, Excavations at Great Chesterford, Essex, 1953–5, *Proc Cambridgeshire Archaeol Soc* **75**, 32–7

Comments on the mortarium stamps, in DT Greep, The Coarse Pottery, in JD Zienkiewicz, *The Legionary Fortress Baths at Caerleon: II the finds*, 50–96

Mortaria from a Romano-Celtic temple site at Caistor St Edmund, in T Gregory and D Gurney, *Excavations at Thornham, Warham, Wighton and Caistor St Edmund, Norfolk*, East Anglian Archaeol Rep **30,** 48

Mortaria from Little Oulsham Drove, Feltwell; Mortaria from Leyland's Farm, Hockwold cum Wilton; Mortaria from a salt production site at Denver, in D Gurney (ed), *Settlement, Religion and Industry on the Roman Fen-edge, Three Romano-British sites in Norfolk* East Anglian Archaeol Rep **31**, 38; 75 and MF 1:E.2; 114–6

*Verecundus* mortaria, in L Miller, J Schofield and M Rhodes, with T Dyson (ed), *The Roman quay at St Magnus House, London: excavations at New Fresh Wharf, Lower Thames Street, London 1974–8,* London Middlesex Archaeol Soc Spec Pap **8**, 110–2

Contributions to The Coarse Pottery in B Rawes, The Romano-British Settlement at Haymes, Cleeve Hill, near Cheltenham, *Trans Bristol Gloucestershire Archaeol Soc* **104,** 75–80

Mortarium, in DJ Rudkin, The Excavation of a Romano-British site by Chichester Harbour, Fishbourne, *Sussex Archaeol Coll* **124,** 67

Mortarium stamps, in IM Stead and V Rigby, *Baldock: The Excavation of a Roman and Pre-Roman Settlement, 1968–72*, Britannia Mono **7**, 236–7

Stamps, in NP Wickenden, Prehistoric settlement and the Romano-British small town at Heybridge, Essex, *Essex Archaeol Natur Hist*, ser 3, **17**, 45–6

With S Green, Fieldwalking pottery, in P Rahtz, C Hayfield and J Bateman, *Two Roman Villas at Wharram le Street*, York Univ Archaeol Pub **2,** facing fig 35

With PV Webster, The Pottery, in JL Davies, Excavations at Pen Llwyn Roman fort, Capel Bangor, Dyfed, *Bull Board Celtic Stud* **33**, 42–5

With DF Williams, in J Keeley, The coarse pottery, in A McWhirr, *Cirencester Excavations III: Houses in Roman Cirencester,* 158–89

**1987**

Mortaria in JRL Allen and MG Fulford, Romano-British Settlement and Industry on the Wetlands of the Severn Estuary, *Antiq J* **67**, 261

Mortarium stamps, in RJ Buckley, and JN Lucas, *Leicester town defences Excavations 1958–74*, 79

Mortaria, in PM Carlyon, Finds from the earthwork at Carvossa, Probus, *Cornish Archaeol* **26**, 119–21

Mortaria, in GB Dannell, and JP Wild, *Longthorpe II The Military Works-Depot: an episode in landscape history*, Britannia Mono **8**, 127–8

Contributions to Mortaria, in SS Frere, Brandon Camp, Herefordshire, *Britannia* **18**, 89–90

Mortarium stamps from Canterbury, in SS Frere, P Bennett, J Rady and S Stow, *Canterbury excavations: intra- and extra-mural sites 1949–55 and 1980–84*, The Archaeol of Canterbury **8**, MF 251–5

Mortarium stamps, in CJ Going, *The* Mansio *and other sites in the south-eastern sector of* Caesaromagus*: The Roman pottery,* Chelmsford Archaeol Trust Rep **3.2**, CBA Res Rep **62**, 99–100

The mortaria, in DH Heslop, *The excavation of an Iron Age settlement at Thorpe Thewles, Cleveland, 1980–82*, CBA Res Rep **65**, 75–6, MF 4:E9

Mortaria identifications in RS Leary, The Pottery, in D Garton, Dunston's Clump and the brickwork plan field systems at Babworth, Notts: excavations 1981, *Trans Thoroton Soc Nottinghamshire* **91**, 43–52

The mortaria, in DS Neal, Excavations at *Magiovinium*, Buckinghamshire, 1978–80, *Records of Bucks* **29**, 97–9

The mortaria in C Sparey-Green, *Excavations at Poundbury. Volume I; The settlements,* Dorset Natur Hist Archaeol Soc Mono **7**, 119–20; MF 3, D8–E1

Mortaria, in CJ Webster, Ernest Greenfield's excavations at Exning Roman villa, *Proc Cambridgeshire Archaeol Soc* **76**, 59–61

With H Healey, Stamped mortarium from South Kyme, Lincs, *Lincolnshire Hist Archaeol* **22**, 44–5

**1988**

Mortaria from the 1953–73 seasons; Stamped mortaria from the 1980 season in MC Bishop, and JN Dore, *Corbridge Excavations of the Roman Fort and Town, 1947–80*, Historic Buildings Monuments Comm England Archaeol Rep **8**, 265–8, 286

Note of stamp, in B Dix and S Taylor, Excavations at Bannaventa (Whilton Lodge, Northants), 1970–71, *Britannia* **19**, 330

Roman pottery, in P Gibbons, Archaeological report on the Watercrook ETW pipeline, *Trans Cumberland Westmorland Antiq Archaeol Soc* **88**, 79–83

Mortaria, in C Green, I Green and C Dallas with JP Wild, Excavations at Castor, Cambridgeshire in 1957–8 and 1973, *Northants Archaeol* **21** (for 1986–7), 118–25, MF M50

Acknowledgment, and Mortaria, in P Hinton (ed), *Excavations in Southwark 1973–6, Lambeth 1973–9*, London Middlesex Archaeol Soc and Surrey Archaeol Soc Joint Pub **3**, 194; 221, 229, 233, 271–5

Mortaria fabrics and Catalogue (Biglis); Mortaria (Llandough), in DM Robinson (ed), *Biglis, Caldicot and Llandough: Three Late Iron Age and Romano-Briish sites in South-East Wales. Excavations 1977–79*, British Archaeol Rep **B 188,** 48–50, 171–2

Mortarium stamps, in KA Rodwell, *The prehistoric and Roman settlement at Kelvedon, Essex,* Chelmsford Archaeol Trust Rep **6,** CBA Res Rep **63**, 101

Mortaria, in T Rook, The Roman villa site at Dicket Mead, Lockleys, Welwyn: The Roman Settlement, *Hertfordshire Archaeol* **9** (for 1983–86), 137–9

Mortaria, in GD Thomas, Excavations at the Roman civil settlement at Inveresk, 1976–77, *Proc Soc Antiq Scot* **118**, MF 1, E12–G3

Inserts in RC Turner, PV Webster and JHS Witherington, Coarse pottery, in BJN Edwards and PV Webster (eds), *Ribchester excavations Part 3: Excavations in the civil settlement 1968–80, B Pottery and coins,* Cardiff, 51–116

Notes on mortaria, incorporated in PV Webster, The coarse pottery, in GDB Jones and DCA Shotter, *Roman Lancaster: rescue archaeology in an historic city 1970–75*, Brigantia Mono **1**, 103–45

With CD Long, The stamped pottery, in The Iron Age and Romano-British settlement at Catcote, Hartlepool, Cleveland, *Durham Archaeol J* **4**, 28

With JHS Witherington, Catalogue of the Romano-British coarse wares, in TW Potter and SD Trow, Puckeridge-Braughing, Hertfordshire: The Ermine Street Excavations, 1971–2, *Hertfordshire Archaeol* **10**, 133–46

**1989**

Mortaria, in PT Bidwell and N Holbrook, *Hadrian's Wall Bridges,* Historic Buildings Monuments Comm England Archaeol Rep **9**, 143–8

Mortaria; Catalogue of mortaria forms, in K Blockley, *Prestatyn 1984–5: An Iron Age farmstead and Romano-British industrial settlement in North Wales* British Archaeol Rep **B 210,** 155

Roman mortaria, in A Down, *Chichester Excavations 6*, 143–50

The mortaria, in DR Evans and VM Metcalf, Excavations at 10 Old Market Street, Usk, *Britannia* **20**, 43–6

Mortarium fabrics, in PT Marney, *Roman and Belgic Pottery from Excavations in Milton Keynes 1972–82*, Bucks Archaeol Soc Mono **2**, 132–6

Mortaria, in C Partridge, *Foxholes Farm, a multi-period gravel site*, Hertfordshire Archaeol Trust, 145–7

Mortaria, in B Philp, *The Roman House with Bacchic Murals at Dover, 1970–77*, Kent Archaeol Rescue Unit Mono **5**, 75–6

Mortarium stamps; Mortaria, in IM Stead and V Rigby, Verulamium*: The King Harry Lane Site*, Historic Buildings Monuments Comm England Archaeol Rep **12**, 62–3, 69–71

Inserts in PV Webster, The pottery, in J Britnell, *Caersws "vicus", Powys: excavations at the Old Primary School 1985–86*. British Archaeol Rep **B 205**, 80–121

Inserts in PV Webster, The pottery, in TJ O'Leary with K Blockley and C Musson, *Pentre Farm, Flint 1976–81: An official building in the Roman lead mining district.* British Archaeol Rep **B 207**, 94–120

Mortaria, in C Woodfield with C Johnson, A Roman Site at Stanton Low, on the Great Ouse, Buckinghamshire, *Archeol J* **146**, 183–4, MF 2/57–63

With A Anderson, GB Dannell, P Ellis and K Greene, The Pottery, in P Ellis, Roman Chesterfield: excavations by T Courtney 1974–78, *Derbyshire Archaeol J* **109**, 101–2, 108–119

With SS Frere, The list of mortaria; The illustrated mortaria; The mortarium stamps, in SS Frere and JJ Wilkes, *Strageath: excavations within the Roman fort, 1973–86*, Britannia Mono **9**, 219–30, 231–8, 239–42

**1990**

Mortaria, in K Blockley with G and W Owen, Excavations in the vicinity of Forden Gaer Roman Fort, Powys 1987, *Montgomeryshire Coll, J Powysland Club* **78**, 31–2, 36, 38

Mortaria, in MR McCarthy, *A Roman, Anglian and Medieval Site at Blackfriars Street, Carlisle: Excavations 1977–9*, Cumberland Westmorland Antiq Archaeol Soc Res Ser **4**, 237–63

Mortarium, in J Monaghan, Pottery from marine sites around Guernsey, *J Roman Pottery Stud* **3**, 68

Mortaria, in DS Neal, A Wardle and J Hunn, *Excavation of the Iron Age, Roman and Medieval Settlement at Gorhambury, St Albans*, Historic Building Monuments Comm England Archaeol Rep **14**, 191–5

Information on mortaria and stamps in JR Perrin and G Webster, Roman pottery from excavations in Normangate Field, Castor, Peterborough, 1962–3, *J Roman Pottery Stud* **3,** 40

Acknowledgement for reporting on stamps, in C Wallace, Makers' stamps on mortaria from Gloucester, *J Roman Pottery Stud* **3,** 70–4

With JR Perrin, Mortaria, in JR Perrin, Roman pottery from the Colonia 2: General Accident and Rougier Street, *The Archaeology of York: The Pottery* **16.4**, 271–3

**1991**

Mortaria, in PS Austen, *Bewcastle and Old Penrith: A Roman Outpost fort and a Frontier Vicus: Excavations 1977–78*, Cumberland Westmorland Antiq Archaeol Soc Res Ser **6**, 156–73

Mortaria, in N Holbrook and P Bidwell, *Roman finds from Exeter*, Exeter Archaeol Rep **4**, 189–215

Mortaria, in VA Maxfield, Tiverton Roman fort (Bolam): excavations 1981–86, *Proc Devon Archaeol Soc* **49**, 67

Catalogue of mortarium stamps; and with J Taylor and R Ferguson, The Roman pottery from Castle Street, Carlisle: excavations 1981–2, in MR McCarthy with CM Brooks (ed), *Roman waterlogged remains at Castle Street,* Cumberland Westmorland Antiq Archaeol Soc Res Ser **5**, 365–7, Fasc 4, MF 5–6, 331–441

Mortaria, in H Quinnell, The villa and temple at Cosgrove, Northants, *Northants Archaeol* **23**, 35–56

**1992**

The stamped mortaria, in J Darlington and J Evans, Roman Sidbury, Worcester: Excavations 1959–89, *Trans Worcestershire Archaeol Soc*, ser 3, **13**, 64–5

Mortaria stamps; Mortaria, in DR Evans and VM Metcalf, *Roman Gates, Caerleon.* Oxbow Mono **15**, 85–6, 100

No 29, in B Heywood, Excavations at Neath, *Bull Board Celtic Stud* **39**, 195

Mortaria, in N Holbrook and P Bidwell, Roman Pottery from Exeter 1980–90, *J Roman Pottery Stud* **5**, 62–5

Mortaria, in AA Round, Excavations on the *Mansio* site at Wall (*Letocetum*), Staffordshire, 1972–8 (Wall excavation report 14), *S Staffordshire Archaeol Hist Soc Trans* **32**, 34–6

Mortaria, in CS Woodfield, The defences of Towcester, Northants, *Northants Archaeol* **24**, 46–7

Mortaria in S Woodiwiss (ed), *Iron Age and Roman salt production and the medieval town of Droitwich* CBA Res Rep **81**, 50, 205

Acknowledgement in JD Zienkiewicz, Pottery from excavations on the site of the Roman legionary museum, Caerleon 1983–5, *J Roman Pottery Stud* **5**, 92–3

With PV Webster, The coarse pottery [1976 excavations], in J Hinchliffe and JH Williams with F Williams, *Roman Warrington Excavations at Wilderspool 1966–9 and 1976*, Brigantia Mono **2**, 124–51

**1993**

Coarse wares, in MC Bishop, and PWM Freeman, Recent work at Osmanthorpe, Nottinghamshire, *Britannia* **24**, 159–89

Stamp, in K Blockley, Excavations on the Roman Fort at Abergavenny, Orchard Site, 1972–73, *Archaeol J* **150**, MF1/68

Mortaria, in PJ Casey and JL Davies with J Evans, Excavations at *Segontium* (Caernarfon) Roman Fort, 1975–9, CBA Res Rep **90**, 309–16

A note on two mortaria stamps from Theological College, Chichester, in A Down and J Magilton, *Chichester Excavations 8*, 239

Stamped mortarium from BH85; comments on mortaria, in R Havis, Roman Braintree: Excavations 1984–90, *Essex Archaeol Natur Hist* ser 3, **24,** 39, 41, 43

Mortaria in NW Jones, Caersws Roman Fort and Vicus, Montgomeryshire, Powys, 1984–92, *Montgomeryshire Coll* **81**, 49–53

The mortaria, in WH Manning (ed), *Report on the Excavations at Usk 1965–76: The Roman Pottery*, Cardiff, 389–437

Mortaria, in M Rule and J Monaghan, *A Gallo-Roman trading vessel from Guernsey The Excavation of a third-century shipwreck*, Guernsey Mus Mono **5**, 87

Mortaria (from Plants Farm, Maxey), in WG Simpson, DA Gurney, J Neve and FMM Pryor, *The Fenland project, No. 7: Excavations in Peterborough and the lower Welland Valley 1960–69*, East Anglian Archaeol Rep **61**, 90–1

With S Green, Mortaria, in TG Allen, TC Darvill, LS Green and MU Jones, *Excavations at Roughground Farm, Lechlade, Gloucestershire: A Prehistoric and Roman landscape*, Thames Valley Landscapes: The Cotswolds Water Park **1**, 115, 130–2

With LM Hird, The mortaria, in RH Leech, The Roman fort and vicus at Ambleside: archaeological research in 1982, *Trans Cumberland Westmorland Antiq Archaeol Soc* **93**, 60–2

With J Monaghan, The mortaria, in J Monaghan, Roman Pottery from the Fortress: 9 Blake Street, *The Archaeology of York: The Pottery* **16.7**, 729–31

With R Seager Smith and DF Williams, Mortaria, in PJ Woodward, SM Davies and AH Graham, *Excavations at the Old Methodist Chapel and Greyhound Yard, Dorchester 1981–4*, Dorset Natur Hist Archaeol Soc Mono **12**, 219–24, MF5 D2–6

**1994**

Mortaria, in PT Bidwell and S Speak, *Excavations at South Shields Roman Fort, Vol 1*, Soc Antiq Newcastle upon Tyne Mono **4**, 211–2

Notes on the mortaria stamps, in P Booth, S Cracknell and C Mahany (eds), *Roman Alcester: Southern extramural area 1964–6 Excavations Part 2: Finds and dicussion,* CBA Res Rep **97**, 132–43

Mortaria, in A Brown, A Romano-British shell-gritted pottery and tile manufacturing site at Harrold, Beds, *Bedfordshire Archeol J* **21**, 49

Stamped mortaria, in P Clay, and R Pollard, *Iron Age and Roman occupation in the West Bridge area, Leicester*, 66–7

Acknowledgement for comments on the mortaria, in B Davies, B Richardson, and R Tomber, *A dated corpus of early Roman pottery from the City of London*, Archaeol of Roman London **5**, CBA Res Rep **98**, viii

A note on the mortaria stamps, in P Ellis, J Evans, H Hannaford, G Hughes, and A Jones, Excavations in the Wroxeter hinterland 1988–90: The archaeology of the A5/A49 Shrewsbury bypass, *Trans Shropshire Hist Archaeol* **69**, 82

Mortaria, in E Greenfield, J Poulsen and PV Irving, The excavation of a fourth-century AD villa and bath-house at Great Staughton, Cambridgeshire, 1958 and 1959, *Proc Cambridgeshire Antiq Soc* **83**, 114

Mortaria fabrics and identification, in RS Leary, *Excavations at the Romano-British settlement at Pasture Lodge Farm, Long Bennington, Lincolnshire, 1975–77 by HM Wheeler,* Lincolnshire Hist Archaeol Occas Pap **10**

Miscellaneous mortaria, in MAB Lyne, The Hassocks Cemetery, *Sussex Archaeol Coll* **132**, 71

Mortarium stamp, in MG O'Connell and J Bird, The Roman temple at Wanborough, excavation 1985–6, *Surrey Archaeol Coll* **82**, 138

The mortaria, in B Philp, *The Iron Age and Romano-British site at Lenham, Kent,* 29–31

With L Rollo, *Iron Age and Roman Piddington: the mortaria 1979–93,* Upper Nene Archaeol Soc Fasc **2**

**1995**

Mortaria, in A Dunwell and I Ralston, Excavations at Inveravon on the Antonine Wall, 1991, *Proc Soc Antiq Scot*, **125**, 521–576, 558–560 MF 3:C5–6

A mortarium stamp from a post-Roman context at no 30 Westgate Street Gloucester, in C Heighway and P Garrod, Excavations at nos 1 and 30 Westgate Street, Gloucester: the Roman levels, *Britannia* **11**, 95

Identifications for RS Leary, Roman, in JJ Wymer and NR Brown, *Excavations at North Shoebury: settlement and economy in south-east Essex 1500BC–AD1500*, East Anglian Archaeol Rep **75**, 92–9

Mortaria, in D Phillips and B Heywood, with MOH Carver (ed), *Excavations at York Minster Vol 1 From Roman Fortress to Norman Cathedral,* RCHM(E) Mono **2** *The finds*, 304–24

Acknowledgement relating to the mortaria, in RJ Pollard, Pottery from the Augustan to the Vespasianic years, in K Blockley, M Blockley, P Blockley, SS Frere and S Stow, with J Elder (ed) *Excavations in the Marlowe Car Park and Surrounding Areas Part II The Finds,* The Archaeol of Canterbury **5**, 585–624

Mortaria, in R Rickett, *The Anglo-Saxon cemetery at Spong Hill, North Elmham, Part VII: The Iron Age, Roman and early Saxon settlement*, East Anglian Archaeol Rep **73**, 97–9, MF 3

Mortaria, in DN Riley, PC Buckland and JS Wade, Aerial reconnaissance and excavation at Littleborough-on-Trent, Nottinghamshire, *Britannia* **26**, 269–72

Mortaria, in E Taylor, Report on the excavation of Huntsham Romano-British village and Iron Age enclosure 1959–70, *Trans Woolhope Natur Field Club*, **48**.**2**, 271

**1996**

Procuratorial mortarium stamps, in J Bird, M Hassall, and H Sheldon (eds), *Interpreting Roman London: papers in memory of Hugh Chapman*, Oxbow Mono **58**, 147–51

Mortaria, in DL Brown, The Roman small town at Leintwardine: excavations and other fieldwork 1971–89, *Trans Woolhope Natur Field Club* **48.3**, 543

Mortaria stamps, in AS Esmonde Cleary and IM Ferris, Excavations at the New Cemetery, Rocester, Staffordshire, 1985–7, *Staffordshire Archaeol Hist Soc Trans* **35**, 64–70

Mortaria, in T Gregory with D Gurney (ed), *A Romano-British farmyard at Weeting, Norfolk*, East Anglian Archaeol Occ Pap **1**, 28

Stamped mortaria, in RPJ Jackson and TW Potter, *Excavations at Stonea Cambridgeshire 1980–85*, 429–35

Mortaria, in NW Jones, Excavations within the Roman vicus at Caersws, 1989–93, *Montgomeryshire Coll* **84**, 14–7

Mortaria, in B Philp, *The Roman villa site at Orpington, Kent,* Kent Archaeol Rescue Unit Mono **7**, 69–71

Mortaria, in RJ Williams, PJ Hart and ATL Williams, *Wavendon Gate A late Iron Age and Roman settlement in Milton Keynes*, Bucks Archaeol Soc Mono **10**, 195

Mortaria, in L Watts and P Leach, *Henley Wood, temples and cemetery excavations 1962–69 by the late Ernest Greenfield and others*, CBA Res Rep **99**, 103

With J Evans, contributions to The Roman pottery and Appendices 1–4, in DS Neal, *Excavations at the Roman villa at Beadlam, Yorkshire,* Yorkshire Archaeol Rep **2**, 69–93, 118–31

With Y Parminter, Mortaria, in J May, *Dragonby Report on Excavations at an Iron Age and Romano-British settlement in North Lincolnshire,* Oxbow Mono **61**, 565–73

With JR Perrin, The mortaria, in DF Mackreth, *Orton Hall Farm: A Roman and early Anglo-Saxon farmstead*, East Anglian Archaeol Rep **76**, 191–204

**1997**

Mortaria, in GB Bailey, Excavation of Roman, medieval and later features at Carriden Roman fort annexe in 1994*, Proc Soc Antiq Scot* **127**, 587

Note, in JL Davies, Some recent archaeological discoveries in the Aberystwyth District, *Ceredigion* **13(i),** 6–8

Mortaria from the 1960–63 excavations, in S Elsdon, *Old Sleaford Revealed: A Lincolnshire settlement in Iron Age, Roman, Saxon and medieval times: excavations 1882–1995*, Oxbow Mono **78**, Nottingham Stud in Archaeol **2**, 85–91

Stamped mortaria, in LP Wenham and B Heywood, *The 1968 to 1970 excavations in the* vicus *at Malton, North Yorkshire*, Yorkshire Archaeol Rep **3**, 110–12

Stamped mortaria, in T Wilmott, *Birdoswald Excavations of a Roman fort on Hadrian's Wall and its successor settlements: 1987–92*, English Heritage Archaeol Rep **14**, 254–6

Raetian mortaria in Britain, in S Zabehlicky-Scheffenegger (ed), *Rei Cretariae Romanae Fautorum Acta* **35**, 239–44

With A Croom, Mortaria, in LP Wenham and B Heywood, *The 1968 to 1970 excavations in the vicus at Malton, North Yorkshire*, Yorkshire Archaeol Rep **3**, 107–10

With DR Evans, The Mortaria, in AG Marvell and HS Owen-John, *Leucarum: excavations at the Roman auxiliary fort at Loughor, West Glamorgan 1982–84 and 1987–88,* Britannia Mono **12**, 315–25

With D Gurney, *A mortarium kiln at Ellingham, Norfolk,* East Anglian Archaeol Occ Pap **2**

With J Monaghan, Mortaria, in J Monaghan, Roman pottery from York, *The Archaeology of York: The Pottery* **16.8**, 930–43

**1998**

The incidence of stamped mortaria in the Roman Empire, with special reference to imports to Britain, in J Bird (ed), *Form and Fabric:Studies in Rome's material past in honour of BR Hartley,* Oxbow Mono **80**, 199–217

Stamps; The fabrics, in CP Clarke, *Excavations to the south of Chignall Roman villa, Essex, 1977–81*, East Anglian Archaeol Rep **83**, 105–8, 108–9

Mortaria, in M Dearne and T Lord, *The Romano-British archaeology of Victoria Cave, Settle*, British Archaeol Rep **B 273,** 122–4

Stamped mortaria and Catalogue of mortaria types, in P Ellis, G Hughes, P Leach, C Mould and J Sterenberg, *Excavations alongside Roman Ermine Street, Cambridgeshire, 1996: The Archaeology of the A1 (M) Alconbury to Peterborough Road Scheme,* British Archaeol Rep **B 276**, 54–5

Mortaria, in K Scott, Mancetter village, a 1st-century fortress continued, *Trans Birmingham Warwicks Archaeol Soc* **102**, 26–7

Acknowledgment; identifications of mortaria and stamps, in JD Shepherd, *The temple of Mithras, London: excavations by WF Grimes and A Williams at the Walbrook*, English Heritage Archaeol Rep **12**, 102, 116, 150–1, 156–7

Specialist consultant for R Tomber and J Dore, *The National Roman Fabric Reference Collection: a handbook,* MoLAS Mono **2**

**1999**

Mortaria, in J Alexander and J Pullinger, Roman Cambridge: excavations on Castle Hill 1956–88, *Proc Cambridgeshire Antiq Soc* **88**, 201–9

Mortaria, in P Bidwell, M Snape, and A Croom, *Hardknott Roman fort, Cumbria, including an account of the excavations by the late Dorothy Charlesworth*, Cumberland Westmorland Antiq Archaeol Soc Res Rep **9**, 96–100

Mortaria, in N Brown, *The archaeology of Ardleigh, Essex: excavations 1955–80*, East Anglian Archaeol Rep **90**, 125

Mortarium stamps, in A Connor and R Buckley, *Roman and medieval occupation in Causeway Lane, Leicester*, Leicester Archaeol Mono **5**, 109–10

Mortarium stamps, in J Cotton, Prehistoric and Roman settlement in Reigate Road, Ewell: fieldwork conducted by TK Walls 1945–52, *Surrey Archaeol Coll* **88**, 18

Stamped and selected unstamped mortaria, in R Niblett, *The excavation of a ceremonial site at Folly Lane, Verulamium*, Britannia Mono **14**, 271–3

Mortaria, in B Philp, K Parfitt, J Wilson and W Williams, *The Roman villa at Keston, Kent Second report (excavations 1967 and 1979–90)*, Kent Mono Res Rep **8**, 103–6

Stamped mortaria, in RP Symonds and S Wade, with P Bidwell and A Croom (eds) *Roman pottery from excavations in Colchester, 1971–86,* Colchester Archaeol Rep **10**, 195–211

With MJ Darling, Mortaria; Mortarium stamps (from The Park), in C Colyer, BJJ Gilmour and MJ Jones, *The defences of the Lower City, excavations at the Park and West Parade 1970–2*, The Archaeol of Lincoln **7.2**, CBA Res Rep **114,** 108–14

With JR Perrin and L Rollo, Mortaria from excavations by E Greenfield at Water Newton, Billingbrook and Chesterton 1956–8, in JR Perrin (ed), Roman pottery from excavations at and near to the Roman small town of Durobrivae, Water Newton, Cambridgeshire, 1956–8, *J Roman Pottery Stud* **8**, 129–35

With C Turner-Walker and C Wallace, The Roman fabrics, in R Turner, *Excavations of an Iron Age settlement and Roman religious complex at Ivy Chimneys, Witham, Essex 1978–93*, East Anglian Archaeol **88**, 134–9

**2000**

Catalogue of the stamped mortaria, in K Buxton and C Howard-Davis, Bremetenacum, *Excavations at Roman Ribchester 1980, 1989–90*, Lancaster Imprints ser **9**, 193–5

The period 1 pottery with MJ Darling; Stamped mortaria; general consultation on unstamped mortaria, in P Ellis (ed), *The Roman baths and macellum at Wroxeter: excavations by Graham Webster 1955–85,* English Heritage Archaeol Rep, **9**, 258–63, 302–5,

Mortaria, in CJ Evans, L Jones and P Ellis, *Severn Valley ware production at Newland Hopfields Excavation of a Romano-British kiln site at North End Farm, Great Malvern, Worcestershire 1992–4*, British Archaeol Rep **B 313**, 53

Mortarium stamp; Mortaria with MJ Darling, in K Hunter-Mann, MJ Darling and H Cool, Excavations on a Roman extra-mural site at Brough-on-Humber, East Riding of Yorkshire, UK, *Internet Archaeol* **9**, sect 431

Mortaria, in M Luke and J Wells, New evidence for the origins, development and internal morphology of the Roman roadside settlement at Alfoldean, *Sussex Archaeol Coll*, **138**, MF17–9

With L Bevan, The mortaria, in I Ferris, L Bevan, and R Cuttler, *The excavation of a Romano-British shrine at Ortons Pasture, Rocester, Staffordshire*, British Archaeol Rep, **B 314**, 30–5

With M Luke and J Wells, Pottery discussion, in M Luke and J Wells, New evidence for the origins, development and internal morphology of the Roman roadside settlement at Alfoldean, *Sussex Archaeol Coll* **138**, 87–91

With P Rush, The mortaria, in P Rush, B Dickinson and B Hartley, *Castleford: excavations 1974–85 Vol III: The pottery*, 167–92

**2001**

Mortaria, in AS Anderson, AP Fitzpatrick and JS Wacher, *The Romano-British 'small town' at Wanborough, Wiltshire: Excavations 1966–1976*, Britannia Mono **19**, 220–31

Comments incorporated in mortarium and other stamps, in P Booth and J Evans, *Roman Alcester: Northern Extramural Area, 1969–88 excavations*, CBA Res Rep **127**, 187–9

Mortaria, in M Dawson, A Roman field system at Redhill, Ratcliffe on Soar, *Trans Thoroton Soc Nottinghamshire* **105**, 31

Notes on two stamps, in D Gurney, Mortaria, in M Flytcroft, *Excavations of a Romano-British settlement on the A149 Snettisham Bypass, 1989*, East Anglian Archaeol **93**, 61

Shepton Mallet mortaria, in P Leach and CJ Evans, *Excavation of a Romano-British roadside settlement in Somerset Fosse Lane Shepton Mallet 1990,* Britannia Mono **18**, 130–2

With PC Buckland and V Rigby, The Roman pottery kilns at Rossington Bridge Excavations 1956–61, *J Roman Pottery Stud* **9**

With S Green, Mortaria, in A Jones, Excavations at Metchley Roman Fort 1963–97, *Trans Birmingham Archaeol Soc* **105**, 98–101

**2002**

Acknowledgement for dating of Wigginholt-Pulborough mortaria, in J Bird, A group of mural-crowned cult pots from south-east England, in M Genin and A Vernhet (eds), *Céramiques de la Graufesenque et autres productions dépoque romaine Hommages à Bettina Hoffman*, Archéologie et Histoire Romaine **7**, 308

Stamped mortaria, in J Drummond-Murray and P Thompson with C Cowan, *Settlement in Roman Southwark: archaeological excavations (1991–98) for the London Underground Limited Jubilee Line Extension Project*, MoLAS Mono **12**, 203–4

Note, in Sherds of intrinsic interest, in E Howe, *Roman Defences and mediaeval industry: Excavations at Baltic House, City of London,* MoLAS Mono **7**, 69

Mortaria, in M Snape with PT Bidwell and A Croom, Aldborough Roman town: excavations by Miss D Charlesworth, 1961–73, and by RCHME, 1959–60, *Yorkshire Archaeol J* **74**, 81–91

Mortaria, in C Sparey-Green, Excavations on the south-eastern defences and extramural settlement of Little Chester, Derby 1971–2, with a report on the Anglo-Saxon Cemetery by G Kinsley, *Derbyshire Archaeol J* **122**, 213–25

Mortaria, in G Webster and J Chadderton (ed), *The Legionary Fortress at Wroxeter. Excavations by Graham Webster 1955–1985,* English Heritage Archaeol Rep **19**

Mortaria; Mortarium stamps and various contributions, in PR Wilson (ed), *Cataractonium: Roman Catterick and its hinterland; Excavations and research 1958–97*, CBA Res Rep **128**, 250–80, 322–38, 338–43, 355–60, 383–94, 442–6, 446–51, 467–8, 478–9, 479–84, 484–5

**2003**

Comparing the Ellingham and Colchester mortaria; Notes on the individual potters' wares; Notes on the mortarium fabrics, in S Bates and A Lyons, *The excavation of Romano-British pottery kilns at Ellingham, Postwick and Two Mile Bottom, Norfolk, 1995–7,* East Anglian Archaeol Occ Pap **13**, 24–5

Mortaria stamps, in M Hinman, *A Late Iron Age farmstead and Romano-British site at Haddon, Peterborough,* Archaeol Field Unit Mono **2,** British Archaeol Rep **B 358**, 96–7

Mortaria, in N Holmes, *Excavation of Roman sites at Cramond*, Edinburgh, Soc Antiq Scotland Mono **23,** 49–58

**2004**

Mortaria, in T Blagg, J Plouviez and A Tester, *Excavations at a large Romano-British settlement at Hacheston, Suffolk in 1973–4*, East Anglian Archaeol **106**, 158

The Stamped Mortaria, in AR Hands and Cotswold Archaeology, *The Romano-British roadside settlement at Wilcote, Oxfordshire. Vol III Excavations 1997–2000,* British Archaeol Rep **B 370**, 197–9

Stamped mortaria, in E Howe and D Lakin, *Roman and medieval Cripplegate, City of London: excavations 1992–8.* MoLAS Mono **21**, 109–11

Catalogue of stamped mortaria; Mortaria (with D Brennan), in H James, *Roman Carmarthen*: *excavations 1978–1993.* Britannia Mono **20**, 242–54

Mortaria and a possible mortarium, in PGE Neal and R Fraser, A Romano-British enclosed farmstead at Billingley Drive, Thurnscoe, South Yorkshire, *Yorks Archaeol J* **76**, 35–6

The mortaria: catalogue, in PA Rahtz and L Watts, *The North Manor area and north-west enclosure. Wharram: a Study of Settlement on the Yorkshire Wolds, IX*, York Univ Archaeol Pub **2**, 170

With PV Webster, AG Marvell and SH Sell, A Roman pottery kiln at Abernant Farm, Caerleon, Gwent, (NGR ST 36809140), *J Roman Pottery Stud* **11**, 91–113

**Forthcoming**

Mortarium stamp report, in M Atkinson and SJ Preston, *Heybridge: A late Iron Age and Roman settlement; excavations at Elm Farm, 1993–5*, East Anglian Archaeol

The mortaria, in P Bennett (ed), *NC MacPherson-Grant's excavations at Highstead, near Chislet, 1975–7,* Canterbury Archaeol Trust mono

Mortaria, stamped and unstamped, in B Hoffmann, *Won Today, Gone Tomorrow? The Iron Age, Roman and post-medieval site at Cardean, Angus including the excavations by J Robertson 1966–67 and Professor AS Robertson 1968–1975,* Scot Archaeol Internet Rep Mono (www.sair.org.uk)

Mortarium stamps 5.2.3 and 8.8.2.1 in F Seeley and J Drummond-Murray, *Excavations at Northgate House: the Roman pottery industry in the Walbrook Valley.* MoLAS mono, 40–7, 112–4

With R Tomber, A mortarium bibliography with reference to Roman Britain, *J Roman Pottery Stud* **13**

**In preparation**

Raetian mortaria in Britain, *J Roman Pottery Stud*

With J Evans, and S Ratkai, The Walton-le-Dale pottery, in C Davis, D Garner, P Gibbons, I Miller and A Olivier, *Excavations at Walton-le-Dale*

With J Evans, and S Ratkai, The Binchester Roman pottery, in I Ferris and R Jones, *Excavations at Binchester Roman fort, Co Durham, 1976–81 and 1986–91*, Britannia Mono

# Kay Hartley: an appreciation

*Sheppard S Frere*

Kay Hartley has for years been the oracle on Romano-British mortaria and the stamps of their potters. Alone she has built up an archive of material, the study of which has revolutionised understanding of this branch of Romano-British industrial activity, and has given us a new tool not merely for dating sites but also for comprehending the organisation of the craft. Her work offers a significant contribution to the economic history of the province.

The effort has not been without its effect on her domestic arrangements. Those who have had the pleasure of staying a day or two in her flat at Headingley will have had reason to recall the Psalmist's words 'Though ye have lien among the pots, yet shall ye be as the wings of a dove", (Psalm 68.v13); for over the years every available surface in the flat, from window-sills to mantelpieces to bed-side chairs, has acquired a dense cover of mortarium sherds from various sites, presumably under study. Only the bed itself was clear, unlike the guest-beds in AWG Lowther's home at Ashstead, which used to groan under the weight of roller-stamped flue-tiles from a large number of sites. But he had become reclusive.

The sherds on the bedside table at Headingley reminded me of the well-known story from one of Sir Flinders Petrie's expeditions to the Egyptian desert, where a recently-arrived young student approached Lady Petrie to ask that the supply of toilet-rolls should be replenished. "Young man", she replied, "for over thirty years Sir Flinders and I have used nothing but potsherds." Memory of which dissuades one from any idea of surface-collecting in the Near East. The young man's dilemma was of course not relevant to the flat at Headingley, but the general picture there well illustrates the difficulties of a scholar working with under-funded resources yet continually needing access to actual examples of the material. Kay's work has not been supported by any academic post or guarantee of finances, and the difficulties thus caused her have left us heavily in her debt

I first met Kay about 1958 at the Summer School at Great Casterton, which was organised by Maurice Barley and involved Philip Corder, John Gillam, Graham Webster and other distinguished excavators. She had won her degree at London University in 1950 and it was at Great Casterton that she met Brian; in 1955 they were married. Already she had begun to publish, her first paper being a joint one with Brian, Excavation at Heronbridge, *J Chester and North Wales Archaeol Soc* **41** (1954), 1–37. She had also begun her research on mortaria, writing up the stamp .]ASSAR which had been found in 1956 in a first-century pit and was published five years later in the third Great Casterton Report (Corder, 1961, 41, no 20a).

Contributors to other people's reports often have to suffer long delays before their work is published, sometimes because of the dilatoriness of the principal or other authors, sometimes through various bureaucratic delays (such as obtaining grants) beyond immediate control. Thus her contribution to the Catterick report was completed in 1989 but not published until 2002; similar effects are seen in the *Verulamium* volumes. Despite hazards of this type, she was elected FSA in 1972.

Between 1955 and 1961 the *Verulamium* excavations had been producing large numbers of mortaria, on which Kay contributed significant studies for the final reports (*Verulamium Excavations* i (1972), 371–81; iii (1984), 280–93), throwing much light in the process on the history of mortarium-manufacture in the *Verulamium* region. Thus both she and I qualified for 'the wings of a dove', as promised by the Psalmist, she for her spreading reputation as a careful and original scholar in these studies and I for the value of her conclusions to my reports. From that time to this virtually no major Romano-British excavation report has lacked a chapter by Kay Hartley, and in them she not only dated the sherds and identified their sources with growing expertise, but also, at Richborough (Cunliffe 1968, 172–83), she used them as indicators of historical trends (*ibid,* 174, Table 1). Her studies have also led to sources in Gaul and elsewhere on the Continent (eg Hartley, 1977) (for a full list of her publications see elsewhere in this volume).

No scholar lives forever: work is perpetuated either through pupils or by publication, often by both. Kay's

fame is built on publication. It is true that new names of potters still, from time to time, come to light, as well as new discoveries of manufacturing sites, and that to that extent no corpus of material can be everlastingly definitive; but what is now needed is for her lifetime's work and knowledge to be collected in a comprehensive corpus of mortaria and their makers, together with the distribution of their products, and the history of the industry as at present known. When necessary in the future, supplements could be issued, as with DF Allen's corpus of Celtic coins in Britain (1961). We must hope that Kay will be afforded the funding and resources to crown her career with such a study.

**Bibliography**

Allen, DF, 1961, The origins of coinage in Britain: a Reappraisal, in Frere, SS, *Problems of the Iron Age in Southern Britain*, University of London Inst Archaeol Occas Paper **11**, 97-308

Frere, SS, 1972, *Verulamium Excavations 1,* Res Rep Soc Antiq London **28**, London

Frere, SS, 1984, *Verulamium Excavations 3,* Oxford Univ Comm Archaeol Mono **1**, Oxford

Hartley, B, and Hartley KF, 1954, Excavation at Heronbridge, *J Chester and North Wales Archaeol Soc **41**, 1–37*

Hartley, KF, 1961, in Corder P (ed), *The Roman Town and Villa at Great Casterton, Rutland, third report for the years 1954–58,* Nottingham, 41, no 20a

Hartley KF, 1968, in Cunliffe, BW (ed), *Fifth Report on the Excavations of the Roman Fort at Richborough, Kent,* Oxford, 172–83

Hartley KF, 1977, Two major Potteries producing mortaria in the First Century AD, in Dore, J and Greene, K, *Roman Pottery Studies in Britain and Beyond,* Oxford, British Archaeol Rep Sup Ser **30,** 5–17

Hartley K, 2002, The mortaria, in Evans, J, Pottery from Catterick Bypass Excavations and Catterick 1972 (Sites 433 and 434), in Wilson, PR (ed), *Cataractonium: Roman Catterick and its hinterland: Excavations and research 1958–1997. Volume 1,* CBA Res Rep **128**, York, 250–80

# Mancetter memories

*Colin Baddeley*

Along with many other archaeologists, amateur and professional, under the guidance and training of Dr Graham Webster in the 1960s, I came into contact at conferences and seminars with Kay Hartley, rapidly becoming aware of her expertise and absorbing knowledge of her speciality. Like so many of that crop of archaeologists this stood me in good stead when excavating. I was especially fortunate to have been able to assist on several of the series of excavations Kay conducted during the late sixties and early seventies in the major pottery manufacturing area, and producer of mortaria, at Mancetter/Hartshill, Warwickshire. Over a number of seasons she excavated virtually the whole of the Broad Close Field, Witherley, Warwickshire. This was probably one of the most important large-scale excavations of the period, which produced not a little pottery and a huge amount of information.

Memories of digging in Broad Close include one of Kay towards the end of one day with the light failing (it was October) walking round the site carrying a hurricane lamp to tell us that it was time we should be packing up. Another very proud occasion for her was to come to the scattered groups of her team and show us a just-recovered complete example of an actual potters stamp: a very rare find indeed. A stamped rim is of considerable interest, but to have the stamp itself is exceptional. In Kay's final season I well recall emptying a large disused clay-storage pit, which had subsequently been used to dump a substantial quantity of wasters and broken discards. Kay's comment to me on completion of the task has never been forgotten: 'Colin, you will never ever fail to recognise Mancetter mortaria'. How true!

# Kay Hartley: friend and teacher

*Roland Sauvaget*

I met Kay Hartley for the first time some forty years ago when I returned to England after a very long stay in my native France. I had built up an interest in archaeology but as a digger I had everything to learn. My first site was in Yorkshire on the Roman fort at Bainbridge where Brian Hartley told me to clean a vaguely cobbled area. Clean? How could one clean a mess of trampled stones and earth? And I was also told to clean it only with my brand-new 3-inch trowel, as Kay Hartley kindly explained, not with a nice hard street broom! I took away as much earth as I could. The result was a surface I would never have tolerated in my back yard with all the stones looking up to heaven and craving to fly away to some beatitude. Strange! I got through that mental ordeal then was put at straightening and cleaning (always that same then senseless verb) the sections of a trench, leaving protruding the stones that did not fall out.

Kay took pity on the evidently bewildered beginner I was and took me under her wing. I was of the questioning type and argued with her for every one of those ugly stones and obtained her reluctant consent for the sacrifice of one or two. She was the soul of patience and restraint, not one word higher than another. But from that day I understood what cleaning meant. Later I lent her a hand on her dig on a corn-dryer at Mancetter. Help? I had rather not dwell on the silly things I did on that dig. I still feel hot around the ears whenever I remember. She bore them like a saint. She did not even turn away the voluntary but blundering digger I was then. When I left, however, my trowel had lost a good inch of steel and I was beginning to have some notions on the craft of digging, mainly owed to Kay.

Meanwhile my wife and I had formed a lasting friendship with Kay and Brian. It strengthened as the years passed as we met on French digs, or when she came over to France on her research visits to French museums for her study on mortaria.

In those days there were a few good prehistoric digs in France but, alas, on too many others it was pick-and-shovel digging, with the immaculate archaeologist asking, from above, untrained navvies what they had found down there. On a dig I shall not name, Kay and her English fellow-diggers amazed the locals by the sharp planning and crystal clearness of their work. But the lesson did not always strike home. On one memorable day the nominal French director of the dig came along with a mechanical digger and went through Kay's beautifully dug trench. By accident he said but we knew it was just to intimate she was wasting her time doing such good quality work. Luckily the times have changed and we now jokingly remember this episode as a picture of the past.

Since then Kay has visited us at home on several occasions and we have met her on the La Graufesenque site every time she has come. My admiration has grown for her shrewd and patient way of sizing up the sherds of pottery she has to assemble, and I still cannot take the rubbing of a mould so skilfully as she can. Our friendship with her has deepened and become part of our lives.

# Kay Hartley: a personal view

*Viv Jones*

I first met Kay twenty-eight years ago. Having climbed into the back of a car in the south of England that was heading for La Graufesenque, I sat alongside someone who quickly introduced herself as Kay Hartley and who then simply returned to the task of letter writing. This ability to write and read in transit impressed me greatly. I quickly nodded off but every time I opened my eyes Kay would be writing yet another letter in perfectly neat and legible handwriting. My admiration has continued to grow over all the years that I have known her. I have learnt that she has qualities and talents, both professional and personal that have earned the respect and affection of so many. Others will wish to pay tribute to Kay's scholarship and to her contribution to the study of mortaria. I shall pay tribute to her qualities as friend and companion.

Over the years we have continued to visit La Graufesenque as part of a team drawn together by Geoff Dannell and as a member of this team Kay has shone. She has enormous patience, determination and curiosity. Nobody else could match Kay's skill in piecing together stamped samian bases with decorated body sherds; No-one could possibly reproduce impressions of samian moulds so perfectly as Kay. No-one else could possibly accomplish either of these tasks while holding heated conversations with Roland Sauvaget about details of French and English grammar and vocabulary. There are many other aspects of Kay's contribution to life at La Graufesenque and one of the most memorable has been through food.

Kay is an exceptionally talented cook and the meals she prepares always give great pleasure to her lucky friends, and at La Graufesenque she has managed to produce superb dishes. These were usually accomplished using local ingredients but the menu sometimes demanded that Kay transport jars of spices and large quantities of damsons in her luggage to the south of France. Her skills in the kitchen perfectly demonstrate her patience and her attention to detail. Kay always insists on the best of ingredients. And she also insists on a great many ingredients. On one occasion at La Graufesenque Kay sent a messenger to the town with instructions not to return without all the items on the shopping list. After an exhausting search and detailed questioning of the local shopkeepers one ingredient was impossible to find: ginger. On this occasion Kay had to accept a small defeat. The following year, however, all the grocery shops and supermarkets had stocks of ginger on their shelves and I believe that the residents of Millau can thank Kay for this addition to their culinary experience.

Kay very obviously takes much pleasure from her trips to France; She is fascinated by French archaeology, the language, the cuisine and the landscape but her affection for France extends into many simpler areas of French culture. These interests bring to light some very endearing aspects of her character; one interest, which comes as a constant surprise to her friends at La Graufesenque is her fondness for French table linen. On occasions, after the meal, and in deep conversation, she has left a restaurant having secured some fine example to her person, and would have built up a small but remarkable collection had we not despatched runners to return the errant items

There are many other facets of Kay's character that I could mention. Her great love of her feline companions, her loyalty to friends, her gentle sense of humour, her kindness, her generosity and great strength of character. She is also a very modest person and will probably be embarrassed when she reads the tributes from colleagues and friends. Working with Kay is a great delight and knowing her has enriched my life and, I am sure, the lives of all her friends.

# The dating of Crambeck Parchment Ware

*Paul Bidwell*

## *Introduction*

In the later fourth century the Crambeck potters widened their range of production to include parchment ware, that is, fine white-ware vessels, mainly bowls and mortaria, with decoration in red paint (for the location of the kilns, see Swan 1984, 111, map 13). It was one of the last developments in the history of the Roman pottery industry in Britain, and perhaps the most significant of those last developments, for the products of the Crambeck kilns, before and after the introduction of parchment ware, were distributed across the whole of northern England and sometimes farther afield. For more than sixty years a date of *c* 370 was accepted for the emergence of the ware, but recently much of the apparently secure evidence on which that date was based has evaporated. Fundamental was the absence of the ware in deposits thought until recently to precede the Picts' War of 367. Few would now accept that any site in northern England has identifiable layers of destruction associated with the events of 367; there is equal scepticism as to whether any later fourth-century re-building can now be associated with the restoration of military control by Count Theodosius. There have also been radical changes in the dating of the outpost forts and the Yorkshire signal-stations that will be explained below.

So much of the basis for the dating of Crambeck parchment ware having been undermined, it is hardly surprising that the discovery at Birdoswald of an example in a group apparently dating to *c* 350 immediately led to the adoption of an earlier dating (Hird 1997, 236; cf. Bidwell and Croom 1997, 88–90; Swan 2002, 73). Recently, doubts have been expressed about the revised dating and in the report on the Newcastle fort the earlier dating was re-adopted (Bidwell and Croom 2002, 171). The most immediate reason for this was the virtual absence of Crambeck parchment ware in later fourth-century occupation-sequences at Newcastle and South Shields (the latter still to be published), even though significant quantities of the ware were present in post-Roman levels and unstratified contexts, as well as in two large deposits dating to the very end of the fourth century or later at South Shields (Bidwell and Speak 1994, table 8.10, assemblages 5 and 6). Looking beyond the Tyneside forts, there are a number of other sites where the absence or scarcity of the ware seems inconsistent with a date in the mid-fourth century for its introduction.

The main question to be explored is thus whether a return to the old dating is justified. Kay Hartley's work on mortaria has been much concerned with their chronology and has been informed by an acute understanding of the political and military history of Roman Britain. This paper follows Kay's approach and is offered to her in thanks for many reports on mortaria and for much help and guidance over many years. It follows a line of research that Kay herself believes to be important: 'now that the development of the Crambeck industry is no longer believed to be linked with the Picts' War, there is an urgent need for the recovery of closely stratified Crambeck ware to establish the full chronology of the industry' (Hartley 1985, 183–4).

## *Crambeck Parchment Ware*

The first typology of the ware was Corder's (Corder and Birley 1937), followed by Gillam in his *Types* (1957); their type numbers are given below, Fig 1 illustrates Corder's original types):

*Imitating, or reminiscent of, samian ware Drag 38*: Corder Type 5b; Gillam Types 207–8

*Wall-sided*: Corder Type 7; Gillam Type 289

*With double-flanged rims*: Corder Type 8; Gillam Type 290

*Upright rims grooved on the outside*: Corder Type 9; Gillam Type 297

*Knobbed rims or flatter rims forming an internal bead and projection*: Corder Type 10; Gillam Type 298.

Corder and Birley (1937) Type 6 was not included in Gillam's *Types*. It was always thought to have been an earlier product than those listed above, and Kay Hartley has argued that it might date from as early as 280/300 and have continued until the industry came to an end (Hartley 1995, 310). Its coarser fabric ('Crambeck White ware') is distinct from that of the finer Crambeck parchment ware (Tomber and Dore 1998, 196–8). The kilns at Crambeck and its vicinity were the principal source of these wares (Corder 1928; Hartley 1995, 309). Some of their products, including parchment ware, were

copied at Catterick but seem to have been marketed only locally (Bell and Evans 2002, 455–6).

The parchment-ware types were dated by Corder and Birley (1937) to *c* 370–95 and by Gillam (1957) to 370–400. The published typologies include the most commonly-occurring vessels but omit a wide range of scarcer types, including a variety of flagons, bowls, small beakers and larger jars.

## *The original dating of the introduction of Crambeck parchment ware to c370*

The date of *c*370 for the introduction of Crambeck parchment ware depended partly on the 1929 excavations at Birdoswald where vessels in this ware were found in a deposit thought to have been later than 367. Their later fourth-century dating seemed assured by the occurrence of the ware at the Yorkshire signal stations, then thought to have been built shortly after 367, and in unstratified contexts at many sites on the Wall (Richmond et al, 1930, 176). The assumption was that Crambeck parchment ware was not produced until after the Picts' War. Apparent confirmation came from excavations in the 1930s at the outpost forts, where no parchment ware was found. High Rochester was thought to have been given up during the reign of Constans, and Bewcastle and Risingham immediately after the Picts' War (Richmond et al, 1938, 203–4, 199–200). Subsequent study of the coins from High Rochester and Bewcastle shows that they were abandoned much earlier, probably in 312 or 314 (Casey and Savage 1980; Casey 1991). On the other hand, the coins from the signal stations suggest that they were built rather later than 367, most probably in *c*383 during the reign of Magnus Maximus (Casey 1979, 75–6; strongly supported by the considerable wear displayed by the Valentinianic coinage from recent excavations at Filey: Brickstock 2000, 137).

Now that these sites can no longer be regarded as being founded or abandoned in or shortly after *c*367, the Birdoswald deposits excavated in 1929 assume greater importance and need to be described in detail. Some of the Crambeck parchment ware came from levels of Period IV, dated to after 364 because of the presence of a slightly worn coin of Valentinian in the previous level (Richmond *et al* 1930, 170). The vessels were found above the flagged floor of the 'cook-house' ([Period] IVa), '[which] lying deeper, yielded much pottery, burnt after being broken' (*ibid*, 170, fig 13, nos 16–17, fig 16, no 97); 'many vessels in use at the close of this period were broken by the fall of the roof on the destruction of the building, and their pieces, some burnt, others not, fit together' (*ibid*, 176). The remainder was from a deposit that spanned both Period III and IV or was unstratified. Although the end of Period III was identified with destruction in the Picts' War of 367, a connection few would now accept, the evidence of the coin from Period III still places the beginning of Period IV after 364. The Period IV pottery came from the demolition or destruction of the 'cook-house', doubtfully associated with another, later period of looting and burning, this time not linked by its excavators with any barbarian incursion recorded in ancient sources (*ibid*, 170–71). Relevant to the dating of the pottery was the observation that 'the back of Diocletian's inscription [incorporated face-down in the floor], like the rest of IVb's flagging, is unworn' (*ibid*, 170).

To date the material from the destruction or demolition of the 'cook-house' to *c*370 is to put the very narrowest interpretation on the evidence. The coin from Period III could have been issued at any date between AD 364 and 375 and was slightly worn. Rebuilding followed the deposition of the coin; although the unworn floor of the 'cook-house' suggests it was not long in use, or was not used very often, some years can reasonably be allowed for the life of the building. The 'cook-house' deposit might well date to the later 370s or even the 380s.

## *Crambeck parchment ware and general site-dating in northern England*

Stratified groups from recent excavations offer some help in dating the introduction of Crambeck parchment ware, but equally important are a number of sites where the latest coins are Valentinianic (364–78) and which have little or no parchment ware.

Before considering these sites in detail, there are two questions that have to be addressed. The first concerns the reliability of coin-lists as indices of the intensity and duration of occupation. The last few decades of coin-supply to Roman Britain are usually divided into four periods, dating to 348–64, 364–378, 378–388 and 388–402 (Reece 1972; Casey 1974). Annual coin loss in the first two of these periods was usually much higher than in the last, while very few coins of the third period appear as site finds. In order to rule out late fourth-century occupation on numismatic grounds, a coin-list of some size is required. For example, Shotter (1979a, 298), in his discussion of the Watercrook coins, stated that 'on a total sample of 100 coins, one would not expect the distribution to be badly untypical'. In some circumstances, as at Skeldergate in York (*see below*), smaller samples might be valid.

A second question is how large a group or assemblage needs to be for the absence of Crambeck parchment ware to be significant. Evans (1989, 75) collected statistics from a number of sites, which show that the ware as a percentage of all Crambeck products varied between 1.7% and 23.4%. In the Hadrian's Wall zone the ware made up 6.5% and 8.4% measured by EVEs, and 5.4% and 7.7% by weight of all the pottery in two late deposits at South Shields (Bidwell and Speak 1994, table 8.10, assemblages 5 and 6, excluding residual samian ware and

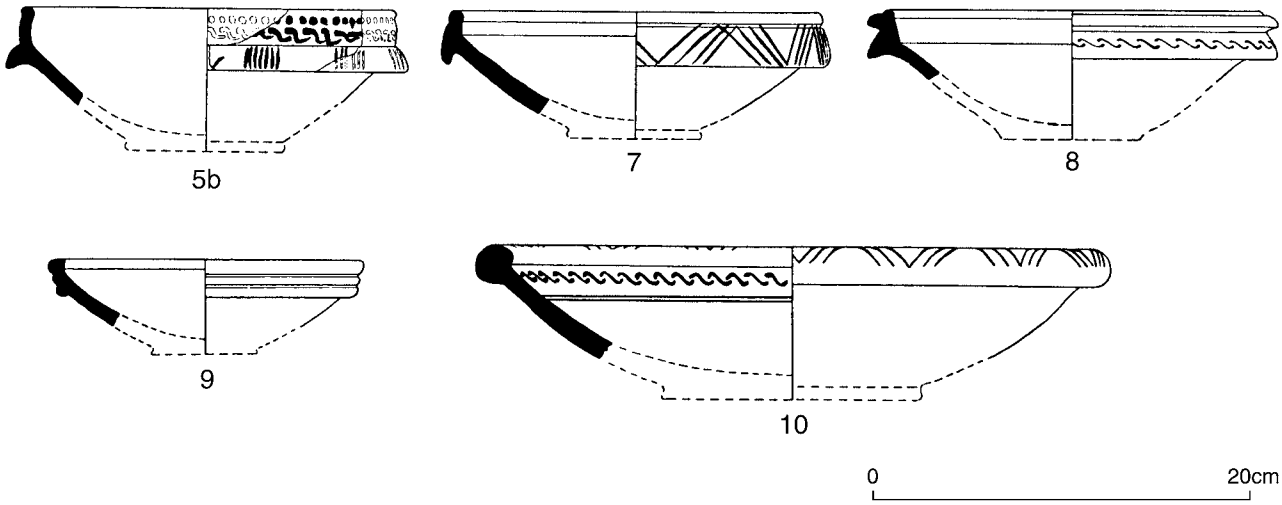



*Fig 1: Crambeck parchment ware: types after Corder and Birley 1937, fig 3 (scale 1:4)*

amphorae); in the post-Roman cemetery layers at Newcastle (which presumably contain material redeposited from the latest Roman occupation on the site), it represented 4.2% by EVEs and 4.7% by weight of the total assemblage (Bidwell and Croom 2002, table 15.9). Thus Crambeck parchment ware ought to be represented in any group or assemblage deposited during the currency of the ware that amounts to more than a few dozen sherds.

## *Other associated products*

Huntcliff-type cooking-pots in calcite-gritted ware were produced in East Yorkshire and share the same pattern of distribution as Crambeck parchment ware. Gillam (1957, Types 162–3) dated them to 360–400, placing their date of introduction (or appearance on the northern frontier) some ten years earlier than that of Crambeck parchment ware. He appears to have been following the dating established at Birdoswald in 1929 where the Huntcliff type was described as the typical cooking-pot of Periods III/IV, which implies that it was current before 367 (Richmond et al. 1930, 191). Several of these vessels were associated with the Crambeck parchment ware in the group associated with coins of *c*350 at Birdoswald, and it was suggested that their date of introduction should be pushed back to c340 (Hird 1997, 236, 248). This deposit is discussed below, but the general dating of Huntcliff-type cooking-pots is beyond the scope of this paper. Nevertheless, the frequency of their occurrence is certainly relevant to the dating of Crambeck parchment ware.

Two other pottery types produced by the Crambeck kilns are also relevant: the grey-ware flanged bowl with a wavy line on its interior wall (Corder and Birley 1937, Type 1b; Gillam 1957, Types 231–32, dated 370–400) and bowls imitating, or reminiscent of, the samian Drag 38, in oxidised ware, sometimes with decoration in white paint or in grey ware (Corder and Birley 1937, Type 5; Gillam 1957, Types 203–04, dated 360–400). These types are by no means as common as the Huntcliff-type cooking-pot, but they are noted if present in the groups and assemblages discussed below.

## *Assemblages and groups dated by coins (Fig 2)*

Apart from the group at Birdoswald, the earliest assemblage which includes Crambeck parchment ware is Site 434 at Catterick, on the north bank of the River Swale opposite the main settlement, where there were 109 coins, the latest of which were 51 coins of 330–48 and 10 of 348–64, suggesting that occupation had come to an end 'in, or about, 364' (Brickstock 2002, 4, table 80). 'There is … a marked lack of late-4th-century calcite-gritted Huntcliff type jars … and, in addition, painted Crambeck parchment ware is not common' (Evans 2002a, 246). Six Crambeck parchment-ware examples were listed amongst 34 mainly late-Roman mortaria (Evans 2002b, 333, table 8).

This site would suggest that Crambeck parchment ware was in production by the early 360s. The following three sites provide contrary indications:

**Catterick Bridge, Site 240**: there were 433 Roman coins from the site (Brickstock 2002, table 80). In Phase 5, where the latest coins were issues of 354–64 and 350–60, there was no Crambeck parchment ware, but it was present in the succeeding phase, the latest coins from which were three issues of 367–75 (Bell and Evans 2002, 452).

**Skeldergate, York:** there were 41 coins from this site in the *colonia* at York, the bulk of which formed 'a consistent group dating perhaps to the middle of the fourth century', with only one later coin, a worn issue of

Gratian (367–75); it was concluded that 'activity, as represented by coins, ceased shortly after 353' (Casey 1978, 47). The only example of Crambeck parchment ware was a mortarium of Corder and Birley (1937) Type 7, and Huntcliff-type cooking-pots were absent (Perrin 1981, 50, fig 27, no 317). The mortarium can plausibly be regarded alongside the coin of Gratian as a casual later loss, and the rest of the assemblage as evidence for the absence of the late types in the mid-fourth century.

**Ravenglass**: the end of Phase 3 in the fort was marked by a fire, the debris from which included a fairly unworn coin of Magnentius (350–51); the debris also sealed part of what might have been a small hoard consisting of two coins of Constans (346–50) and one of Magnentius (350–51) (Potter 1979, 41, 45; Shotter 1979b, 104). Crambeck parchment ware and Huntcliff-type cooking-pots were absent from this phase but occurred in large quantities in Phase 4, dated to 350–70/400.

In addition, there are two sites with Valentinianic coinage (364–78) which also appear to have no Crambeck parchment ware:

**Ribchester:** up until 1985, 304 coins were recorded, the latest being five coins of the period 364–78. The total absence of coins of the last two periods 'must at the least leave a question mark over the nature and scope of occupation at the site beyond *c*370' (Shotter 1985, 90; subsequent finds are generally from the *vicus* area and include no relevant coins). Huntcliff-type cooking-pots were present in small quantities (Webster 1985, 60).

**Watercrook:** has produced far fewer coins than Ribchester: amongst the total of 100, fourth-century coinage is very poorly represented and the two latest coins are of the period 364–78, one being of doubtful provenance: 'it … seems doubtful whether these fourth-century coins indicate a full-scale occupation at least of the sampled part of the site' (Shotter 1979a, 298). Huntcliff-type and other jars in calcite-gritted ware are present, but no Crambeck parchment ware is illustrated.

However, most sites with coin series ending with Valentinianic issues, or large groups dated by Valentinianic coins, have Crambeck parchment ware, although sometimes in very small quantities:

**Brough-on-Humber**: the coin-list from the town and possible late-Roman naval base consists of 518 coins (Curnow 1969). After the mid-fourth century, from 348 onwards, there was a marked fall in the supply of coinage; there were eight coins of the House of Valentinian, and only one later issue, a coin of Magnus Maximus (383–88). Huntcliff-type cooking-pots and Crambeck parchment ware were present, as well as Gillam (1957) Types 203–04 and 231–32, but only in very small quantities, about one per cent of the total number of sherds found; this was taken as an indication of 'the lack of strength in the post-370 occupation at Brough' (Wacher 1969, 205).

**Rudston**: amongst the 42 coins from the villa at Rudston, the three latest issues were Valentinianic and were found in the upper filling of a well along with Huntcliff-type cooking-pots and Crambeck parchment ware (Rigby 1980, 94).

**Dalton Parlours**: there were 87 coins from Dalton Parlours, displaying a marked increase in the period from 330 to 346/48 and 'continued vigorous occupation until perhaps as late as 367'; the series ended abruptly with a single Valentinianic issue (Pirie 1990, 75). Substantial numbers of Huntcliff-type cooking-pots and Crambeck parchment ware vessels were found on the site (Sumpter 1990, 145).

**Hadrian's Wall forts**: Huntcliff-type cooking-pots and Crambeck Parchment ware were absent from Period 5 occupation and demolition at Vindolanda (*c*275/300–370) but appeared in the construction levels of Period 6 which were associated with a coin of 367 showing some wear (Bidwell 1985, 201).

**South Shields**: there were no overall rebuildings after the beginning of Period 7 in the late third or early fourth century; Period 8 comprised a series of modifications in various parts of the fort which were associated with Valentinianic coinage. The only relevant published sequence is from the defensive ditches beyond the south-west gate where the deposits preceding Period 8 contained no late types (Bidwell and Speak 1994, 138). The earliest contexts for Huntcliff-type cooking-pots amongst the unpublished pottery are two mid-fourth-century deposits in the eastern quadrant of the fort (5481; 23013). The other late types only appear in the course of Period 8.

**Newcastle**: here Crambeck parchment ware was associated with two coins of Valentinian (364–75), one unworn and one slightly worn (Bidwell and Croom 2002, 171). Almost all the examples of the ware were recovered from the post-Roman cemetery levels, which contained large amounts of material re-deposited from the latest Roman occupation levels (cf *ibid*, tables 15.8 and 15.9).

**Milecastles on Hadrian's Wall**: three milecastles (nos 9, 35 and 51) have produced coins of Valentinian and Valens. Huntcliff-type cooking-pots and flanged bowls of Corder and Birley (1937) Type 1b have been published from milecastle 9, Throckley (Birley 1930, pl

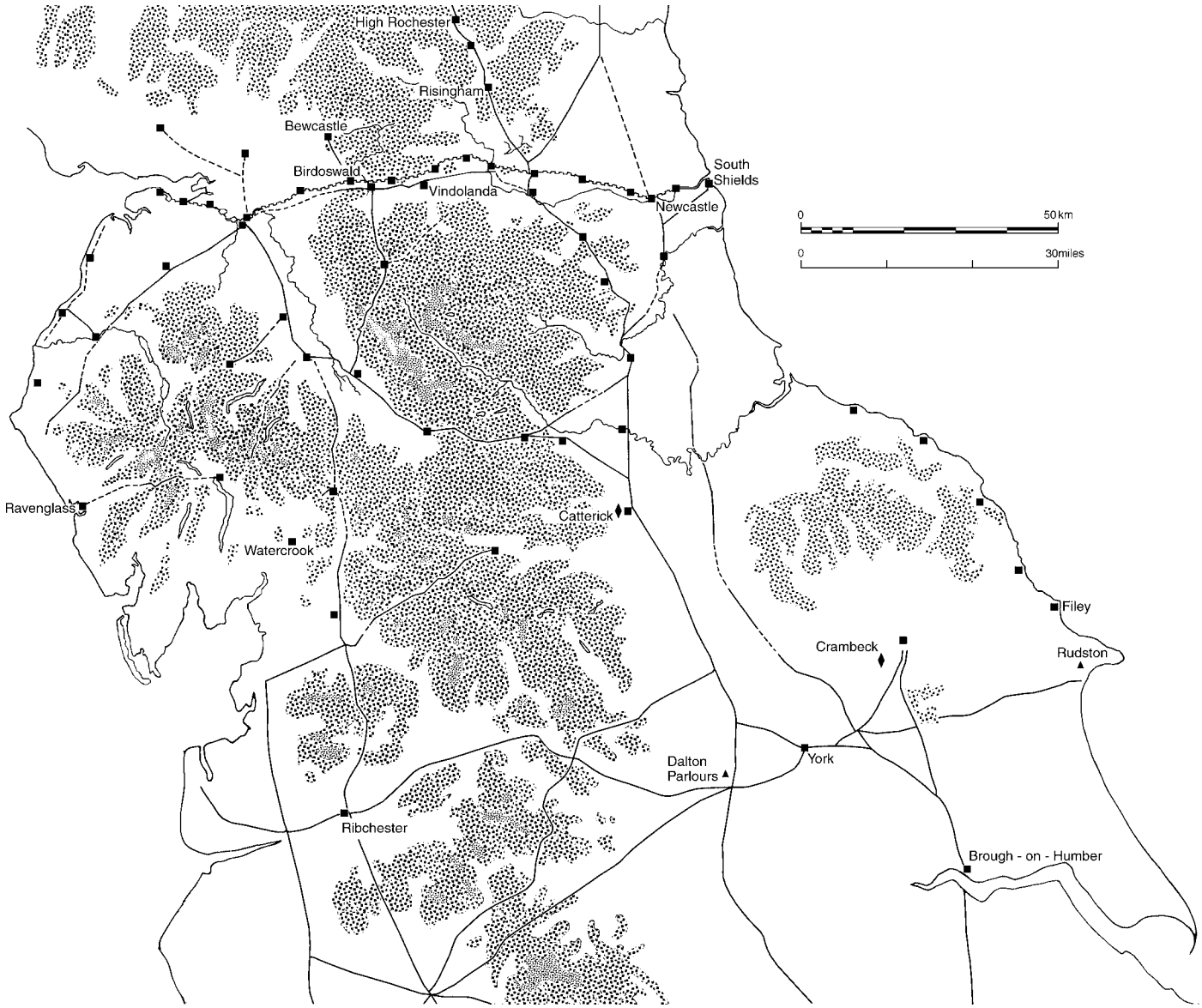



*Fig 2: Map showing location of sites mentioned in the text*

LIII, nos 60–61, 70–72) and in some quantity from milecastle 35 (Dore 1984, 112) where there were two Valentinianic issues (Casey 1984, nos 20–21). Crambeck Parchment ware was absent. No pottery has been published from milecastle 51. Huntcliff-type jars are also known from milefortlet 5, Cardurnock (Simpson and Hodgson 1947, fig 11, nos 20–24; also an oxidised Crambeck Drag 38 bowl, fig 11, no. 40); no coins were recovered (or published). Milecastle 48, Poltross Burn, produced Huntcliff-type cooking-pots and a Crambeck Parchment ware bowl of Corder and Birley (1937) Type 5b or Gillam (1957) Type 207 (his type specimen; Gibson and Simpson 1911, pl 18, no 330, the only example of this ware published from a milecastle); the latest coin was an issue of 317–24, but only ten were recovered. At milecastle 50, High House, out of a total of eight coins, the latest were of 309–13 and 309–14 (Simpson 1913, 336–70); no late pottery types were recovered.

## *Summary*

Amongst the four sites that provide pre-Valentinianic contexts, Crambeck parchment ware is present only at Site 434, Catterick. In Valentiniainic contexts, the ware is lacking at Ribchester and Watercrook, scarce at Brough-on-Humber and Rudston, and at milecastles and in the relevant groups at forts in the Hadrian's Wall area. Only at Dalton Parlours has it appeared in any quantity. A firm link between Valentinianic coinage and the introduction of Crambeck parchment ware can be accepted if two exceptions can be explained. The first is Site 434 at Catterick where it is only necessary to postulate that occupation continued for a few years beyond the date of the latest coin. The second exception is the group from the

southern granary at Birdoswald, which is examined in detail below.

## *Birdoswald: the group from the southern granary*

The basement of the granary (Building 197) was filled with clay and loam in order to support a solid floor throughout the length of the building. The filling contained 23 coins, 3 of them illegible, 3 dating to before 235, and the remaining 17 dating from 270 to 348 (Wilmott 1997, 203–9). They were taken 'to fix the date of the backfill … very closely to the middle years of the fourth century (c 350), before the Fel Temp Reparatio coinage was in common use' (ibid, 208). Also from the filling came a group of pottery which included seven Huntcliff-type cooking-pots and a Crambeck parchment-ware mortarium of Corder and Birley (1937) Type 8 (Gillam (1957) Type 290), as well as other cooking-pots in calcite-gritted ware, Crambeck Grey ware, BB1 and a colour-coated ware flanged bowl in Lower Nene Valley ware (Hird 1997, fig 167). The group was seen to be of great importance because of the date of *c*350 indicated for it by the coins. It was argued that Huntcliff-type jars must have appeared in *c*340 and the Crambeck parchment-ware types in c350, that is, 'at least 20 years earlier than previously believed' (ibid, 236).

The association in the same deposit of this sizeable group of pottery (7.57kg or 556 sherds) with a series of coins ending in *c*350 is beyond any doubt but entirely contradicts the evidence from the other sites as set out above. This is best explained by considering the material used to fill the granary basement in which the coins and pottery were incorporated. The lower deposits included silty clay and the upper deposits clay loam, although the whole series of deposits consisted mainly of stone rubble and roof slates (Wilmott 1997, 203). The building debris probably came from the superstructure of the granary, but the clay and loam deposits must have been brought from elsewhere. They were probably quarried from open areas of the site, and it is easy to see how material from two separate episodes of activity could have been mixed together in the filling of the basement. The series of coins terminating in *c*350 can be regarded as only providing a *terminus post quem* for the filling of the granary basement. The pottery, according to the evidence from elsewhere, suggests that the actual date of the filling lay within the Valentinianic period or later. The northern granary (Building 198) seems also to have been demolished in the Valentinianic period, as shown by coins and pottery, the latter including Huntcliff-type cooking-pots and a sherd of Crambeck parchment ware (Hird 1997, 250, fig 169). Although the structural history of the northern granary preceding its demolition was very different to that of the southern granary, it is possible that the demolition of the former and modification of the latter took place at the same time.

## *Conclusions*

If the explanations given for the anomalous evidence from Birdoswald and Catterick is accepted, there are no obstacles to a Valentinianic date (364–78) for the introduction of Crambeck parchment ware. The irregular pattern of its occurrence in Valentinianic contexts, absent at two sites, scarce at several others, and common at only one site, is consistent with its introduction midway through, if not towards the end of, the period 364–78. A return to the once apparently firmly-established date of c 370 for its introduction is thus justified. It is more than a coincidence that recent excavations support this date, when most of the original evidence on which it rested has been whittled away by the re-dating of the outpost forts and Yorkshire signal-stations. The first discussion of Crambeck parchment ware at Birdoswald noted, amongst other more complex and now redundant arguments, the simple fact that it was common on Hadrian's Wall sites but rarely stratified, and for that reason was likely to belong to the closing decades of the Roman period (Richmond et al. 1930, 176). That pattern of recovery has been the same on more recent excavations on the Wall and elsewhere. First impressions are not always misleading.

In passing, it is worth remarking that Huntcliff-type cooking-pots generally mirror the occurrence of Crambeck parchment ware, although at two sites, Ribchester and Watercrook, they were present and the latter ware was absent. This supports a date for their introduction earlier than that of Crambeck parchment ware, but this is a subject which requires further work that is beyond the scope of this paper.

**Acknowledgements**

I am grateful to Alex Croom, Ray McBride, Dr Nick Hodgson and Dr Vivien Swan for comments on a draft of this article. The illustration was drawn by Dave Whitworth (Tyne and Wear Museums).

**Bibliography**

Bell, A and Evans, J, 2002, Pottery from the CfA excavations, in Wilson, PR, *Cataractonium: Roman Catterick and Its Hinterland. Excavations and Research, 1958–97*, Part 1, CBA Res Rep 128, 352–496

Bidwell, P, 1985*: The Roman Fort of Vindolanda at Chesterholm, Northumberland*, HBMC(E) Archaeol Rep **1**

Bidwell, P and Croom, A, 1997, Coarse wares, in Wenham, LP and Heywood, B, *The 1968 to 1970 Excavations in the* Vicus *at Malton, North Yorkshire*, Yorks Archaeol Rep **3**, 61–103

Bidwell, P, and Croom, A, 2002, The Roman Pottery, 139–72 in Snape, M and Bidwell, P, Excavations at Castle Garth, Newcastle upon Tyne; the excavation of the Roman fort, *Archaeol Aeliana*, 5th ser, **31**, 1–249

Bidwell, P, and Speak, S, 1994, *Excavations at South Shields Roman Fort, Vol* I, Soc Antiq Newcastle upon Tyne Mon Ser **4**

Birley, E, 1930, Excavations on Hadrian's Wall west of Newcastle upon Tyne in 1929, *Archaeol Aeliana,* 4th ser, **7**, 143–74

Brickstock, RJ, 2000, The coins, in Ottaway, P, *Excavations on the site of the Roman signal station at Carr Naze, Filey, 1993–94*, *Archaeol J*, **157**, 131–40

Brickstock, RJ, 2002, The coins, in Wilson 2002, Part II, 1–23

Casey, PJ, 1974, The interpretation of Romano-British site finds, in Casey, PJ and Reece, R.(eds), *Coins and the Archaeologist*, BAR **4**

Casey, PJ, 1978, Coins, in Macgregor, A., *Roman Finds from Skeldergate and Bishophill*, The Archaeology of York, **17/2**: The Small Finds, 41–7

Casey, PJ, 1979, Magnus Maximus in Britain in Casey, PJ, (ed)**,** *The End of Roman Britain: Papers arising from a Conference, Durham 1978*, BAR Brit Ser **71**, 66–79

Casey, PJ, 1984, The coins, 33–147 in Haigh. D and Savage, M, Sewingshields, *Archaeol Aeliana,* 5th ser, **12**, 133–6

Casey, PJ, 1991, Coins, in Austen, PS, *Bewcastle and Old Penrith: a Roman Outpost Fort and a Frontier* Vicus*. Excavations 1977–8*, CWAAS Res Ser **6**, 34–40

Casey, PJ, and Savage, M, 1980,The coins from the excavations at High Rochester in 1852 and 1855, *Archaeol Aeliana,* 5th ser, **8**, 75–87

Corder, P, 1928, *The Roman Pottery at Crambeck, Castle Howard*, Roman Malton and District Rep **1**

Corder, P, and Birley, M, 1937, A Pair of Fourth-Century Romano-British Kilns near Crambeck, *Antiq J*, **17**, 392–413

Curnow, PE, 1969, Coins, in Wacher 1969, 82–7

Dore, JN, 1984, The coarseware, 110–24 in Haigh, D, and Savage, M, Sewingshields, *Archaeol Aeliana,* 5th ser, **12**, 33–147

Edwards, BJN, and Webster, PV, 1985, *Ribchester Excavations, Part 1: Excavations within the Roman Fort, 1970–1980*, Cardiff

Evans, J, 1989, Crambeck; the development of a major northern pottery industry, in Wilson, PR, (ed), *The Crambeck Roman Pottery Industry*, Leeds, 43–90

Evans, J, 2002a, Synthesis of the Catterick pottery, in Wilson 2002, Part I, 246–9

Evans, J, 2002b, Pottery from Catterick Bypass Excavations and Catterick 1972 (Sites 433 and 434), in Wilson 2002, 250–351

Gibson, JP, and Simpson, FG, 1911, The milecastle on the Wall of Hadrian at the Poltross Burn, *Trans Cumberland Westmorland Antiq Archaeol Soc*, new ser, **11**, 390–461

Gillam, JP, 1957, Types of Roman coarse pottery vessels in northern Britain, *Archaeol Aeliana,* 4th ser, **35**, 180–251

Hartley, K, 1985, Mortaria, in Bidwell 1985, 182–4

Hartley, K, 1995, Mortaria, in Phillips, D, and Heywood, B, *Excavations at York Minister Vol I: From Roman Fortress to Norman Cathedral: Part 2 The Finds*, London, 304–23

Hird, L, 1997, The coarse pottery, in Wilmott 1997, 233–56

Perrin, JR, 1981, *Roman Pottery from the Colonia: Skeldergate and Bishophill*, The Archaeology of York **16/2**: The Pottery

Pirie, EJE, 1990, The coins, in Wrathmell and Nicholson 1990, *Dalton Parlours: Iron Age Settlement and Roman Villa*, Yorks Archaeol 3, Wakefield 75–9

Potter, T, 1979, *Romans in North-West England: Excavations at the Roman Forts of Ravenglass, Watercrook and Bowness on Solway*, CWAAS Res Ser **1**

Reece, R, 1972, A short survey of the Roman coins found on fourteen sites in Britain, *Britannia*, **3**, 269–76

Richmond, IA, Birley, EB, and Simpson, FG, 1930, Excavations on Hadrian's Wall, in The Birdoswald – Pike Hill Sector, 1929, *Trans Cumberland Westmorland Antiq Archaeol Soc,* new ser*,* **30**, 169–205

Richmond, IA, Hodgson, KS, and St Joseph, K, 1938, The Roman fort at Bewcastle, *Trans Cumberland Westmorland Antiq Archaeol Soc,* new ser, **38**, 195–237

Rigby, V, 1980, Coarse pottery, in Stead, IM, *Rudston Roman Villa*, 45–94

Shotter, DCA, 1979a, Coins, in Potter 1979, 291–9

Shotter, DCA, 1979b, Coins, in Potter 1979, 102–5

Shotter, DCA, 1985, The coinage of Roman Ribchester: a discussion, in Edwards and Webster 1985, 86–93

Simpson, FG, 1913, Excavations on the line of the Roman Wall in Cumberland during the years 1909–12, *Trans Cumberland Westmorland Antiq Archaeol Soc,* new ser, **13**, 297–397

Simpson, FG, and Hodgson, KS, 1947, The coastal milefortlet at Cardurnock, *Trans Cumberland Westmorland Antiq Archaeol Soc,* new ser, **47**, 78–127

Sumpter, AB, 1990, Roman pottery (from contexts other than Well 1), in Wrathmell, S, and Nicholson A, (eds), *Dalton Parlours: Iron Age Settlement and Roman Villa*, Yorks Archaeol **3**, Wakefield.135–46

Swan, VG, 1984, *The Pottery Kilns of Roman Britain,* RCHM Suppl Ser **5**

Swan, VG, 2002, The Roman pottery of Yorkshire in its wider historical context, in Wilson, P and Price, J (eds), *Aspects of Industry in Roman Yorkshire and the North*, Oxford, 35–79

Tomber, R, and Dore, J, 1998, *The National Roman Fabric Reference Collection: A Handbook*, MoLAS Mon **2**

Wacher, JS, 1969, *Excavations at Brough-on-Humber, 1958–61*, Rep Res Comm Soc Antiq London, **25**

Webster, P, 1985, Coarse pottery from the 1970 excavations, in Edwards and Webster 1985, 59–83

Wilmott, T, 1997, *Birdoswald: Excavations of a Roman fort on Hadrian's Wall and its successor settlements: 1987–92*, EH Archaeol Rep **14**, London

Wilson, PR, 2002, *Cataractonium: Roman Catterick and Its Hinterland. Excavations and Research, 1958–1997, Parts I and II*, CBA Res Rep **129**

# Reflections on the choice of Brockley Hill as a pottery production site

*David Bird*

It may seem rather like taking coals to Newcastle to offer Kay a paper about Brockley Hill, but I hope this rather speculative piece will be of interest. I can remember working alongside her at La Graufesenque, musing about the location of the site while she struggled to rub the decoration on a more or less complete *lagena* (no mean feat!). In that wonderful setting one is inevitably struck by what David Peacock has called 'the extraordinary location of some of the major producers' (Peacock 1982, 119). The siting of the Brockley Hill potteries raises similar questions.

The Verulamium-region pottery industry is now well-known (summary in Tyers 1996, 132–4 and 199–201), thanks in part to Kay's important studies of the mortaria made there (see the many references in her bibliography (this volume) and especially Hartley 1998, 199). The industry is sometimes described as if it is continuous for many kilometres along Watling Street, south of Verulamium, but in fact only three certain production sites are known at present, away from the town itself. Obviously there could be more to find; for example it is not yet known where the most prolific mortarium maker, Albinus, had his workshop (or workshops). The southernmost known manufacturing site is at Brockley Hill about 13.5km from Verulamium, where the road climbs over a long south-east to north-west clay ridge, making a dog-leg and then turning towards London about 20 km away.

It is currently accepted that the industry began about AD 50, and from the start it produced very 'Roman' vessels, especially flagons and mortaria, but also amphorae. With such vessels and at such a date it almost certainly relied on potters brought in from the Continent. Conveniently for scholars the mortaria were stamped, the earliest-known producer being Oastrius at Bricket Wood, from about AD 55 (Saunders and Havercroft 1977). There are flagons in pre-Boudican deposits in London and between AD 70 and 120 the Verulamium region provided the bulk of mortaria and flagons used there (Davies *et al* 1994, 41 and 47; Marsh and Tyers 1978, 534–5). The same area also produced tiles; indeed it seems that the Verulamium to London area along Watling Street provided much of the early tile supply to London (Crowley and Betts 1992, 221). Stamps indicate that some of this tile was for the Procurator's office (Betts 1995, 221), which sometimes also ordered mortaria (Hartley 1996): evidence from Brockley Hill hints at production there, at least of some of the tiles (Suggett 1953, 186). Tiles indicate Roman-type buildings, and mortaria, flagons and amphorae imply a Roman diet; as production began so early it is likely to have been intended mostly for incomers to the province. The army was an important destination for mortaria (Hartley 1973b, 42; Tyers 1996, 134) but the main market for the industry as a whole was Verulamium and especially London.

Brockley Hill has the largest known concentration of Verulamium-region pottery-kilns, associated with many related features such as clay pits (summary in Seeley and Thorogood 1994; see also Thompson 2000). The evidence suggests a starting date around AD 50, similar to that at Bricket Wood. The earliest material at Brockley Hill came from a large pit which was only partly sectioned (Castle 1999), and Paul Tyers has suggested that some of the vessels might be related to a style of grooved-neck jars made in the area around and to the east of Lyon (Tyers 1998, 296). By contrast the Bricket Wood material is standard for the Verulamium region. The implication is that Brockley Hill is a slightly earlier site, where potters brought in from the Continent were first based, who experimented before establishing a standard production. This spirit of experimentation seems to have continued later on (Seeley and Thorogood 1994, 226–7).

Present evidence thus suggests that Brockley Hill was the first location for the Verulamium-region industry, and probably continued to be its main centre. It was certainly early, and important. Yet the new industry seems to have been established at a place that was in the middle of nowhere until the Roman road was constructed. There is no evidence for pre-Roman occupation at Brockley Hill (Castle 1976, 223) and the London Clay in this general area does not encourage settlement (Bird 1996, 217 and 220). Why therefore was the place chosen? Suitable clay can be found in many other places and indeed frequently was in the Roman period. Clay

could have been moved as it sometimes was elsewhere (eg Peacock 1982, 53). There is evidence that it was possible to make the same sort of pottery right next to Verulamium and even in London. The Brockley Hill industry however attracted people from other potteries that seem to be equally well placed for some of the relevant markets, such as G Attius Marinus from Colchester. Adequate supplies of fuel are most unlikely to have been a problem across a large part of the London area, and particularly anywhere near the London Clay beds (Bird 1996, 226 and 229, n22).

It is sometimes suggested that the potteries were sited at Brockley Hill because they were conveniently placed to supply both London and Verulamium, but there are enough known potters for it to have been possible to establish separate pottery production sites close to each town. Indeed some of the potters did move between centres; for example several who worked at both Radlett and Brockley Hill (Hartley 1976a, 219). Ease of transport is another factor often suggested, and particularly transport by water, but the Brockley Hill factory is effectively placed at the furthest distance from each possible river, on the watershed between them. It could have been sited at Verulamium or nearer the Thames if river transport mattered. In fact Brockley Hill, like its successor at Mancetter/Hartshill (Hartley 1973b, 39), is a very good example of the importance of road rather than river transport for major industries within Britain (and elsewhere: brief discussion in Bird 1996, 228, nn 12 and 13; cf Demarolle 1986, 177). Transport by sea is a different matter (eg the distribution of Colchester mortaria: Tyers 1996, 120).

Watling Street was presumably crucial to the industry and it is therefore interesting that it was probably not built before about AD 50, as part of a reorganisation triggered by the foundation of London. It is becoming clear that this city was established as a trading centre on a new site, and that a new Thames crossing point with a bridge and the roads to serve it were probably all part of the package (Bird 1999). A London to Verulamium route crossing the London Clay is unlikely before then. It is probably no coincidence that the Verulamium-region industry starts at about the same time, and it would be reasonable to see it as closely related to the new foundation, producing the specifically 'Roman' consumer goods that the new market required.

Some of the Verulamium-region potters have a counterstamp suggesting production at a place called *Lugdunum* or *Lugudunum* (Hartley 1977, 139). Oastrius used a LVGD counterstamp at Bricket Wood, although it is curious that the stamp had a retrograde D for the G. There are at least three different kinds of *Lug(u)dunum* stamps from Brockley Hill (Hartley 1973a; Hartley1974, 262; Castle 1976, table opposite 224). They include three of Ripanus, ten of whose stamps come from there but apparently not from any other kiln site (Hartley 1984, 281), and one associated with a kiln (Suggett 1953, 183); there is at least one from Radlett too (Marsh and Tyers 1978, 534). *Lugdunum* ought to mean 'fortress of the god Lugus' (Rivet and Smith 1979, 401) but there are no obvious candidates at the known kiln sites. Brockley Hill on its ridge is perhaps the best placed for a 'fortress', but none has been recorded or suggested in this area.

It seems more likely that the counterstamp has something to do with **the** *Lugdunum*, Lyon. Tyers suggests that the stamps might have been intended to mean 'made by the potters from *Lugudunum*' and that perhaps this was even true in a general sort of way. He points to links between the very early Brockley Hill material and pottery produced in the wider Lyon area and notes that mortaria may have been imported from there too (Tyers 1998, 294–6). It might be added that even if there was not a more direct link, the name *Lugdunum* probably meant something to the target market, which is likely to have had strong trading links, and to have known the Lyon area as the source of good quality pottery. Fine wares from that region had a dominant place among pre-Flavian imports (Tyers 1996, 57). There are other parallels for trading on a well-known name: for example a number of early South Gaulish potters use abbreviations which imply a claim to be making Arretine; the most convincing is SCOTTIUS.FE ARETINU (Brenda Dickinson *personal communication*). Later on the same compliment may have been paid to the Brockley Hill potters (*see below*).

Any sort of link with Lyon is of interest in this context. There are some parallels between London and Lyon: both were outside the normal administrative arrangements and both acted in some sense as a sort of 'capital' (Millett 1998; Goudineau *et al* 1980, 96). There are of course many differences as well, but there can be no doubt that both were very important trading centres. It would not be unreasonable to assume that some of those responsible for the foundation of London had strong links with Lyon.

Wherever they came from, there can be very little doubt that the new pottery was made by incomers. How would they have arrived at their choice of site? The organisation of Roman pottery industries is a complex topic, still very much a matter for debate; there is clearly much variety (see Geoffrey Dannell's recent discussion of la Graufesenque, which has wider implications (Dannell 2002)). In the present case it is clear that the Verulamium-region industry must have been planned and set up by one or more entrepreneurs, who presumably could have included the potters or workshop owners themselves, as some were Roman citizens (Birley 1979, 134). The key factors must have been availability of resources and a middleman, perhaps with important backers. Presumably availability of a suitable site was dependent in some way on land ownership.

The issue of ownership raises interesting questions,

which cannot be properly answered because of our lack of knowledge about pre-Roman systems of landholding. It seems clear, however, that a system we would still recognise was in place at least by AD 118, the date of a property dispute involving Lucius Julius Bellicus (Tomlin 1996). The well-known story of Prasutagus and Boudica implies land ownership at an earlier date (Tacitus *Annals* 14, 31). It would be reasonable to assume that, however it worked, there were recognisable forms of landholding in pre-Roman Britain and these were accepted and adapted by the new authorities. The signs of early favour for Verulamium must surely indicate co-operation by local Britons even during the invasion phase (Niblett 1999, 420; Bird 2000, 101). But co-operation works both ways and means that British ownership in the area would have to be respected. Maybe this is one factor in the location of major pottery industries so far from towns; they needed to be in places where they did not interfere with other, perhaps quite small-scale, rights (including for example a wide enough area from which to derive fuel and water).

Brockley Hill is usually equated with the place known as *Sulloniacis* (Rivet and Smith 1979, 463). This was presumably a 'posting station' and it may actually have been located somewhat further south, nearer Edgware (Sheldon 1996; McKinley 1998). The potteries on the hill could, however, still have been on the same landholding. The name probably means 'the estate of Sullonios', although the use of the plural might suggest a meaning like 'family of Sullonios' (Rivet and Smith 1979, 463). Perhaps one might suggest 'people of' as an extension? If it was a personal estate name, this suggests some special factor, as such names are rare in Britain (*ibid*, 275–6); could it have been the widespread fame of the potteries? It is certainly possible that the name came to mean something, as hinted by the potter Sepetacus who used a SUL?ON counter stamp, somewhere in the Midlands, and by the one who stamped SULLONIA at Corbridge (Hartley 1976b). Although the latter is more likely to be a personal name, it might still be significant in this context, as it could have been derived from the place-name. These potters may have been continuing a tradition used originally by the Verulamium-region potters themselves, as indicated above.

Perhaps therefore Sullonios, or a predecessor, was the important local owner who saw the opportunities (or the man who bought the place?). There may have been others if Albinus' counterstamp VIANVACAE means another estate (Hartley 1972, 371). Possibly Sullonios took loans and involved others with marketing skills and strong links to those responsible for setting up London. The 'pull' of owner or backers is suggested by the way the Verulamium-region potteries completely dominated the London market between AD 70 and 120, when Colchester and other places produced similar wares (Marsh and Tyers 1978, 534–5). If it were just a matter of ease of supply and adequate potteries then Colchester in particular should have been able to compete. One wonders too about the nature of the link with the Procurator's office, and perhaps also the military.

It is unlikely that higher status Britons would have felt out of place in such a world, even in AD 43. About 100 years earlier Caesar talks of Gauls outside the Roman world bidding for the local taxes (Caesar *Bello Gallico* 1.18); Creighton has made a strong case for Romanised hostages returning to Iron Age Britain (2000, 117 and *passim*); there are plentiful instances of Roman trade with this country before AD 43, including the recent discoveries at Fishbourne (Manley and Rudkin 2003). Verulamium itself has produced evidence for a 'princely' burial with very strong Roman contacts dated to around AD 50, with all that this implies (Niblett, 1999, 412). These people would understand the opportunities provided by the opening up of the new province, and know from personal experience the kinds of pottery required.

At present Brockley Hill appears to be the earliest of the Verulamium-region potteries and to remain the most important. Its location in an out-of-the-way place requires explanation, and raises interesting questions about land ownership and the 'working' of the new province.

**Acknowledgements**

I would particularly like to thank Joanna Bird for comments and advice, and Brenda Dickinson. Kay herself also deserves many thanks, since so much of this is based on her work.

## Bibliography

Betts, IM, 1995, Procuratorial tile stamps from London, *Britannia* **26**, 207–29

Bird, DG, 1996, The London region in the Roman period, in Bird *et al* (eds), 1996, 217–32

Bird, DG, 1999, Early days at London and Richborough, *London Archaeol* **8.12**, 331–4

Bird, DG, 2000, The Claudian invasion campaign reconsidered, *Oxford J Archaeol* **19.1**, 91–104

Bird, J, Hassall, M, and Sheldon, H (eds), 1996, *Interpreting Roman London. Papers in memory of Hugh Chapman*, Oxbow Mono **58**, Oxford

Birley, A, 1979, *The people of Roman Britain,* London

Castle, SA, 1976, Roman pottery from Brockley Hill, Middlesex, 1966 and 1972–4, *Trans London Middlesex Archaeol Soc* **27**, 206–227

Castle, SA, 1999, Excavations in Field 410, Brockley Hill, 1972, *London Archaeol* **8**.**12**, 334–5

Creighton, J, 2000, *Coins and power in late Iron Age Britain,* Cambridge

Crowley, N, and Betts, IM, 1992, Three *Classis Britannica* stamps from London, *Britannia* **23**, 218–22

Davies, B, Richardson, B, and Tomber, R, 1994, *A dated corpus of early Roman pottery from the City of London*, The Archaeol of Roman London **5**, CBA Res Rep **98**, York

Dannell, GB, 2002, Law and practice: further thoughts on the organization of the potteries at la Graufesenque, in Genin, M, and Vernhet, A (eds), *Céramiques de la Graufesenque et autres productions d`époque romaine. Nouvelles recherches. Hommages*

*à Bettina Hoffmann*, 211–42 Montagnac

Demarolle, J-M, 1986, Les conditions de la premiére implantations des ateliers Médiomatriques, in Bémont, C, and Jacob, J-P (eds), *La terre sigillée gallo-romaine. Lieux de production du Haut Empire: implantations, produits, relations*, Documents d'Archéologie Française **6**, 175–8

Goudineau, C, Février, P A, and Fixot, M, 1980, Le réseau urbain, in Duby, G (ed), *Histoire de la France urbain*, 71–137

Hartley, KF, 1972, The mortarium stamps, in Frere, S, *Verulamium excavations I*, Res Rep Soc Antiq London, **28**, 371–81

Hartley, KF, 1973a, The mortarium stamps, 38–9, in Castle, S, Trial excavations in Field 410, Brockley Hill part I, *London Archaeol*, **2.2**, 36–9

Hartley, KF, 1973b, The marketing and distribution of mortaria, in Detsicas, A (ed), *Current research in Romano-British coarse pottery*, CBA Res Rep **10**, 39–51, London

Hartley, KF, 1974, The stamped mortaria, 261–2, in Castle, SA, Excavations at Brockley Hill, Middlesex, March–May 1972, *Trans London Middlesex Archaeol Soc* **25**, 251–63

Hartley, KF, 1976a, The mortarium stamps, in Castle 1976, 211–23

Hartley, KF, 1976b, A note on the Sullonia stamps at Corbridge, in Castle 1976, 226

Hartley, KF, 1977, The mortaria, in Saunders and Havercroft 1977, 139–41

Hartley, KF, 1984, The mortarium stamps, in Frere, S, *Verulamium excavations III*, Oxford Univ Comm Archaeol Mono **1**, 280–91

Hartley, KF, 1996, Procuratorial mortarium stamps, in Bird *et al* (eds), 1996, 147–51

Hartley, KF, with Stroud, M, 1998, The incidence of stamped mortaria in the Roman Empire, with special reference to imports to Britain, in Bird, J (ed), *Form and fabric. Studies in Rome's material past in honour of BR Hartley*, Oxbow Mono **80**,199–217, Oxford

Manley, J, and Rudkin, D, 2003, Fishbourne before the conquest, royal capital of a client kingdom? *Current Archaeol* **16.7**, 290–98

Marsh, G, and Tyers, P, 1978, The Roman pottery from Southwark, in Bird, J, Graham, A H, Sheldon, H, and Townend, P (eds), *Southwark excavations 1972–1974*, Joint Pub London Middlesex Archaeol Soc and Surrey Archaeol Soc **1**, 533–86

McKinley, JI, 1998, Excavations of a Romano-British roadside site at Brockley Hill, Stanmore, Middlesex, 1995–7 *Trans London Middlesex Archaeol Soc* **49**, 31–66

Millett, M, 1998, Introduction: London as capital, in Watson, B (ed), *Roman London; recent archaeological work. Including papers given at a seminar held at the Museum of London on 16th November 1996.* J Roman Archaeol sup ser **24**, 7–12

Niblett, R, 1999, *The excavation of a ceremonial site at Folly Lane, Verulamium*, Britannia Monog **14,** London

Peacock, DPS, 1982, *Pottery in the Roman world*, London

Rivet, ALF, and Smith, C, 1979, *The place-names of Roman Britain*, London

Saunders, C, and Havercroft, AB, 1977, A kiln of the potter Oastrius and related excavations at Little Munden Farm, Bricket Wood, *Hertfordshire Archaeol* **5**, 109–56

Seeley, F, and Thorogood, C, 1994, Back to Brockley Hill, *London Archaeol* **7.9,** 223–8

Sheldon, H, 1996, In search of Sulloniacis, in Bird *et al* (eds), 1996, 233–41

Suggett, PG, 1953, Report on the excavations at Brockley Hill, Middlesex, August and September, 1951, *Trans London Middlesex Archaeol Soc* **11.2,** 173–88

Thompson, I, 2000, Harrow in the Roman period, in *Stanmore and Harrow Historical Society, two thousand years the long journey*, 6–23, Harrow

Tomlin, RSO, 1996, A five-acre wood in Roman Kent, in Bird *et al* (eds), 1996, 209–15

Tyers, PA, 1996, *Roman pottery in Britain,* London

Tyers, PA 1998, Amphoras and the origins of the Brockley Hill Roman pottery industry, *London Archaeol* **8.11**, 292–7

# Varro's *dolia*: jars for fattening dormice

*Joanna Bird*

In her preface to *The Roman cookery book* (Flower and Rosenbaum 1958), Elisabeth Rosenbaum emphasises that the book was written to be used, and that the introduction was 'arranged for the convenience of those who are equally at home (as good scholars are apt to be) in the study and the kitchen'. Such a scholar is Kay Hartley, as her friends can testify. Indeed, the pottery mortaria which have been her lifelong study are not only important for their typology and dating, and for the information they provide concerning trade and the organisation of pottery production, but are also an indicator of 'Romanisation', showing the adoption of specifically Roman methods of preparing and serving food (Baatz 1977). In such a conservative field as cooking, this is of great cultural significance. In celebration of Kay's birthday, and of a long and greatly valued friendship, it therefore seemed appropriate to offer an account of some very Roman pots associated with a very Roman dish: the large jars used to fatten dormice for the table, carefully described in the first century BC by Marcus Terentius Varro (*De re rustica*, III, 15, 1–2).

Dormice, *glires*, were a luxury food in Rome from at least the second century BC (André 1981, 119), to such an extent that they were included in a sumptuary law of 115 or 78 BC which unsuccessfully attempted to ban a variety of exotic meats from the table (Pliny, *Historia naturalis*, VIII, 82, 223). Martial describes a country visitor bringing 'sleepy dormice' as a gift to his friend Faustinus (*Epigrams*, III, 58, 36), and there are two surviving descriptions of dormouse dishes. Both are suited to elaborate dinners in households where enough of the little animals could be obtained and where there were kitchen staff competent to prepare them. The recipe given by Apicius instructs the cook to stuff the dormice with minced pork and with the ground meat of whole dormice, pounded with pepper, pine-kernels, *laser* and *liquamen*, then to sew them up and place them in the oven on a tile to roast, or to cook them, stuffed, in a small portable oven (Apicius, VIII, 9). Dormice were included in the extravagant first course of Trimalchio's banquet: 'little bridges made of iron carried dormice sprinkled with honey and poppy seed' (Petronius, *Satyricon*, 31).

Diocletian's Edict of Maximum Prices of AD 301, IV, 38, sets the price for dormice at 40 denarii for ten, which suggests that they were normally sold in tens. This apparently low price is interpreted by André as indicating that dormice had gone out of fashion by the early fourth century (1981, 120), but Erim and Reynolds note that 'the denarius in which all the prices are calculated remains a subject beset with uncertainties' (1970, 121). Dormice were clearly still considered a luxury in the later fourth century when Ammianus Marcellinus mocked banquets where 'the scales are even called for, in order to weigh the fish, birds and dormice that are served, whose magnitude they praise continuously, with frequent repetition (and not without weariness to those present), as hitherto unprecedented, to the extent of having thirty secretaries at hand with pencil cases and writing tablets recording these things' (XXVIII, 4, 13).

The increasing wealth and power of late Republican Rome produced a demand for a wide range of exotic gourmet foods, and led to the development of specialised farming techniques to provide unusual birds, animals and fish for public and private banquets, and a handsome profit for the landowner (Varro, *De re rustica*, III; White 1970, 23–4, 400–401). The enclosure for raising dormice was called a *glirarium* and is described by Varro in detail: it should be 'surrounded by a wall, which is covered on the inside with smooth stone or plaster over the whole surface, so that they cannot crawl out of it. In this place there should be small nut-bearing trees; when they are not bearing, acorns and chestnuts should be thrown inside the walls for them to gorge on. They should have rather roomy cavities made for them, where they can give birth to their young; the water supply should be small, as they do not use much and seek out a dry place'. He continues with a description of the jars used to fatten the animals by persuading them into hibernation: 'they are fattened in jars, which many people keep even inside the villa; the potters make these in a very different way from other jars, as they form paths on the inside and a hollow where food is placed. In this jar are put acorns, walnuts or chestnuts, and when a cover is placed on the jars [the dormice] grow fat in the darkness' (*De re rustica*, III, 15, 1–2). Such jars are also mentioned by Pliny, who was writing several decades

after Varro (*Historia naturalis*, VIII, 82, 224).

Jars answering closely to Varro's description have been recovered at Pompeii since at least the early 19th century, though not always correctly identified: what may have been the first to be found, published by Donaldson in 1827, was described as both bronze and a beehive (Cat no 2). By 1895, when Gamurrini published the jar from Castelluccio (Cat no 4), the type was correctly recognised and he included a note on three other examples from Pompeii; one of these is probably Cat no 5, but the others are described only as smaller, with semicircular cups on the interior (Gamurrini 1895, 78, note 1). Inevitably, where early discoveries are involved, there is some confusion over the exact number found, and the present whereabouts of some of them; it would seem that the jars recorded by Donaldson (Cat no 2) and by Fox (Cat no 5) are now missing, since the dimensions of the first and the rim of the second do not match any of those that have been examined more recently (cf Graham 1976, 100–101).

Varro gives no special name for these pots but simply calls them *dolia*, which normally means large storage jars; Pliny uses the expression *vivaria in doliis*, which perhaps translates best as 'jar-shaped earthenware hutches'. Italian archaeologists now regularly use the name 'glirario' for the jars and, while this may not be strictly accurate (Varro uses *glirarium* to refer to the whole walled enclosure), it does have the advantage of conveniently defining a very specific class of vessel. At present the distribution of these jars is confined almost entirely to Italy, to sites in Campania, Latium and Etruria; the only provincial example comes from Poetovio (modern Ptuj) in Pannonia (Cat no 10). Since so few have been recorded, the dating evidence for the jars is limited and depends largely on the texts and on the finds from sites destroyed by Vesuvius. It falls almost entirely between the first century BC and the first century AD, as Celuzza notes in discussing the fragmentary examples from Settefinestre (Cat no 9) (1985, 61). The jar from Malafede (Cat no 11) is dated to the Republican period, those from Pompeii and Boscoreale (Cat nos 2, 3 and 5–8) must date before AD 79, and the example found near Rome (Cat no 1) was with a group of amphorae dating from the mid-first century AD. The distinctive jar from Ptuj (Cat no 10) is from a cremation burial dated to the second century AD, but since grave goods were often heirlooms a close date cannot be assigned to the pot itself.

## *Catalogue*

Entries marked with an asterisk* are illustrated

Fig 1

**1*** Near Rome, from a site along the via Casilina east of Torrenova; found with a small group of amphorae that had perhaps been reused for drainage purposes connected with a nearby villa. Fragments of a pear-shaped jar with a heavy rim and narrow foot, 0.66m high with a maximum diameter of 0.63m. A spiral ledge runs round the interior, and there is at least one row of air-holes 10mm in diameter at a height of 0.35m from the base. A small cup is attached to the shoulder and linked by a pair of holes to a second cup on the interior; on the analogy of more complete examples a second pair of cups was probably originally present on the opposite side. The outer cup measures 45mm by 25mm, the inner 60mm by 30mm; the two holes are 2mm in diameter and are 5mm apart on the exterior and 15mm apart on the interior. Coarse reddish fabric with a whitish exterior surface, now coated on the interior with a thick chalky deposit; the associated amphorae date to around the middle of the first century AD. (Museo Nazionale Romano inv no 168249; Lissi Caronna 1968, 12–13 and figs 8–9; *L'alimentazione* 1987, 144)

**2*** Pompeii. Round jar approximately 0.61m high with a maximum diameter of approximately 0.63m; the wall is pierced by six rows of evenly spaced air-holes, the two rows below the rim being placed more closely together. There are four separate horizontal ledges on the interior, the lower ones placed just below the air-holes. There is a small cup on either side at the level of the rim, each joining a second cup on the interior through a hole in the wall; the publication also shows an associated flat lid approximately 0.56m in diameter. The vessel was published as a bronze beehive; this identification is discussed and disproved by Graham (1978). (The jar was noted as being in the Museum at Naples when drawn: Donaldson 1827, 13 and plate opposite 12)

**3** Pompeii. Round jar, similar to Cat no 2 above but with a flat everted rim; 0.48m high with a maximum diameter of 0.55m. A spiral ledge runs round the interior, and there are five rows of rather unevenly spaced air-holes. There is a narrow tubular cup attached at either side just below the rim, each linked by a hole to a larger semicircular cup on the interior. (Museo Nazionale di Napoli inv no 24245; Annechino 1977, tav 53, no 12; Graham 1978, 100 and pl 14)

**4*** Castelluccio, near Montepulciano. Round jar 0.7m high with a maximum diameter of 0.7m; the mouth is narrow, with an everted rim, and the base flat. There are five rows of air-holes, and the interior is described as having five separate ledges 60mm wide which slope down towards the pot wall; these are placed below the rows of holes. A small cup is attached to the shoulder at either side, each linked by a narrow hole to a second cup on the interior. (Gamurrini 1895, 77–9; the illustration only shows the exterior)

Fig 2

**5*** Pompeii. Cylindrical jar, narrowing at the shoulder; the rim is broken off. Height 0.78m, maximum diameter

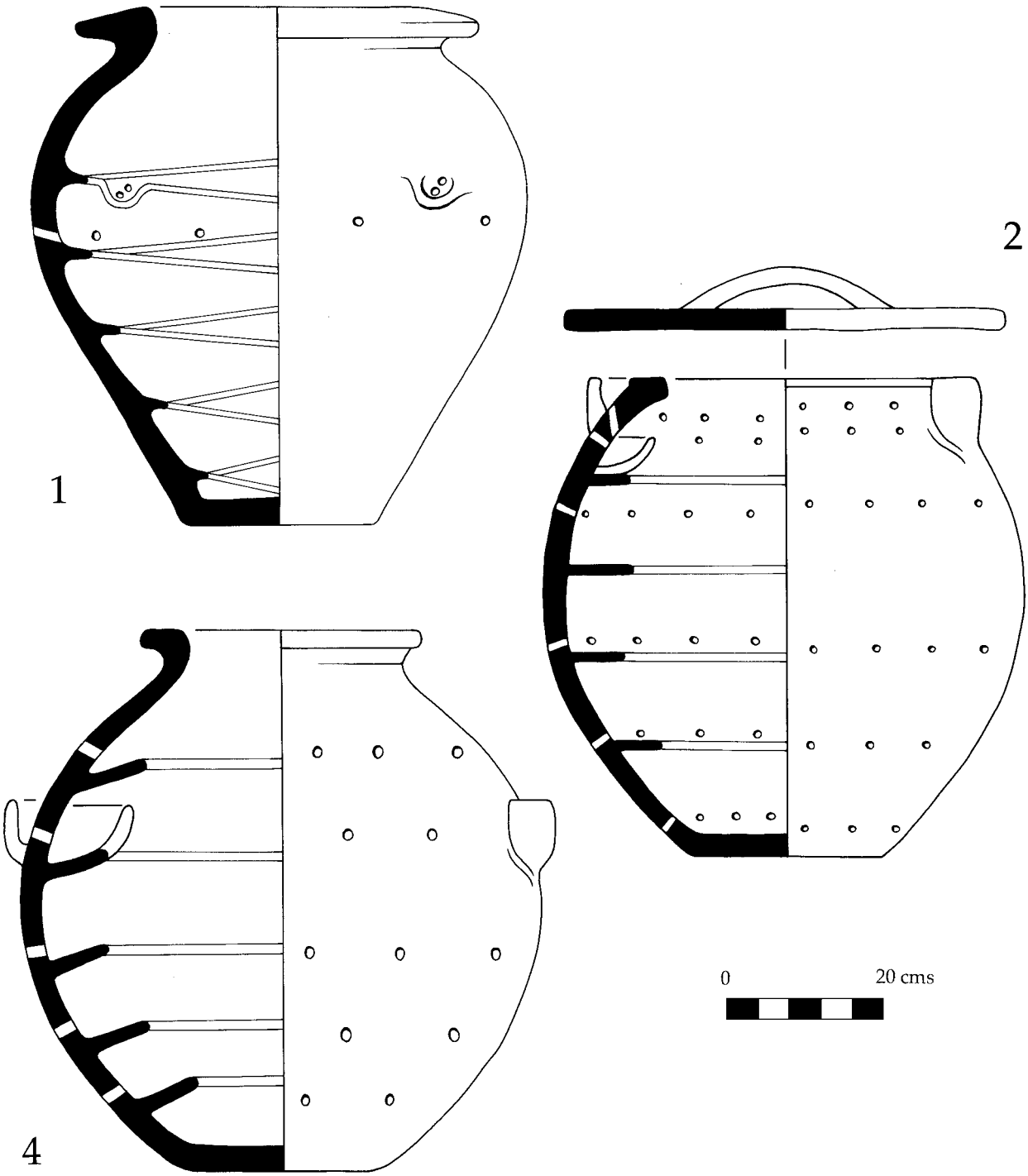



*Fig 1: Dormouse jars; no 1, from near Rome (the interior cup is shown cut away to reveal its structure; after Lissi Caronna 1968); no 2, from Pompeii (after Donaldson 1827); no 4, from Castelluccio (reconstructed after Gamurrini 1895). Scale 1:8*

0.65m. There are six rows of fairly regularly spaced air-holes, and a note records that they average half an inch (12mm) 'at the narrowest diameter'. The interior has six separate horizontal ledges, which slope down towards the pot wall and are placed just below the rows of holes. There is a small cup at either side just below the shoulder, each linked to a larger squareish cup on the interior through a hole in the wall, and the top ledge is cut in two places to accommodate these cups. The fabric is shown as buff on the exterior of the body, with the shoulder, core and interior as light grey. The pot illustrated under 'Glirarium' by Daremberg and Saglio is probably this one (1896, fig 6364; noted as 'no 830 du catalogue', presumably of the Museum at Naples), and it

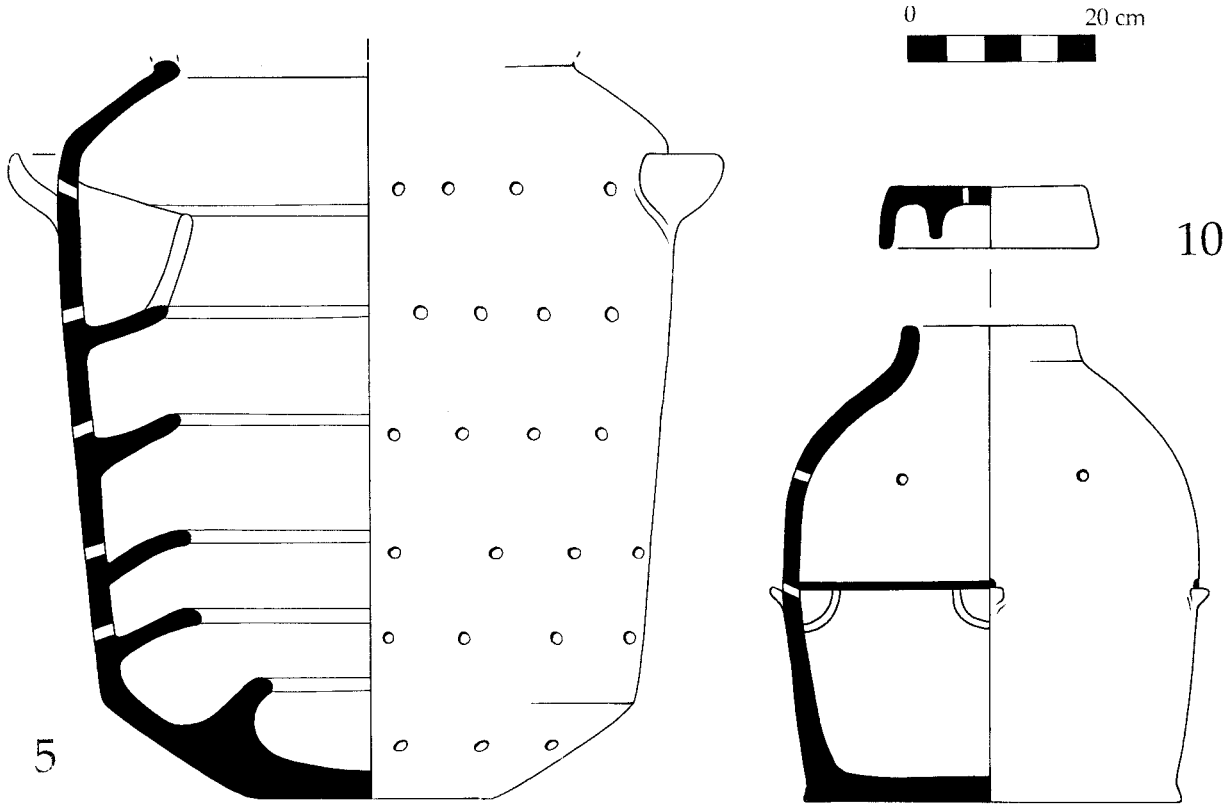



*Fig 2: Dormouse jars; no 5, from Pompeii (the top ledge is cut by the interior cup; after the drawing by George E Fox, 1886); no 10, from Poetovio (after Bruckner 1976). Scale 1:8*

also matches the description given by Professor Sogliano (Gamurrini 1895, 78, note 1, no 1). (Measured watercolour drawings by George E Fox, dated May 1886, when the pot was in the Museum of Naples: Soc of Antiquaries of London Fox Collection, Box 8, no 17; Graham 1978, pl 15, a)

**6** Pompeii. Cylindrical jar, narrowing at the shoulder, with an everted rim; the published photographs suggest that it may have a flat base, rather than a carinated base like Cat no 5 above. The dimensions are not given, but Annechino's photograph shows a spiral ledge with at least four turns, indicating a vessel of comparable size to Cat no 5. There are five rows of rather unevenly spaced air-holes. The shoulder carries at least one small tubular cup, linked through a hole to a larger semicircular cup inside. There is a separate flat lid with a simple handle on the top, similar to the lid of Cat no 2 above but the same diameter as the jar rim. (Annechino 1977, tav 53, no 11; Graham 1978, pl 15, b, where it is shown displayed in the 'Granai del Foro' at Pompeii)

**7** Pompeii; found near the *lararium* of house II, i, 2. Cylindrical jar, narrowing at the shoulder, with an everted rim; the rim is decorated with a simple impressed wreath composed of alternate rings and semi-circles. The published photograph indicates a carinated base, similar to Cat no 5 above. The dimensions given, height 0.21m, diameter 0.26m, are for a much smaller vessel than the others, and the photograph shows an internal spiral ledge which apparently has only two turns. There are at least four rows of air-holes, and there was originally a small round cup on the shoulder at either side, each linked by a hole through the wall to a larger semicircular cup on the interior. Coarse yellowish buff fabric, fired orange-red in the core. (Soprintendenza Archeologica di Pompei inv no 10744; Ciarollo and De Carolis 1999, 153, no 155)

**8** Boscoreale. Cylindrical jar, narrowing at the shoulder, with an everted rim; between 0.6m and 0.7m high. There are at least four rows of unevenly spaced air-holes, and a spiral ledge on the interior; at least one small cup is present on the shoulder, presumably linked to a larger cup inside. A flat lid with a simple handle accompanies the jar. (Farrar 1998, 158, with a small drawing of the exterior)

**9** Settefinestre villa, near Cosa. Fragments identified as probable dormouse jars, including a carinated sherd with internal ledge similar to the base of Cat no 5 above. Maximum diameter approximately 0.6m; hard orange fabric, with very frequent inclusions of black, grey and white crystalline grits and of grog. Sherds were recovered from periods II C2 (late Antonine) and VI (modern). (Celuzza 1985, 61 and tav 2)

**10*** Ptuj (ancient Poetovio), Slovenia; from a cremation burial, where it stood in a pit with other pottery around and within it, including five tazze and five red-slipped cooking plates. Cylindrical jar, curving in at the shoulder to a plain upright rim; height approximately 0.5m, maximum diameter approximately 0.42m. There are several air-holes through the vessel wall. A horizontal ledge runs round the interior some 0.2m up from the base, and at four equally spaced points this ledge is formed into semicircular bowls. A small cup on the exterior connects with each of the bowls through a hole in the wall. The accompanying lid has a plain deep rim and a second inner lip, and the rim of the jar fits neatly between the two. The lid is also pierced with air-holes. Red fabric; the burial is dated to the second century AD. (Bruckner 1976)

**11** Malafede, south of Acilia on the road from Ostia to Rome; found associated with a probable votive deposit dating mainly from the late fourth to third century BC. Fragment from a dormouse jar in a coarse orange fabric, with a spiral internal ledge 100mm wide and at least two air-holes. Dated to the Republican period. (Casal Bernocchi site, inv no 58126; Carbonara *et al* 2003, 56, no 23, and fig 7)

The dormice that were chosen for the table are generally assumed to have been edible dormice, *Glis glis*, still regarded as a delicacy in Italy and in the countries north and east of the Adriatic (Bruckner 1976, 21; Morris 1997, 16). They are the largest dormouse species with a body length between 130mm and 190mm and a distinctive bushy tail some 100mm to 150mm long; they have prominent dark-ringed eyes and are grey or brown in colour with a pale belly (Morris 1997, 3; Orr and Pope 1983, 60). It is probably safe to assume that Roman farmers, cooks and naturalists would have had little problem in recognising them. In writing about dormice in connection with food or farming, the surviving texts normally use the word *glires*, suggesting that this means the edible species; the word *nitellae*, which is also used for dormice, seems to have meant one or both of the other species native to Italy, the garden dormouse, *Eliomys quercinus*, and the common or hazel dormouse, *Muscardinus avellanarius*. After describing the hibernation of *glires* Pliny notes that *nitellae* also hibernate (*Historia naturalis*, VIII, 82, 224), while Martial refers to *aurea nitella*, with the characteristic golden colour of the common dormouse, as a comparison for a child's pretty hair (*Epigrams*, V, 37, 8). However, André notes a reference in Galen to *nitellae*, which he interprets as garden dormice, being eaten in Lucania (1981, 120). The relief on the Eumachia portal at Pompeii shows what is probably a garden dormouse gnawing an acorn (King 2002, fig 347).

The farming methods described by Varro show considerable knowledge of the habits of edible dormice, including their ability to escape from their enclosure using the slightest gap or foothold (Bruckner 1976, 20). In the wild they exploit the upper branches, especially of beech forest, rather than the shrubby understorey favoured by other dormouse species, and Pliny notes how they fatten up on beechmast (*Historia naturalis*, XVI, 7, 18). They are true hibernators, becoming prodigiously fat in preparation for winter, and this means that they can be kept asleep in cool conditions until wanted for the table; their hibernation can last for seven months (Morris 1997, 12, 15). The use of earthenware jars would have been ideal, as they are easily capable of gnawing their way out of a wooden container, while the pottery would have provided an even temperature through the winter. The jars are all thick walled and, with the exception of Cat no 1, have broad stable bases, while the surviving lids are heavy or, in the case of Cat no 10, close fitting: all essential features to keep these agile and lively animals inside until they have settled to sleep (Bruckner 1976, 20). They seem to hibernate communally, and several animals could have curled up in a single jar, using the ledge as a bench or as a route to the cups at the top. Varro describes the ledges as 'paths' (*semitae*), which would fit both the spiral arrangement in Cat nos 1, 3, 6–8 and 11 and the one or more horizontal ledges in Cat nos 2, 4, 5 and 10. The internal cups were probably used for water or for nuts that had been ground to a paste, since the holes into them are too small to admit whole nuts; additionally, whole nuts could have been placed in the central well.

The evidence of the texts and of the jars is now being extended by studies of the animal bones from Italian sites. At Pompeii bones of edible dormice have been recovered from various stratified contexts in the forum, probably dating from the first century BC to the first century AD; these contexts are likely to include food refuse. Bones of edible dormice and of garden and common dormice have also been recovered from gardens in Pompeii and at Torre Annunziata (ancient Oplontis), where they are more likely to come from wild populations (King 2002, 428–9). Perhaps it is a pair of such wild edible dormice that are shown on the Lateran pilaster, busy with a bowl of nuts (Toynbee 1973, 204). Bones of edible dormice were also found in late Antonine and Severan contexts at the Settefinestre villa (King *et al* 1985, 283), and in an earlier second-century deposit consisting mainly of food debris at Monte Gelato (King 1997, 384–5). This faunal evidence, taken with the distribution area of the jars, would suggest that their use was widespread, at least in Italy, and that more of these interesting vessels await discovery.

'I sleep all winter and am fatter in that season, when nothing but sleep gives me nourishment' (*Glires*: Martial, *Epigrams*, III, 58, 36)

**Acknowledgments**
I am most grateful to David Bird and Pat Ewin, who have read and commented on the text as an archaeologist and a naturalist respectively. I would also like to thank Pat Ewin, Paul Tyers and Ingeborg Huld-Zetsche for several references, and to add a special acknowledgement to my late friend and flatmate Elizabeth Fenton, who introduced me to the cookery of Apicius.

**Bibliography**
Quotations from Roman writers are based on the texts and translations given in the Loeb editions, with some amendments to the translations

André, J, 1981, *L'alimentation et la cuisine à Rome*, 2nd edn, Paris
Annechino, M, 1977, Suppelettile fittile da cucina di Pompei, in Carandini, A (ed), *L'instrumentum domesticum di Ercolano e Pompei nella prima età imperiale*, Quaderni di Cultura Materiale **1**, 105–14, Rome
Baatz, D, 1977, Reibschale und Romanisierung, *Rei Cretariae Romanae Fautorum Acta* **17/18**, 147–58, Kaiseraugst and Zurich
Bruckner, A, 1976, Glirarium oder vivarium in dolio?, in Haevernick, TE, and von Saldern, A (eds), *Festschrift für Waldemar Haberey*, 19–21, Mainz
Carbonara, A, Pellegrino, A, Rossetti, C, Tella, F, and Zaccagnini, R, 2003, La ceramica di età repubblicana dal territorio ostiense, *Rei Cretariae Romanae Fautorum Acta* **38**, 51–62, Abingdon
Celuzza, MG, 1985, Opus doliare, in Ricci, 1985, 60–61
Ciarollo, A, and De Carolis, E (eds), 1999, *Homo faber: natura, scienza e tecnica nell'antica Pompeii*, Milan
Daremberg, C, and Saglio, E, 1896, *Dictionnaire des antiquités grecques et romaines* **II**, **2**, Paris
Donaldson, TL, 1827, *Pompeii* **II**, London
Erim, KT, and Reynolds, J, 1970, The copy of Diocletian's Edict on Maximum Prices from Aphrodisias in Caria, *J Roman Stud* **50**, 120–41
Farrar, L, 1998, *Ancient Roman gardens*, Stroud
Flower, B, and Rosenbaum, E, 1958, *The Roman cookery book: a critical translation of The art of cooking by Apicius for use in the study and the kitchen*, London
Gamurrini, GF, 1895, Castelluccio (comune di Pienza): nuove scoperte di antichità sull'altura detta 'la Casa al Vento', *Accademia dei Lincei, Notizie degli Scavi di Antichità* (1896), 73–9, Rome
Graham, AJ, 1978, The Vari House: an addendum, *Ann Brit School Athens* **73**, 99–101
King, A, 1997, Mammal, reptile and amphibian bones, in Potter, TW, and King, AC, *Excavations at the Mola di Monte Gelato: a Roman and medieval settlement in South Etruria*, Brit School Rome Mono **11**, 383–403
King, A, 2002, Mammals: evidence from wall paintings, sculpture, mosaics, faunal remains and ancient literary sources, in Jashemski, WF, and Meyer, FG, *The natural history of Pompeii*, 401–50, Cambridge
King, AC, Rhodes, PA, Rielly, K, and Thomas, KD, 1985, I resti animali, in Ricci 1985, 278–305
*L'alimentazione* 1987 *L'alimentazione nel mondo antico: i Romani, età imperiale*, Ministero per i Beni Culturali e Ambientali, Rome
Lissi Caronna, E, 1968, Piccolo deposito di anfore in via Alessandro Nelli (tra il 14 and 15 km della via Casilina), *Accademia dei Lincei, Notizie degli Scavi di Antichità*, 8th ser **22**, 10–15, Rome
Morris, P, 1997, *The edible dormouse (Glis glis)*, Mammal Soc, London
Orr, R, and Pope, J, 1983, *Mammals of Britain and Europe*, London
Ricci, A (ed), 1985, *Settefinestre: una villa schiavistica nell'Etruria romana, 2, la villa e i suoi reperti*, Modena
Toynbee, JMC, 1973, *Animals in Roman life and art*, London
White, KD, 1970, *Roman farming*, London

# Un Potier du Rozier (Lozère)

*Ariane Bourgeois and Michel Thuault*

*Summary*

*The paper discusses a samian potters' stamp, from the production site of Rozier (Lozère, France). The stamp previously had been read as Roppus. However, six examples show a frame containing seven letters in Latin script (Fig 1), while others have nine letters. The stamps are impressed in retrograde on the vessels. It is suggested that this stamp be read as Meropis, and in its developed form Meropis Ma[ ].*

*The name is derived from Greek mythological sources, appearing in the legends of Homer, of Artemis and of Phaeton. It does not appear in the lists of potters at La Graufesenque, and is rare, although it is known from inscriptions from Narbonne and Vienne.*

Non loin du grand centre de production de La Graufesenque (Millau, Aveyron), à vingt kilomètres au nord-est, une autre officine de fabrication de vaisselle sigillée fonctionna dans la seconde moitié du Ier s ap J-C, sur le territoire du village actuel du Rozier (canton de Florac, arrondissement de Meyrueis, Lozère). Elle est connue depuis la fin du XIXe s, et a été fouillée en 1905 par l'abbé Frédéric Hermet, puis récemment entre 1977 et 1980, par Michel Thuault (Bémont et Jacob 1986, 110-113; les quatre rapports de fouilles sont inédits).

L'implantation géographique du Rozier ressemble beaucoup à celle de La Graufesenque, à savoir un confluent, celui du Tarn et de la Jonte, celle-ci séparant le Causse Noir, au sud, du Causse Méjan, au nord. Sous des falaises calcaires impressionnantes, de l'argile plastique très pure et fine pouvait être élaborée à partir des marnes du Domérien, situées entre deux étages de calcaire. Le combustible indispensable provenait du couvert forestier des plateaux et des pentes proches. Contrairement aux apparences d'un isolement dû au relief, les liens du Rozier avec le monde extérieur, à commencer par La Graufesenque, étaient assurés dans l'Antiquité par des routes empruntant les vallées et escaladant les versants. Ces relations entre les deux bourgades artisanales productrices de vaisselle sigillée de haute qualité, celle-là très modeste, celle-ci étendue et active, étaient si étroits qu'il est impossible de distinguer leurs productions respectives, même à l'aide d'analyses physico-chimiques très poussées, sur les sites de consommation ou au Rozier. L'examen des moules et des décors des vases ornés n'est d'aucun secours non plus, sauf en de rares exceptions, ce qui laisse supposer l'apport de poinçons et de matrices depuis La Graufesenque jusqu'au Rozier. La plupart des estampilles sont identiques dans les deux sites, que les artisans de Condatomagos/Millau aient fourni des timbres aux 'sous-traitants' du Rozier, ou encore qu'ils aient envoyé sur place du personnel, pour exploiter les ressources locales. En effet, Le Rozier semble être une succursale de La Graufesenque, au moment de la plus intense production de sigillée à Millau. (Cette idée n'est pas neuve: Bémont et Jacob 1986, 111 évoque 'une annexe de La Graufesenque').

Et pourtant on devine la présence d'artisans locaux qui ont tenté d'imiter au plus près, sans toujours bien y parvenir, les techniques de la sigillée, et ont apposé sur quelques vases des timbres inconnus ailleurs. Nous nous attarderons ici sur un cas précis, qui nous a longtemps posé un problème d'identification, pour proposer une solution différente de celle retenue jusqu'ici. Il s'agit d'estampilles que nous avons rencontrées sur sept objets de très bonne qualité, tous des plats, notamment de formes Drag 15/17 et Drag 18, bien reconnaissables. La lecture traditionnelle assimilait le signataire à Rop(p)us de La Graufesenque, à partir, il est vrai, d'un poinçon incomplet, alors qu'il nous paraît qu'il s'agit d'un homme différent (*ibid* 112, fig 13, 14e marque de la troisième colonne. En fait à comparer ce dessin à notre Fig 1, il s'agit d'un timbre que n'avons pas vu). A La Graufesenque, le nom présente le plus souvent les deux 'P', si l'on en juge par la liste établie par F Oswald (1931; qu'il ait situé un homonyme en Gaule centrale importe peu ici) et il peut être au nominatif seul ou suivi de F(ecit), mais aussi au génitif avec Of(ficina) ou Ma(nu), ces deux mots pouvant être par ailleurs sous-entendus. Une signature ROPPVS, avec deux 'P', très

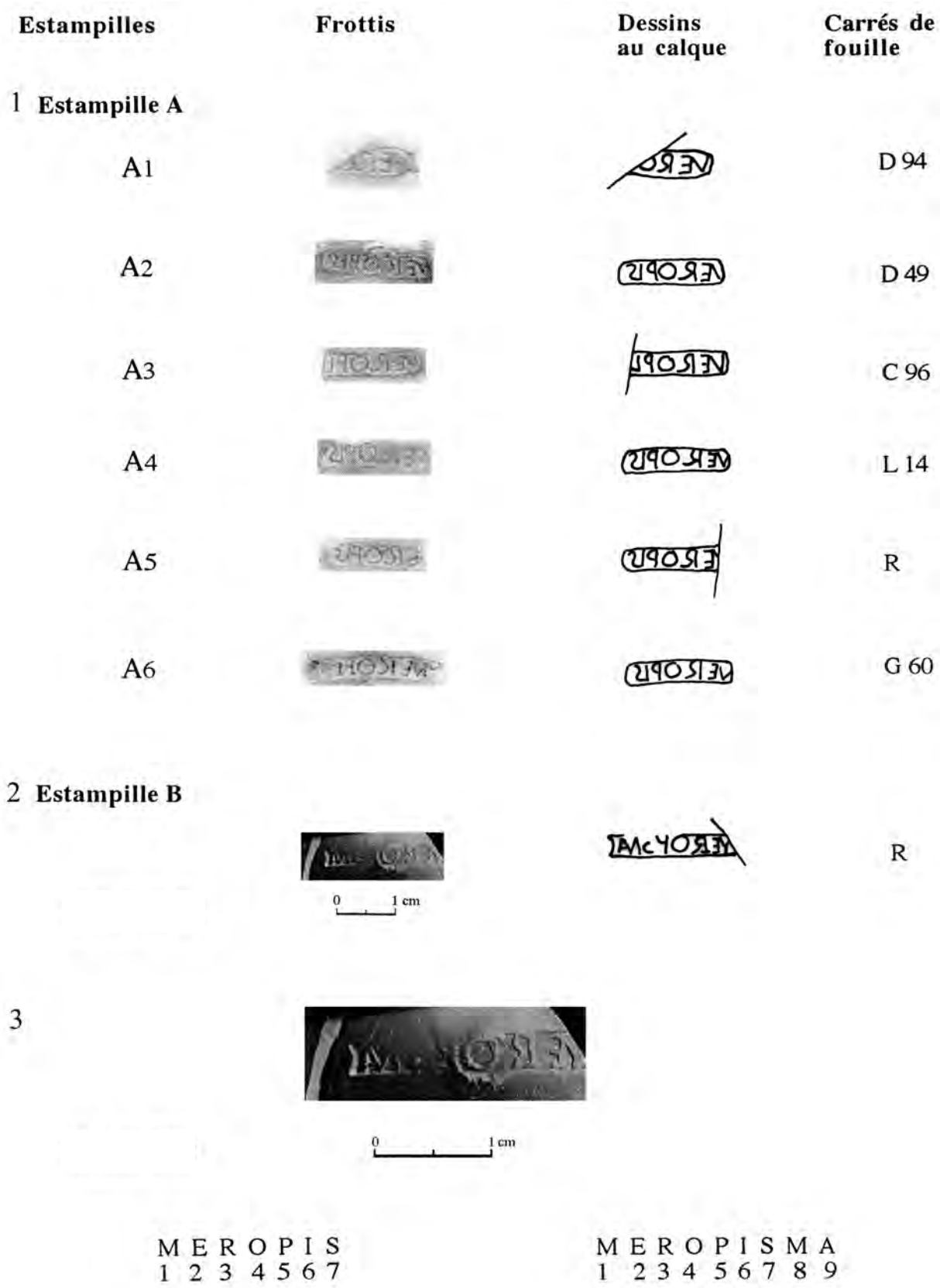



*Fig 1: The two stamps of Merops: 1. Rubbings and drawings of stamps A1 to A6 (scale 1:1); 2. Photograph and drawing of stamp B (scale 1:1); 3. Photograph of stamp B (scale 2:1)*

lisible dans le bon sens, a été récemment publiée à Vechten: les lettres sont de gauche à droite, sans le moindre espace entre la première ou la dernière lettres du nom et les petits côtés du cadre rectangulaire. À juste titre, elle est attribuée à un des ateliers de Condatomagos. (Polak 2000, 26–7, présentation du centre de production du Rozier et liens avec La Graufesenque; et 307, commentaire sur Roppus; et pl 19, R 12, photographie du poinçon. Cf. aussi Guéry 1979, 72, nos 163–4: deux estampilles trouvées à Alger et à Oran sont attribuées à ce même artisan Roppus, mais leur disparition a empêché toute reproduction graphique, ce qui rend impossible le rapprochement, et en tout cas leur attribution à l'un ou à l'autre centre de production).

Dans le mobilier trouvé en fouille au Rozier, il y a donc deux timbres différents qu'on ne peut en fait pas lire comme émanant de Roppus (Fig 1), dans deux sortes de cartouches. L'un rectangulaire à angles arrondis est garni de sept caractères latins (numérotés de 1 à 6 de droite à gauche, pour la compréhension de ce qui va suivre; le cartouche mesure 1,8 cm sur 0,4.), et imprimé à partir du même outil sur six exemplaires (selon nous, les légères différences entre les six marques A1 à A6, constatées sur l'illustration proviennent de l'impression du timbre dans le centre interne des plats). L'autre poinçon, aux petits côtés concaves, en contenant neuf, a été trouvé une seule fois (caractères numérotés de 1 à 9 de droite à gauche, pour la compréhension de ce qui va suivre; le cartouche mesure 2,2 cm sur 0,4). Dans les deux cas la lecture du nom du potier se fait de droite à gauche, car il a été tracé en clair sur le poinçon, puis, à l'impression sur le vase, se produit le phénomène de 'négatif' qui donne ce genre de signatures rétrogrades. Il y a entre eux deux d'indéniables parentés, à commencer par deux premières lettres situées à droite, liées (caractères nos 1 et 2), qui sont le début du nom du potier, avant celles qu'on lit nettement comme ( )ROP( ) (caractères nos 3, 4, 5). Les deux premières ne peuvent pas être développées comme F(ecit) ou M(anu) ou Of(ficina) qui sont toujours normalement à la fin du libellé, selon les règles du latin pour la place du verbe ou des mots qui commandent le génitif. D'ailleurs, si le deuxième signe est sans doute possible un 'E' inversé (caractère no 2), l'initiale est soit un 'N', sur les exemplaires à sept lettres, soit plus probablement un 'M', sur le seul plat avec neuf caractères: la haste verticale de droite est alors identifiable par l'empattement inférieur subsistant, et la partie centrale anguleuse de la lettre ne peut appartenir à un 'N' (voir la photographie à l'échelle double de la fig 1). Sur les timbres plus courts, on pouvait hésiter entre les deux possibilités, mais une initiale 'N' ne donnait rien pour l'identification du potier, en se référant aux répertoires de noms uniques et de cognomina (infra).

Dans la partie gauche du poinçon court, les deux dernières des sept lettres ont longtemps été lues comme -VS, avec une ligature ne conservant que la branche droite du 'V' (caractère no 6), la gauche étant masquée par le 'S' final (caractère no 7). Dans ce cas, ce n'est pas satisfaisant sur le plan graphique, même si ce n'était probablement pas le souci du signataire des vases. La solution vient encore du timbre à neuf signes qui comporte à la fin l'abréviation tout à fait lisible et bien connue MA(nu) (caractères nos 8 et 9). La dénomination qui précède cette ligature est donc nécessairement au génitif: alors la désinence de Rop(p)us, nom relevant de la deuxième déclinaison, devrait être Rop(p)i, selon l'onomastique latine. Or, même si le poinçon long a été mal imprimé dans le fond du plat, la lettre no 7 peu identifiable précédant Ma( ) n'est manifestement pas un 'I'. En effet elle comporte une boucle ou une courbe, bien visible à la loupe ou sur l'agrandissement photographique, et incompatible avec la haste verticale attendue. Nous proposons d'y voir un 'S', qui en revanche conviendrait à un génitif de la troisième déclinaison. La lettre précédente, tout à fait effacée au milieu, serait alors un 'I' (caractère no 6). La formule courte à sept caractères à son tour confirme la précédente hypothèse: le nom n'est pas au nominatif mais au génitif, ce qui est courant même en l'absence d'un mot qui le justifie, et il n'y a pas de ligature mais la juxtaposition d'un 'I' (caractère no 6) et d'un 'S' (caractère no 7). Nous proposons donc de lire MEROPIS sur la formule courte et MEROPIS MA( ) sur celle plus développée.

Il s'agit d'un nom tiré de la mythologie grecque, celui de Merops, porté par des personnages secondaires (cf Pauly-Wissowa 1893–1919 15, colonnes 1065–1067, 1–10; gr Kruse), soit le père de héros homériques (*Iliade* II, 831 et XI, 329: il s'agit d'un devin, dont les deux fils appartiennent à l'armée d'Hector et seront tués au combat par Diomède) ou celui d'une nymphe, compagne d'Artémis et aimée de Zeus (Euripide, *Hélène*, 382: la nymphe est qualifiée de 'Titanide'), soit encore le mari royal et humain de la mère de Phaéton, lui-même fils du Soleil (Euripide, dans une pièce perdue, *Phaéton*, dont Strabon, *Géographie*, I, 2, 27, a cité quelques vers mentionnant Merops – Euripide, fr 771 Nauck – et aussi Ovide, *Métamorphoses*, I, 763, et *Tristes*, 3, 4, 30: Merops est l'époux de Clymène/Climène, amante d'Helios). À cette diversité de légendes correspondent des lieux géographiques très divers, la Troade dans le premier cas, Kos dans le deuxième, l'Éthiopie dans le troisième. Remarquons que le nom du potier est sous sa forme latine, car la dénomination grecque Merops a pour génitif Meropos, tandis qu'en latin, le génitif est bien Meropis. (On se demandera si ces références mythologiques impliquent une culture grecque particulièrement fine du propriétaire de l'esclave, ou reflètent une mode éphémère pour une dénomination assez rare, ou encore, par le biais de la référence à l'Éthiopie, si elles suggèrent l'aspect physique du personnage. Remarquons que merops est aussi un nom commun, aussi bien en grec qu'en latin, et

désigne un oiseau comme la mésange).

Ce nom de Merops ne figure pas dans les listes de noms de potiers (Oswald 1931; Bémont et Jacob 1986, 279–86; Polak 2000). Dans les autres répertoires onomastiques, il est rare. En celtique, Rop(p)us existe mais évidemment pas Merops (Holder 1896–1913, II, 1228). Parmi les cognomina et noms uniques latins, on ne trouve ni l'un ni l'autre (Kajanto 1965). Au contraire, Merops, et non pas Rop(p)us, figure dans les listes de noms grecs d'époque impériale, et pas seulement dans la partie grecque de l'Empire (Sölin 1982, 501: à Rome, l'épigraphie fait connaître sept hommes surnommés Merops, au nominatif, ou Meropis, au génitif, surtout datés du Ier s ap J-C, dont trois sont des affranchis d'empereurs julio-claudiens ou de l'État. Ces trois mêmes personnages sont recensés à nouveau dans Sölin 1996, 339, parmi les noms d'inspiration mythologique.) Sur des épitaphes de Narbonnaise, Merops est connu à trois reprises, pas Roppus (CIL XII, 1960, 3255 et 4870; l'Index cognominum du CIL XII cite un quatrième exemple que nous ne retiendrons pas – CIL XII, 5996, 32 – car il s'agit d'un vase en verre illustré de combats de gladiateurs, dont on précise les noms. Un des vaincus s'appelle Merops. Or ces objets, tout comme la sigillée et la céramique fine, peuvent être achetés loin de leur lieu de fabrication). Ainsi à Vienne, c'est le cas d'un citoyen pourvu des tria nomina, associant un nomen typiquement celtique à ce cognomen grec. (CIL XII, 1960; Dondin-Payre et Raepsaet-Charlier 2001, 775; et Rémy 2001, 114 et tableau 10; 122 et tableau 20; 173 et Appendice no 7: liste alphabétique des surnoms grecs. Rop(p)us n'existe pas dans l'Index nominum, 719–57.) Le deuxième exemple cité par le CIL XII est à Nîmes. Il s'agit de l'affranchi et héritier d'un sévir augustal dont la dénomination a disparu. Le troisième est à Narbonne où un défunt ajoute ce cognomen de Merops à un gentilice qui est aussi celui de son épouse (uxor), laquelle porte ensuite un surnom grec: on est sans doute encore dans un milieu d'affranchis, dont le nomen provient de notables qui ont fourni des magistrats supérieurs à la colonie romaine au Ier s de n è – cf Gayraud, 1981, 183). En revanche, ce nom grec est absent des Indices du CIL XIII.

L'homme porteur de cet idionyme, Merops, à la faible production céramique, car on ne peut pas supposer toujours des identifications erronées quand nos prédécesseurs ont lu Rop(p)us, dans le mobilier des sites de consommation, pouvait être d'origine servile, esclave ou affranchi d'un pérégrin, ce dernier éventuellement potier à la Graufesenque et pourvu d'une autre onomastique, à moins de supposer un pérégrin, porteur d'un nom unique recherché à la mode grecque, venu travailler au Rozier, dans la seconde moitié du Ier s ap J-C.

## Bibliography


Bémont, C, et Jacob, J-P, (rédacteurs), 1986, *La terre sigillée gallo-romaine: Lieux de production du Haut Empire: implantations, produits, relations*, Documents d'Archéologie Française 6, Paris

Corpus Inscriptionum Latinarum (CIL), X11, 1960, Berlin

Dondin-Payre, M, et Raepsaet-Charlier, M-T, (rédacteurs), 2001, *Noms, identités culturelles et romanisation sous le Haut-Empire*, Bruxelles

Gayraud, M, 1981, *Narbonne antique, des origines à la fin du IIIe s,* Révue Archéologique de Narbonnaise, Supp **8**, Paris

Guéry, R, 1979, Les marques de potiers sur Terra sigillata découvertes en Algérie, I, Sigillées provinciales (hispaniques et gallo-romaines), *Antiq Africaines* **13**, 23–97

Holder, A, 1896–1913, *Altceltischer Sprachschatz*, 3 vol, Leipzig, II

Kajanto, H, 1965, *The latin cognomina*, Helsinki

Oswald, F, 1931, *Index of Potters' Stamps on Terra Sigillata, Samian Ware*, Margidunum

Pauly, A, Wissowa, G, 1893-1919, *Real-Encyclopädie der Klassischen Altertumswissenschaft*, Stuttgart

Polak, M, 2000, *South Gaulish Terra Sigillata with potters' stamps from Vechten*, Rei Cretariae Romanae Fautorum supp **9**, Nimègue

Rémy, B, 2001, *La dénomination des Viennois à l'époque impériale*, dans Dondin-Payre et Raepsaet-Charlier 2001, 55–176

Sölin, H, 1982, *Die griechischen Personennamen in Rom*, Berlin-New York

Sölin, H, 1996, *Die römischen Sklavennamen. Ein Namenbuch*, **II**, Mayence

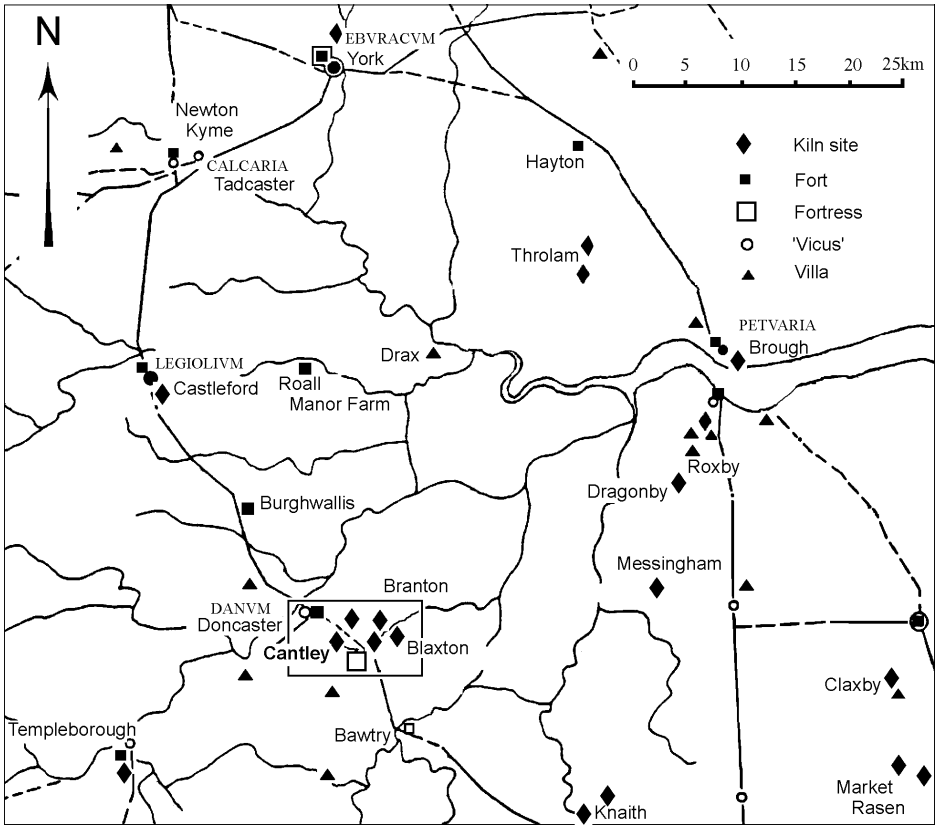



*Fig 1: Map of Roman pottery production sites in the East Midlands and South Yorkshire*

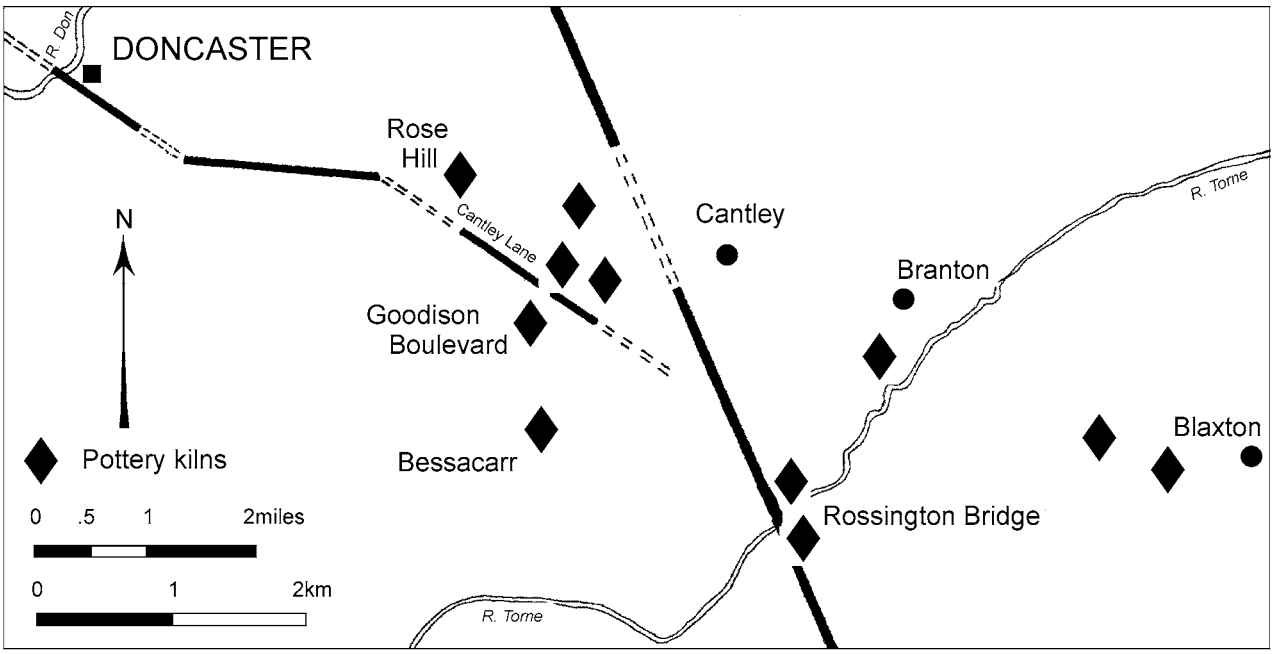



*Fig 2: Map of Roman pottery production centres south and east of Doncaster*

# Late Roman pottery kilns at Goodison Boulevard, Cantley, Doncaster: excavations by JR Lidster in 1957 and 1962

*Paul C Buckland and John R Magilton*

Cantley lies roughly 5km south-east of Doncaster, the *Danum* of the Antonine Itinerary and, less certainly, the *Notitia Dignitatum* (Buckland and Magilton 1986, 17–18), on the Roman road leading southwards to Bawtry and Lincoln (Figs 1 and 2). Pottery kilns were first discovered in 1953 during the construction of a new housing estate (Annable 1954) and, in the next three years, a total of 29 kilns were either located or excavated on both sides of the Roman road (Gilmour 1954; 1955; 1956; Cregeen 1956), the line of which is perpetuated by Cantley Lane (Fig 2). Although both Annable (1960) and Cregeen (1957) published their finds, later excavations fared less well. The group of kilns excavated by Gilmour (1956), numbers 26–29, was only summarily treated, and no pottery was retained, on the basis that the products were similar to previous finds (!).

The appointment of JR Lidster as Keeper of Antiquities at Doncaster Museum in 1956 resulted in greater attention being paid to subsequent discoveries. In 1957 a further three kilns, numbered 30–32 by Lidster, were examined on St Wilfrid's Road. Kiln 30, at the junction of St Wilfrid's and Anfield Road, was poorly recorded because of a trench collapse, but kilns 31 and 32, lying some 60m to the south-east beneath Sycamore School, then in course of construction, were excavated and recorded (Fig 3). A pit group, probably associated with a kiln, was also found north of St Wilfrid's Road in Blundell Close. In the same year, kilns 33 and 34 were excavated east of the junction between St Wilfrid's Road and Goodison Boulevard, close to kilns 9–12 excavated by Gilmour in 1953 (Gilmour 1954). All lie immediately west of the probable line of the Roman road to Doncaster, at approximately NGR SE 614015. The re-excavation of kiln 33 in 1962, for archaeomagnetic samples for the Oxford Archaeological Science Laboratory, revealed an underlying kiln, numbered 37, and a magnetometer survey at the same time located kilns 38 and 39, which were subsequently excavated, although the exact position of kiln 39 was either not recorded or the data subsequently have been lost.

Whilst Lidster and, later, his assistant, J Pallister, kept records of their excavation activities, and drawings exist of most of their work, the recording quality is variable and often contains more comment on the weather, visitors (including KH) and the misfortunes of the principal excavator's motorbike than on the archaeology. The drawings, often of high artistic quality, were frequently produced in the office from rough, pencil field sketches. Stokeholes and kiln chambers tended to be drawn with compasses and much of the detail is imaginative. It is not surprising, therefore, that there is some dispute over the scale of the drawing of kiln 33 – a drawn scale of 1.25 inch: 1 foot contrasts with a stated scale of 1.50 inch: 1 foot; the former has been preferred since this agrees with that of the adjoining kiln 34, although both may be wrong. Stratigraphic interpretation in the text is often at variance with the drawings; sections rarely correlate with plans. Attempts have, however, been made to even out these difficulties. Finds recording also left much to be desired. The pottery was deposited, unwashed, in paper bags in the basement of the old museum, where mice consumed much of the documentation, pencil-written on the bags. As a result, much of the material became unstratified, although it is still usually possible to ascribe pottery to kiln groups. During the early 1970s, a group of local volunteers under the supervision of one of the authors (PCB) washed and labelled the pottery, and its study, leading to publication, is an ongoing process (*cf* Buckland 1976; Buckland and Dolby 1980; Buckland *et al*, 1980; 2001). The Goodison Boulevard kiln group is particularly interesting for its range of mortaria, oxidised samian forms (some with trace of colour coat), and grey reduced vessels.

## *The kilns*

**Kiln 33** (Figs 4 and 5)

Kiln 33, which sealed the remains of Kiln 37, was oval in plan with walls 150mm thick standing to a height of about 0.8m above the chamber sub-floor. The filling of the interior, 'irregular masses of burnt clay and iron oxide stained sand', suggests deliberate backfilling, although the excavator noted a layer of clean sand 75–100mm thick in the base of the chamber that he thought to imply cleaning out before the last firing. Its composite floor of firebars plastered over with clay originally rested on

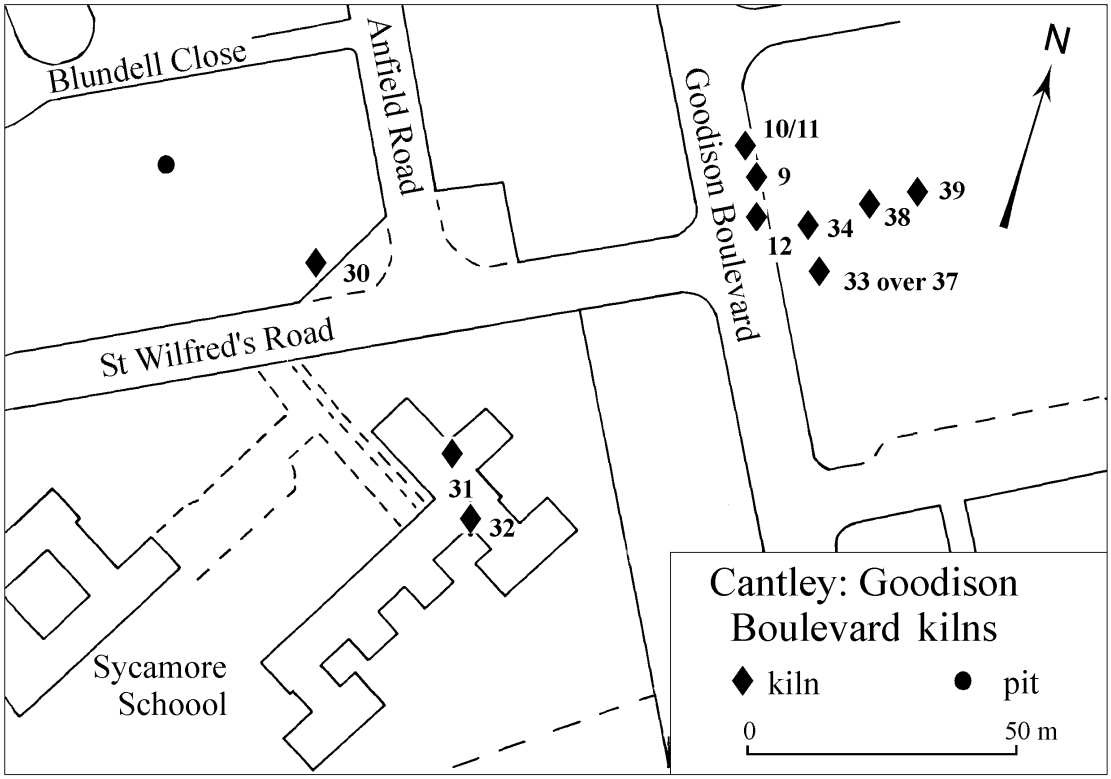



*Fig 3: The Goodison Boulevard group of kilns, Cantley*

three circular pillars, two at the flue end and one at the rear, and a slight ledge in the kiln wall about 350mm above the chamber sub-floor. The floor survived intact if the drawings can be trusted, but the site notebook implies and photographs show extensive damage to the central and western portions. Whether this occurred in antiquity or during excavation is uncertain. Visible in photographs but not otherwise recorded are two pillars of rectangular section, presumably secondary features, which with the three round pillars formed a ring to support firebars. From the site journal it appears that a clay buttress was added to the sagging south wall of the kiln but this was not recorded in plan. On the east the flue, 0.9m long, sloped downwards into a stokehole more than 4.5m in diameter. The upper filling of the stokehole was uniform black soot, perhaps dumped from another kiln after the abandonment of 33, which sealed a series of layers of intermixed sand and soot that may have accumulated during the working life of 33. Within the kiln chamber occurred a pottery brush handle (Fig 12) and part of a large, perforated fired clay disc, presumably a loom weight. The latter often occur in association with kilns and were presumably fired in them (*cf* Swan 1984).

**Kiln 37** (Fig 4)

The re-excavation in 1962 of kiln 33, for archaeo-magnetic sampling led to the discovery of an earlier kiln, numbered 37, beneath it. A semicircle of the wall survived, with an internal diameter of 0.9m, and it was perhaps oval like its successor. As nothing of the flue survived, its exact orientation is unknown, but it probably coincided with that of the overlying kiln 33, which may have re-utilised its stokehole.

*Fig 5: Kiln 33 at Goodison Boulevard, Cantley during excavation in 1957. Note the preservation of the chamber to the level of a finished edge immediately below the modern ploughsoil (Photo: Museum & Art Gallery, Doncaster)*

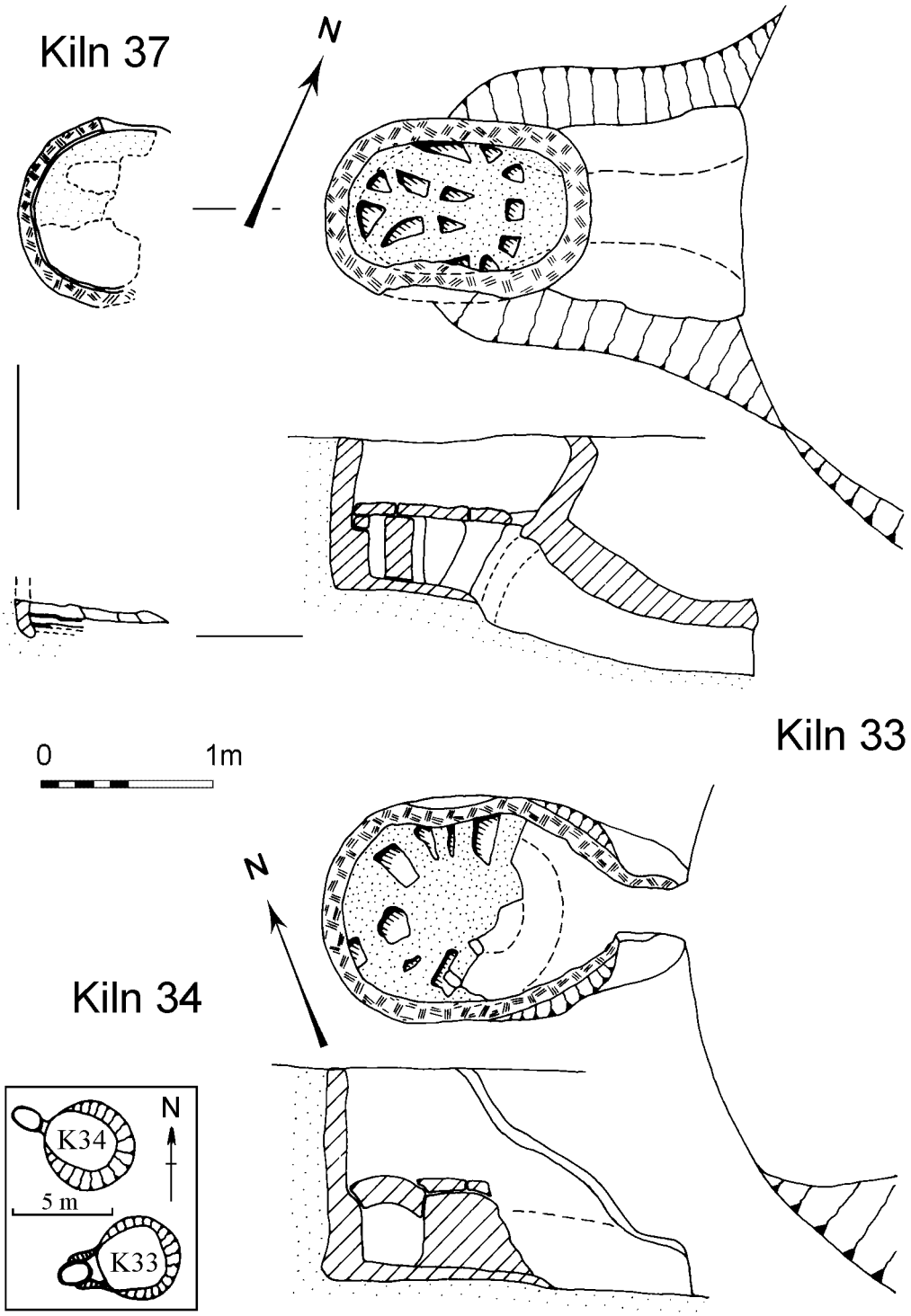



*Fig 4: Kilns 33, 34 and 37, Goodison Boulevard, Cantley (redrawn from the plans of JR Lidster)*

*Fig 6: Kiln 34 at Goodison Boulevard, Cantley during excavation in 1957. The slightly arched nature of the firebars forming part of the composite floor is evident (Photo: Museum & Art Gallery, Doncaster)*

**Kiln 34** (Figs 4 and 6)

Kiln 34 was roughly oval, measuring internally 1.55m by 1.05m with walls 150mm thick surviving to a height of 1.05m above the sub-floor. Its composite floor, sealed beneath black, sooty sand, was of radial fire bars resting on a slight internal ledge and a solid central plinth, described as 'mushroom shaped' in the site journal, but appearing cylindrical in the drawn section. Two of the fire bars were deliberately arched and these, together with portions of the kiln wall, had been patched with smooth clay bearing clear fingerprints. The arched fire bars are reminiscent of the sausage-shaped spacers found in a mortarium kiln at Holt, Denbighshire (Grimes 1930, fig 79) and may originally have served a similar purpose. The flue, which faced south-east, seems to have been an integral part of the kiln chamber and the aperture, blocked with a plug of soft red clay, was straight-sided with a flat roof. The stokehole, described as 'almost truly circular in plan' in the site journal, had a diameter of 4.9m and a uniform fill of soot and sherds nearly a metre deep.

**Kiln 38** (Figs 7, 8 and 9)

Two further kilns, 38 and 39, were located by magnetometer survey and excavated in l962. Kiln 38 was oval, measuring internally l.2m by l.6m with a sloping flue 0.8m long. The floor, which did not survive, had been supported on four cylindrical pillars and the wall of the chamber had an internal ledge on which studded boot marks were observed. The form of the kiln, with its distinctive flue and pedestals, strongly recalls kiln 33, and the same person may have manufactured both, an inference that the pottery would support.

The stokehole, nearly 5m in diameter, had a flat base l.4m below the modern ground level. This is the only stokehole in the group for which an adequate section was drawn (Fig 7, section S–N), although it is unfortunately at right angles to the axis of the kiln, the flue of which faced north-east.

**Kiln 39** (Figs 10 and 11)

Kiln 39 was pear-shaped, measuring internally 0.8m by 1.4m including the flue, the arch of which had been destroyed. The interior of the chamber had a ledge to support fire bars 0.2m above the bottom of the combustion chamber that apparently continued into the flue, perhaps to support the missing flue-arch. There was no permanent plinth but an inverted wide-mouthed bowl (Fig 14, no 58) was employed. This presumably supported radiating fire bars as the gap between the base of the pot and the ledge of the kiln wall was too great to have been bridged by pottery vessels alone. No documentation about this kiln has been found, apart from a plan and section; its orientation and position relative to kiln 38 are unknown, but both may have shared a common stokehole, although the excavator's

*Fig 8: Kiln 38 at Goodison Boulevard, Cantley during excavation in 1962, viewed across its large stokehole (scales in feet) (Photo: Museum & Art Gallery, Doncaster)*

*Fig 9: Kiln 38 at Goodison Boulevard, Cantley during excavation in 1962, showing impressions of hob-nailed boots on the ledge inside the chamber*

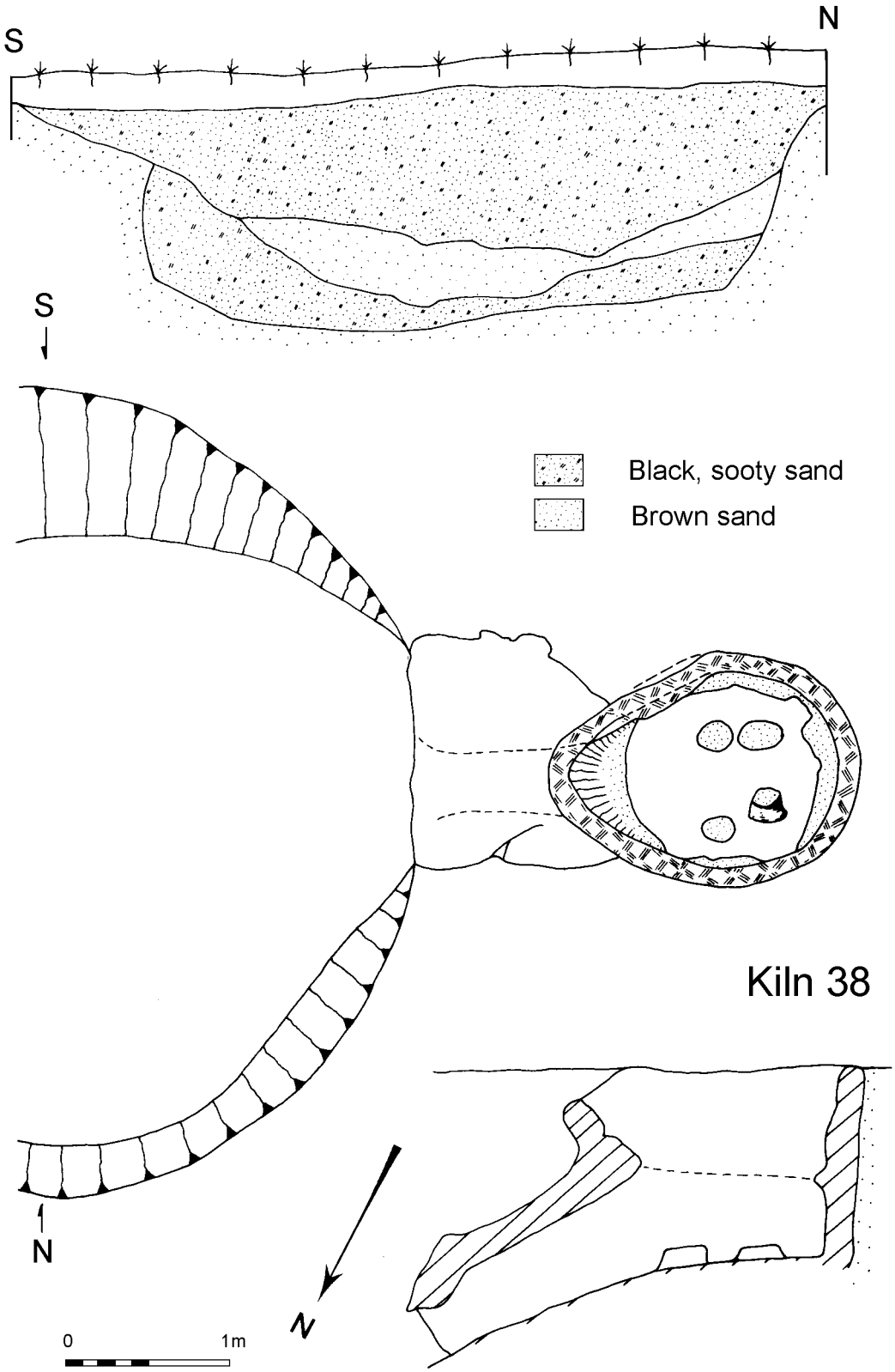



*Fig 7: Kiln 38, Goodison Boulevard, Cantley (redrawn from the plans and section of JR Lidster)*

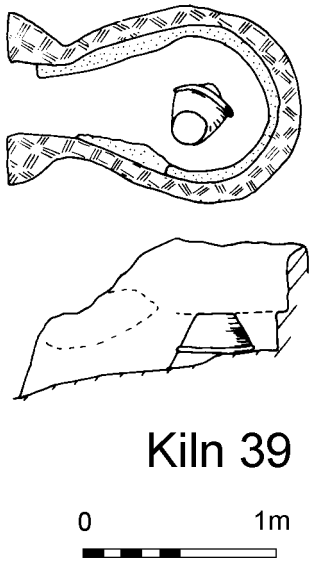



*Fig 10: Kiln 39, Goodison Boulevard, Cantley (redrawn from the plans and section of JR Lidster)*

site location plan, re-drawn as Fig 3, suggests otherwise.

## *The products*

**Brush**

An unusual find from the interior of kiln 33 is a pottery brush handle (Fig 12). The artefact is made from a thin slab of clay, roughly rectangular, with six holes in one side for bristles and a perforation through one corner, presumably to enable it to be hung up. It is in a hard slightly gritty dark grey (N3) fabric, not dissimilar from that of the pottery, and has an incised wavy line decoration on one surface. This simple curvilinear doodle resembles either a snake or swan/goose, although on display in Doncaster Museum, the feature is said to be phallic.

**Pottery**

The sheer bulk of the material recovered from Goodison Boulevard rendered processing a difficult task, and this had to be carried out alongside work on other kiln sites and the material from Roman and medieval Doncaster. It was therefore decided that a sort into a type series, based upon that used by Cregeen (1957), and developed by Buckland (1976; Buckland *et al* 1980), and simple rim counts were all that was feasible. All rims, bases and decorated or painted sherds were retained, but the many tens of thousand plain body sherds were disposed of. Table 1 summarises the range of types found on the site, listed by kiln number (C33–39) and context where known. A total of 7220 rim sherds and 2118 base sherds have been recorded from the kiln group. As usual with assemblages from pottery production sites, the material is more an index of the probability of wastage during firing as a reflection of rim to base size ratios, and of the

*Fig 11: Kiln 39 at Goodison Boulevard, Cantley during excavation in 1962. The large inverted bowl which served as a pedestal and several broken firebars are evident (Photo: Museum & Art Gallery, Doncaster)*

degree of care taken in positioning vessels of higher marketable value in the kilns, than of output, and the counts and percentage figures have to be viewed circumspectly. Unfortunately, no record was kept of the percentage of reduced to oxidized vessels in the wastage. It is probable that all the segmental flanged bowls and samian imitations were intended to be oxidised, but some of the straight-sided flanged bowls are also finished in such a way as to suggest oxidized products. A number of vessels, particularly the samian imitations show evidence of the application of a red slip or colour coat. The bulk of wastage clearly consists of straight-sided and segmental

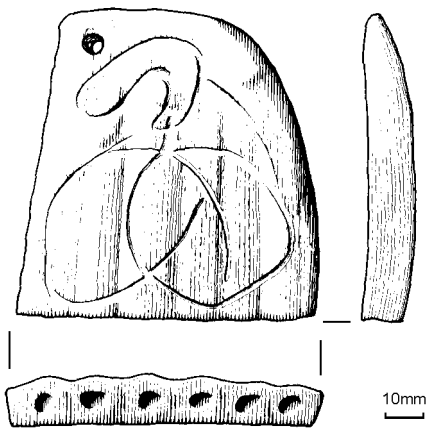



*Fig 12: The brush from kiln 33, Goodison Boulevard, Cantley*

flanged bowls and medium to large size bowls. The proximity of other kilns of differing date (Fig 3) also introduces the possibility that some vessels are residual from these sources.

**Fabrics**

The basic fabric for both the oxidised and reduced wares is the same, like most of the South Yorkshire products these are rather heavily tempered with rounded quartz grains, derived ultimately from the Triassic Sherwood Sandstone via Quaternary sediments (Gaunt 1994). Colour of the reduced vessels ranges from almost black (N3) to light grey (5Y 7/2) (Munsell Color 2000), and several of the wasters are fired to almost a stoneware. Oxidized wares are light red (2.5YR 6/8) to red (10YR 5/8) in colour, often with traces of a patchy red (10R 4/8) slip. Some of the finer samian imitation vessels are less heavily tempered and a brick-red slip survives on the better-preserved examples. The mortaria are in a sandy orange-brown (5YR 6/6–8) oxidized fabric, often with a grey core; where it survives, the slip is off-white to cream (10YR 8/3). Trituration grit consists of crushed black to reddish-black iron slag (*not* ironstone as stated in Buckland *et al* 1980). Tomber and Dore (1998) describe the fabric in thin section as 'a clean clay with rare silt-sized quartz… with common to abundant grains measuring 0.1–0.6mm, but normally not exceeding 4mm. they primarily comprise quartz, but also include siliceous siltstone, fine-grained sandstone, polycrystalline quartz, quartzite, flint and feldspar.' The source is clearly the southerly derived Quaternary 'Older River Gravel' of Gaunt (1994), on which the kilns are located. (*All colour codes refer to the Munsell soil colour chart (Munsell Color 2000*)

**Mortaria**

The range of profiles includes both plain and reeded hammerhead and plain and reeded flanged forms. Several of the former show evidence of red painted stripes over the rim, usually in groups of three slightly slanting lines. Spouts are normally simply thumbed down. The number of grooves on the rim varies between two and five, and the trituration grit is invariably of crushed iron slag. Their close similarity with the Mancetter-Hartshill products is immediately evident. As Hartley (in Bell and Evans 2002, 355–60) has also noted, the reeded forms are very similar, if not identical to vessels made at both Catterick and Swanpool (Webster and Booth 1947), and the fabric is macroscopically indistinguishable from these. This creates problems in terms of mapping distribution, but in addition to material from Doncaster, vessels from York (Monaghan 1997, 396–7) and Dalton Parlours (Sumpter 1990, no 73) are likely to be Cantley products, since there are other pots from the same source at both sites. Several of these vessels have been mislaid since the return of the material to Doncaster Museum, and it is therefore not possible to provide fabric descriptions.

Fig 13

1 Mortarium with reeded rim, *C/38/, cf* York, Rougier Street no 1574 for a virtually identical vessel, dated (Perrin 1990) 'late third to fourth century'

2 Mortarium with reeded rim, *C/38/K, cf* Catterick fig 186, no M44 (Bell and Evans 2002), probably fourth century

3 Complete reeded hammerhead mortarium, in a light red (2.5YR 6/6) fabric with pink (7.5YR 8/4) slip and red painted (l0R 4/6) decoration; with quartz and ?iron slag trituration grit, *C/34K*

4 Mortarium rim, 160mm in diameter, in an oxidised reddish-yellow (5YR 7/6) fabric with grey (N5) core and no trace of slip or trituration grit, *C/38/S*

5 Plain hammerhead rim of mortarium, 240mm in diameter, with simple thumbed down spout, *C/38/*

6 Wall-sided rim of mortarium, *C/34/, cf* York Minster (Hartley 1995) no 77 (in post-Roman deposits over *Principia*)

7 Mortarium with flanged rim and simple, thumbed down spout, *C/38/K, cf* Winterton Villa (Hartley 1976) no 15, described as possibly a Swanpool product, late third to fourth century

8 Mortarium, *mislaid in Doncaster Museum, no fabric description,* C/38/

9 Flanged rim of mortarium, 200mm in diameter, in a light grey (2.5Y 7/2) fabric with patchy white (2.5Y 8/2) slip and angular ironstone and quartz trituration grit, *C/34/S*

10 Flanged rim of mortarium, 220mm in diameter, *C/38/*

11 Mortarium rim, 260mm in diameter, with simple thumbed down spout, in a light brown (7.5YR 6/4) fabric with white (2.5Y 9/2) slip and angular ironstone trituration grit, *C/38/S*

12 Flanged rim in a brown (10YR 4/3) fabric with brown (7.5YR 5/4) to dark grey (N4) surface and traces of light grey (N7) slip. Scattered very fine grit towards the lower part of the sherd suggests a mortarium rather than a bowl, *C/38/S.* York, Bishophill, no 586, although ascribed to Swanpool by Perrin (1981), is very similar in form. 4th century.

**Bead-rimmed dish and lipped bowls**

A few bead-rimmed dishes appear in most groups other than kiln 39, and lipped dishes/bowls occur similarly in small numbers throughout. At Branton, where there are no earlier kilns known, the evidence (Buckland 1976) indicates that both types survived until the demise of the industry during the fourth century, although the few vessels from Goodison Boulevard could relate to other kilns in the immediate area.

Fig 13

13 Bead-rimmed dish, about 220mm in diameter, in a gritty pale brown (10YR 6/3) fabric with very dark grey (N3) surface, *C/38/S*

14 Lipped bowl, 140mm in diameter, in a very pale brown (10YR 8/3) to light grey (10YR 7/1) fabric with traces of grey (10YR 5/1) burnished surface, *C/38/X*

**Flanged bowls and dishes**

As Gillam (1976) has effectively documented, the flanged bowl developed from the lipped bowl during the mid to late-second century, although apart from atypical examples in black burnished fabrics, the true straight-sided form does not appear until the third century. Absent from both Severan Cramond (Holmes 2002) and Carpow (Birley 1965; Dore and Wilkes 2000), the form only became widespread after the mid-3rd century.

*Table 1: Rim counts and percentages from the Goodison Boulevard group of kilns, Cantley*

| | Type | C/33/K | C/33/S | C/37/K | C/34/K | C/34/S | C/33-4/X | C/38/K | C/38/S | C/38/X | C/39/K | C/39/S | C/39/X | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mortaria | A | 17 | 55 | 38 | 1 | 48 | 188 | 66 | 111 | 33 | 4 | 8 | 14 | 583 |
| Bead-rimmed dishes | B | 1 | 1 | 3 | 4 | | 5 | | 3 | 3 | | | | 20 |
| Lipped dishes /bowls | C(a) | 3 | 18 | 14 | 2 | 14 | 32 | | 12 | 10 | 1 | 1 | 3 | 110 |
| Flanged bowls | C(b & c) | 54 | 188 | 133 | 14 | 162 | 366 | 166 | 365 | 187 | 6 | 25 | 32 | 1698 |
| Flanged dishes | C(d) | | 2 | 2 | | 2 | 5 | 2 | 7 | | | | 2 | 22 |
| Segmental flanged bowls | C(e) | 31 | 94 | 66 | 6 | 76 | 187 | 23 | 133 | 65 | 18 | 28 | 30 | 757 |
| Carinated bowls | C(g) | | 6 | | | | | | | | | | | 6 |
| Beakers | D | | | 1 | | | 4 | | | | | | | 5 |
| Jars with recurved rim | E(a) | 1 | 7 | 18 | 4 | 21 | 27 | 6 | 17 | 14 | | | 3 | 118 |
| Lid-seated jars | E(b) | 2 | 1 | | | | 9 | | 1 | | | | | 13 |
| Bead-rimmed jars | E(d) | | 2 | | | | | | | | | | | 2 |
| Large jars | F | 22 | 37 | 26 | | 26 | 69 | 37 | 69 | 35 | 1 | 3 | 8 | 333 |
| Narrow-necked jars | G(a) | | 8 | 5 | | 4 | 3 | | 7 | 2 | | 1 | | 30 |
| Flagons | G(b) | | | | | | | | | | | | 1 | 1 |
| Colanders | H(a) | 2 | 10 | 6 | | 9 | 16 | 7 | 38 | 12 | | 1 | 5 | 106 |
| Shouldered bowls/jars | H(b) | 24 | 22 | 33 | 1 | 45 | 64 | 29 | 94 | 23 | 4 | 13 | 15 | 367 |
| Medium-sized bowls | H( c) | 24 | 90 | 50 | 7 | 64 | 141 | 29 | 159 | 50 | 3 | 3 | 17 | 637 |
| Large bowls | H(d) | 62 | 229 | 175 | 17 | 213 | 445 | 68 | 282 | 135 | 14 | 43 | 47 | 1730 |
| Wide-mouthed bowls | H(e) | | 1 | | | | | | | | | | | 1 |
| Cheese presses | J | | 6 | 1 | | | 3 | | | | | 1 | | 11 |
| Form 31 | K(a) | 16 | 31 | 20 | 1 | 45 | 289 | 15 | 39 | 18 | 1 | 5 | 3 | 483 |
| Form 35/6 | K(b) | 3 | 14 | 3 | | 3 | 16 | 1 | 12 | 1 | | 2 | 1 | 56 |
| Form 37 | K( c) | | | | | | | | | | | | | |
| Form 38 | K(d) | 4 | 8 | 3 | 5 | 2 | 34 | 21 | 27 | 18 | 4 | 1 | 4 | 131 |
| Lids | L | | | | | | | | 1 | | | | | 1 |
| Untyped forms | | | | | | | 1 | | | | | | | 1 |
| Totals | | 266 | 830 | 597 | 62 | 734 | 1904 | 470 | 1377 | 606 | 56 | 135 | 185 | 7222 |
| Bases | | 74 | 193 | 217 | | 239 | 548 | 136 | 428 | 137 | 18 | 54 | 74 | 2118 |

Fig 13

15 Flanged dish, 130mm in diameter, in a hard grey (N6) to light brownish-grey (2.5Y 6/2) fabric with dark grey (N4) surface. Outer surface rilled beneath flange and burnished below, *C/33/S*. The type was also made locally at Branton (Buckland 1976), and in a finer fabric at Crambeck (Corder 1928, type 1a)

16 Complete flanged dish in a rough gritty very pale brown (10YR 7/3) fabric, *C/38/S*

17 Flanged bowl, 180mm in diameter, in a gritty light brownish-grey (2.5Y 6/2) fabric with patchy, burnished dark grey (N4) surface, *C/33/S*

18 Flanged bowl in an oxidised and poorly burnished red (2.5YR 6/6–6/8) fabric. The base is string cut and smoothed around the outside; the marks from the turning on the wheel remain evident on its inside, C/33/S

19 Flanged bowl, in a gritty light brownish-grey (2.5Y 6/2) fabric with patchy, darker (2.5Y 5/2) surface, *C/38/S*

20 Flanged bowl, 200mm in diameter, in an oxidised reddish-yellow (5YR 7/8) with yellowish-red (5YR 5/6) burnished surface, *C/33/S*

## Segmental flanged bowls

The segmental bowl, in an oxidized fabric, with red and white paint on the flange, has a longer history than the straight sided form, occurring locally during the second century at Rossington Bridge (Buckland *et al* 2001), but only becoming a significant part of production in the Goodison Boulevard group. Bases are flat, often poorly finished, sometimes showing the spiral mark of the string used to cut the vessel from the wheel. As well as material from Doncaster (*cf* Buckland and Magilton 1986, fig 39, no 207 and unpublished), the type, probably coming from the South Yorkshire kilns, is occasionally recognisable elsewhere, including Ilkley (Hartley 1966, fig 12, 86). The form grades into that of the samian imitations produced in the kilns (Fig 15, nos 77–83).

Fig 13

21 Segmental flanged bowl, 180mm in diameter, in a reddish-yellow (5YR 7/6) fabric with weak red (10R 4/4) colour coat, *C/33/K*, c*f* Lincoln, Flaxengate, no 124 (Darling 1977), 'late Roman'

22 Segmental flanged bowl, in an oxidised light red (2.5YR 6/8) fabric

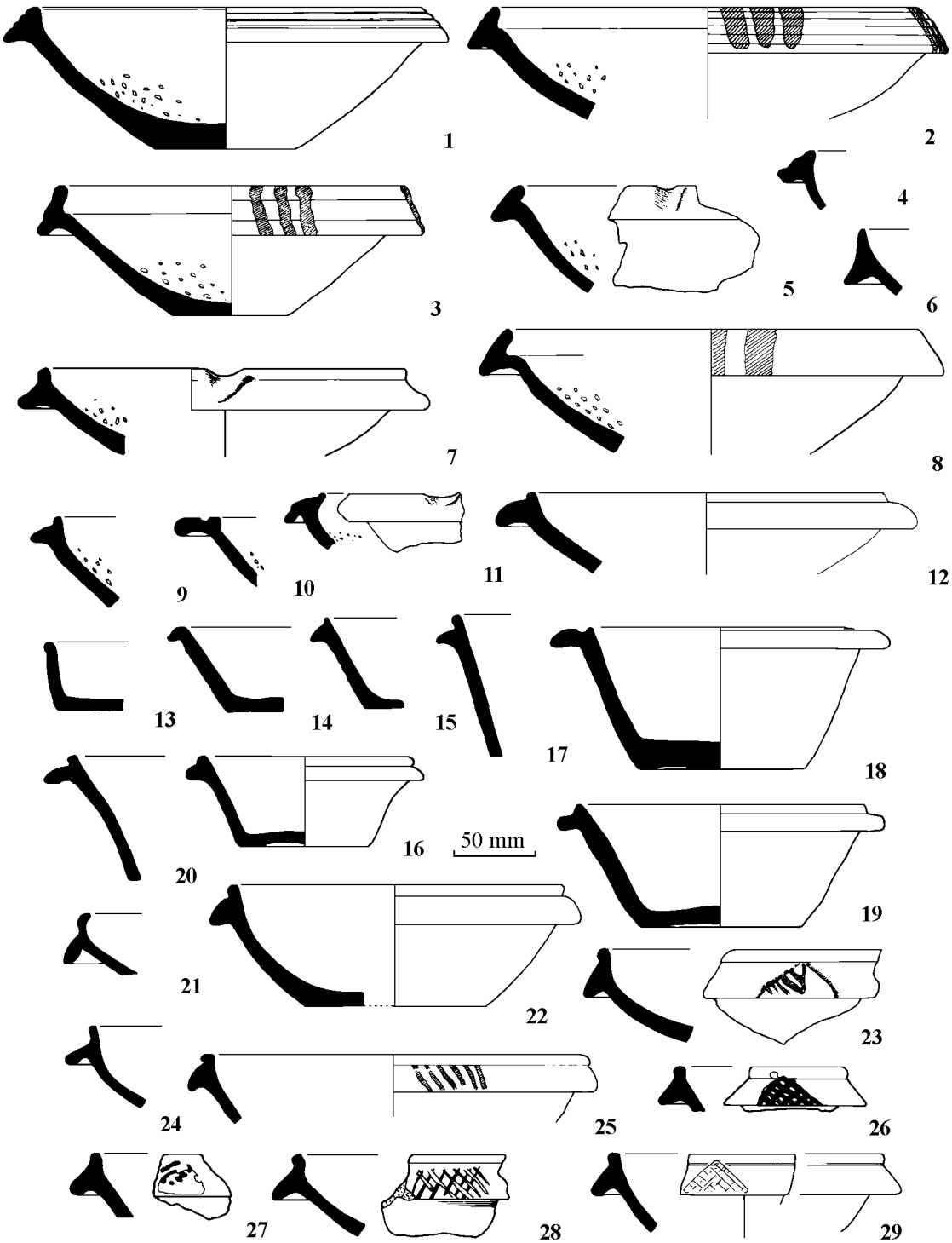



*Fig 13: Pottery from the Goodison Boulevard kilns, Cantley: mortaria and bowls*

with red (10YR 5/8) core and patchy red (10R 4/8) colour coat, in part burnt to dark grey (N3), *C/33/S*

23 Segmental flanged bowl, distorted in firing, in a hard, oxidised red (7.5R 4/8) fabric with light red (2.5YR 6/8) surface and dusky red (2.5YR 3/2) colour coat. The triangle on the flange is painted red (10R 4/6) over white (N9), *C/33/K*

24 Segmental flanged bowl, 140mm in diameter, in a light red (2.5YR 6/8) oxidised fabric with red (2.5YR 5/6) slip, *C/34/K*

25 Segmental flanged bowl, in an oxidised reddish-yellow (5YR 7/6) to pink (5YR 8/4) fabric, with patchy weak red (2.5YR 4/2) to red (10R 4/6) colour-coat and dusky red (10R 3/2) painted decoration on the flange, *C/33/S*

26 Segmental flanged bowl, 200mm in diameter, in a light red (2.5YR 6/8) colour coat and red (7.5R 4/8) over white (N8) painted triangle on rim, *C/34/K*

27 Segmental flanged bowl, diameter indeterminate, in an oxidised light red (2.5YR 6/8) fabric with red (l0R 5/8) colour coat and with white (N9) and dark red (7.5R 3/6) painted triangle on flange, *C/34/S*

28 Segmental flanged bowl, 200mm in diameter, in a pale brown (l0YR 6/3) fabric with dark grey (l0YR 4/1) surface and painted light grey (l0YR 7/1), over very dark greyish brown (l0YR 3/2) lattice on flange, *C/33–4/X*

29 Segmental flanged bowl, in a light red (2.5YR 6/8) oxidised fabric with red (2.5YR 5/6) slip and white (10YR 8/2) and weak red (2.5YR 4/2) painted triangle on flange, *C/33/S*

Fig 14

30 Several sherds from a segmental flanged bowl, l40mm in diameter, in an oxidised reddish-yellow (5YR 6/6) fabric with very dark grey (N3) core and red (l0R 5/6) burnished surface. Two groups of six oblique white (N9) lines with red (7.5R 4/8) dots over appear on the flange, *C/33–4/X*

31 Segmental flanged bowl, with slight groove on the flange, in a black (N2) to light reddish-brown (5YR 6/4) fabric. The vessel is un-gritted, although the form also occurs as a mortarium, C/38/S and K

**Carinated Bowls**

This form is represented by only six examples, all from kiln 33. The form is not represented in any of the other South Yorkshire kilns, and is perhaps derived from an Oxfordshire colour-coated type (C84 in Young 1977), although the latter show a wider range of decoration.

Fig 14

32 Carinated bowl in a light grey (N7) fabric with light brownish-grey (2.5Y 6/2) burnished surface and faint intersecting wavy lines above grooves, *C/33/S*

33 Small, carinated bowl, in a gritty pale brown (l0YR 6/3) fabric with traces of a burnished greyish-brown surface (2.5Y 5/2), *C/33/S*

**Beakers**

Only one stratified rim of a beaker was recovered from the site, a simple plain rim from kiln 37. A body sherd from a small beaker with finger indentations is figured.

Fig 14

34 Sherd from an indented jar or beaker, in a gritty grey (N6) fabric with greyish-brown (2.5Y 5/2) surface, *C/38/S* (one example)

**Jars**

Unlike the earlier kiln groups at both Rossington and Cantley, there is no standardised large-scale production of jars in the Goodison Boulevard kilns.

Fig 14

35 Several sherds from the neck of a jar with small countersunk handles, made by pinching together the side of the vessel and perforating the resultant fold, in a hard very dark grey (N3) fabric with grey (N5) burnished surface, *C/33/K* (one example). The form with countersunk handles is rare in South Yorkshire, where the normal form has applied handles plugged through the shoulder, as in no 42 below

36 Lid-seated jar, l20mm in diameter, in a gritty light grey (2.5Y 7/2) fabric with grey (N5) surface, C/37/K. Produced in large numbers at the Blaxton kilns during the third century (Buckland and Dolby 1980, nos 88–120), the type continues in small numbers to the end of local production; only four examples occur stratified, in kilns 33 and 38

37 Narrow-necked jar, 80mm in diameter, in a hard grey (N5) fabric with intersecting wavy lines on neck, *C/33/S*

38 Narrow-necked jar, 100 mm in diameter, in a light grey (2.5Y 7/2) fabric with grey (N5) surface and traces of acute intersecting wavy line on neck, *C/33–4/K*

39 Narrow-necked jar, 100mm in diameter, in a light grey (2.5Y 7/2) fabric with grey (N5) surface and traces of acute intersecting wavy line on neck, *C/33–4/K*

40 Narrow-necked jar, 100mm in diameter, in a slightly gritty oxidised reddish-yellow (7.5YR 8/6) fabric, *C/37/K*

41 Narrow-necked jar or flagon with applied facemask on the rim, in a light grey (l0YR 7/l) fabric with bluish grey (5B 6/1) surface. No trace of a handle(s) survives. The hair is parted centrally and is bunched to either side over the ears, *C/38/K* (sherd from a further example unstratified over the kiln). The face resembles that on Oxford colour coated flagons but is not from the same group of moulds, *cf* Munby (1975) pl XII. The central parting of the hair is also found on examples from the Nene Valley kilns, *cf* Howe, Perrin and Mackreth (1980) frontispiece and no 96, from Stibbington, 4th century

42 Jar with plugged handles in an oxidised, gritty reddish-yellow (5YR 7/8) to grey (l0YR 6/l) fabric, C/38/K (a further handle, perhaps from the same vessel, is from C/39/S)

43 Many sherds from a large barrel-shaped jar, in a grey (N5) fabric with surface ranging from very dark grey (N3) to light grey (2.5Y 7/2) in colour, decorated with bands of faintly incised wavy lines. The lower sherd, from a different vessel, has faintly incised continuous hoops in a reserved zone, *C/38/K*

44 Flanged rim, probably from a large, narrow-necked jar, pierced for suspension, in a light grey (2.5Y 7/2) fabric with grey (N5) surface, *C/37/K* (joining sherd (oxidized) in *C/38/X* and further example in *C/38/S*).

**Colanders**

The general form of these vessels, with a flat, hammer-head or convex reeded rim and pierced flat base, is typical of the South Yorkshire products from the third-century onwards.

Fig 14

45 Reeded rim of a colander in an oxidised, gritty light red (2.5YR 6/6) fabric; base with pierced subcircular holes, in a pale brown (l0YR 6/3) fabric with grey (l0YR 5/l) surface, C/33/S

46 Rim, probably of a colander, 160mm in diameter, in a grey (N6) fabric with greyish-brown (2.5Y 5/2) surface, burnished on top of rim, *C/38/K*

47 Colander rim, 140mm in diameter in a hard dark grey (N4) fabric, *C/38/S*

48 Rim in a reddish-yellow (7.5YR 7/6) fabric with brown (7.5YR 5/4) surface; burnished, *C/33/S*

49 Rim probably of a colander 120mm in diameter, in a hard, grey (N6) fabric, with some external linear burnish, *C/33/S*

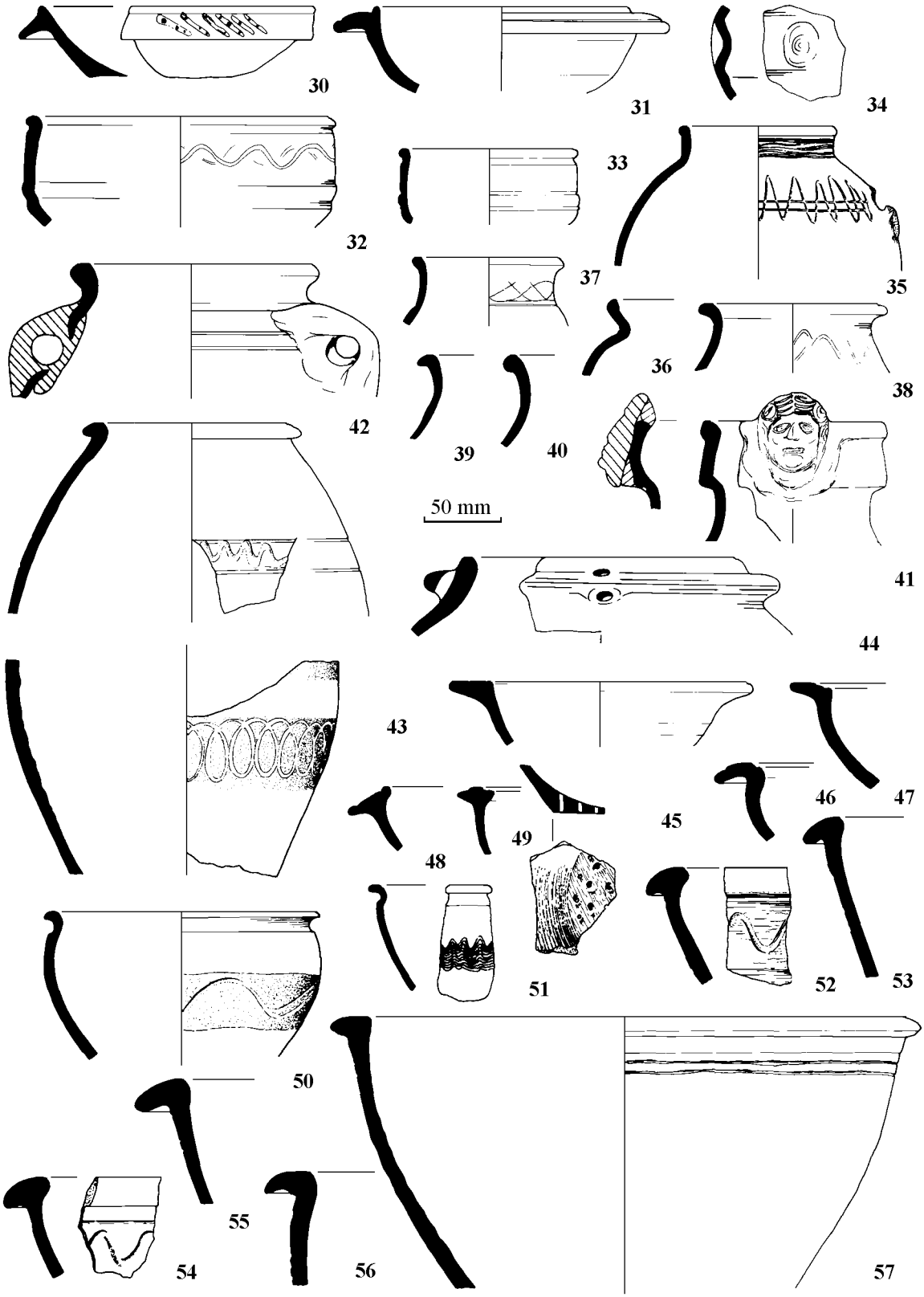



*Fig 14: Pottery from the Goodison Boulevard kilns, Cantley: bowls and jars*

**Wide-mouthed jar**

Another characteristic form made in the South Yorkshire kilns, usually decorated with a lightly incised wavy line over a reserved zone or the same design applied by a brush. Bases tend to be small well-finished foot rings.

Fig 14

50 Wide-mouthed bowl, in an oxidised reddish-yellow (5YR 7/8) fabric with light red (2.5YR 6/6) burnished surface with wavy lines on reserve zone, *C/33–4/X* (similar rim in *C/34/K*)

51 Wide-mouthed bowl, l20mm in diameter, in a slightly gritty very dark grey (N3) fabric with light grey (l0YR 7/2) to dark grey (l0YR 4/1) surface, burnished above and below combed wavy line and over the rim, *C/37/K*

**Medium-sized to large bowls**

Apart from the heavier nature of the large bowls, these form a gradational series. Rim forms are varied from the simple hooked form of Fig 14, no 55 to the horizontal hammerhead of Fig 15, no 61. All seem to have been manufactured throughout the life of the South Yorkshire kilns, although the form with a groove on the outside of the rim appears to be restricted to the earlier production sites. Decoration is restricted to series of horizontal incised lines on the body beneath the rim, sometimes associated with a coarsely incised wavy line. One example, Fig 15, no 59, has an irregular brushed wavy line in the same place. Where well enough preserved, bowls show signs of having been burnished on the top of the rim.

Fig 14

52 Bowl, diameter indeterminate, in an oxidised reddish-yellow (5YR 6/6) fabric with patchy dark grey (N4) surface; burnished on top of rim and with incised wavy line between grooves on the side, *C/33/S*

53 Bowl, 280mm in diameter, in a gritty, light brownish-grey (2.5Y 6/2) fabric with very dark grey (N3) outer surface, burnished on top of the rim, *C/38/S*

54 Bowl, diameter indeterminate, in a hard, pale brown (l0YR 6/3) fabric with dark grey (N4) surface, burnished on top of rim and with wavy line incised between grooves, C/*37/K*

55 Bowl, 300mm in diameter, in a light grey (2.5Y 7/2) fabric with dark grey (N3) surface, burnished on top of the rim, *C/38/S*

56 Bowl, 320mm in diameter, in a gritty light yellowish-brown (l0YR 6/4) fabric with very dark grey (N3) core and burnished top to rim, *C/33/S*

57 Several sherds from a large bowl, in a very hard, pimply, dark grey (N4) fabric, somewhat distorted by blebs in the wall of the vessel; burnished on top of the rim, *C/33/K* (below fire bars in chamber)

Fig 15

58 Bowl, nearly complete, employed as the pedestal of kiln 39; gritty, light brownish-grey (2.5Y 6/2) fabric with very dark grey (N4) core and burnished to grey (N5) on top of rim. The base shows evidence of having been stood upon chopped vegetation (? straw) for drying, after string-cutting from the wheel, *C/39/K*. Utilised as the pedestal in this small kiln

59 Bowl, 340mm in diameter, in a black (N2) to dark greyish-brown (2.5Y 4/2) fabric with light grey (2.5Y 7/2) outer zone and very dark grey (N4) surface, burnished on top of rim and with brushed wavy line between grooves on body, *C/38/K*

60 Bowl, 260mm in diameter, in an oxidised light red (2.5YR 6/8) fabric, burnished on top of the rim, with splashes of white (N9) slip, as used on the mortaria, *C/38/K*. Possibly a fragment of a vessel used to mix slip for mortaria

61 Bowl, 300mm in diameter, in a gritty very pale brown (l0YR 7/4) fabric, *C/34/S, cf* York, Bishophill, no 385, where it occurs in late-second to early-third-century deposits (Perrin 1981)

**Cheese press**

Occasional examples of this form with either a beaded or plain rim and a ridged and perforated base, occur throughout the production at the Cantley kilns.

Fig 15

62 Cheese press, l40mm in diameter, in a slightly gritty very dark grey (N3) to light brownish-grey (2.5Y 6/2) fabric, *C/33/S*

**Samian imitations**

Copies of samian Drag forms 31, 35/6 and 38 (Hartley 1969) were manufactured in the Goodison Boulevard kilns, ranging in quality from the thin walled Fig 15, no 83 to the much coarser form of Fig 15 nos 69 and 80. A bead rim is indicated on most examples. It is probable that all were intended to be in an oxidised fabric and several have evidence of the application of a red slip. Bases are largely simple, although a slight foot ring occasionally occurs on forms 36 and 38, and the form 31 bowls have either solid or hollow omphalos. On form 35/6, the barbotine decoration of the original is replaced by a variety of painted motifs, from alternating red and white dots to close red lattice over a white triangle. White and red triangles also appear over the flanges of form 38. In contrast with Crambeck, where form 38 is the most frequent (Corder 1928), copies of form 31 dominate the Cantley wastage.

Fig 15

63 Form 31 bowl in a fine oxidised light red (2.5YR 6/6) fabric, with thin, burnished red (l0R 5/8) to dusky red (l0R 3/4) slip, *C/34/K*

64 Form 31 bowl in a dark grey (N4) fabric, *C/39/K*

65 Omphalos base, probably from a form 31 bowl, in a fine, oxidised reddish-yellow (5YR 7/6) fabric with light red (2.5YR 6/6) slip, *C/33–4/X*

66 Form 31 bowl, in a fine oxidised light red (2.5YR 6/6) fabric, with thin, burnished red (l0R 5/8) to dusky red (l0R 3/4) slip, *C/34/K*

67 Form 36 bowl in a reddish-brown (2.5YR 4/4) fabric with dusky red (2.5YR 3/2) slipped and burnished surface, decorated on the rim with groups of three white (N8) painted lines in each quarter, at half also with fringing dark red (l0R 3/4) lines. Base is flat and finished, *C/33/K*

68 Form 35/36 bowl, l60mm in diameter, in a light grey (N6) fabric with dark (N5) surface, *C/37/K*

69 Form 35/6 bowl, diameter indeterminate; fabric and decoration as 67 above, *C/33/S*

70 Form 36 bowl, 200mm in diameter, in an oxidised, slightly gritty light red (2.5YR 6/8) fabric, with traces of red (2.5YR 5/6) slip an white (l0YR 8/2) spots on rim, *C/33/S*

71 Form 36 bowl, l60mm in diameter; fabric and decoration as 70 above, but with traces of intermediate dark red (l0YR 3/6) dots, *C/33/S*

72 Rim of form 36 bowl, diameter indeterminate; fabric as 70 above, but with dark red (l0YR 3/6) lattice over white (l0YR 8/2) strips on rim, *C/33/S*

73 Form 35/6 bowl, l70mm in diameter, in a light brown (7.5Y 6/4) fabric with grey (N5) core, *C/38/S*

74 Form 36 bowl, 200mm in diameter, overfired, fabric as 70 above, but with dark grey (N4) core, *C/34/S*

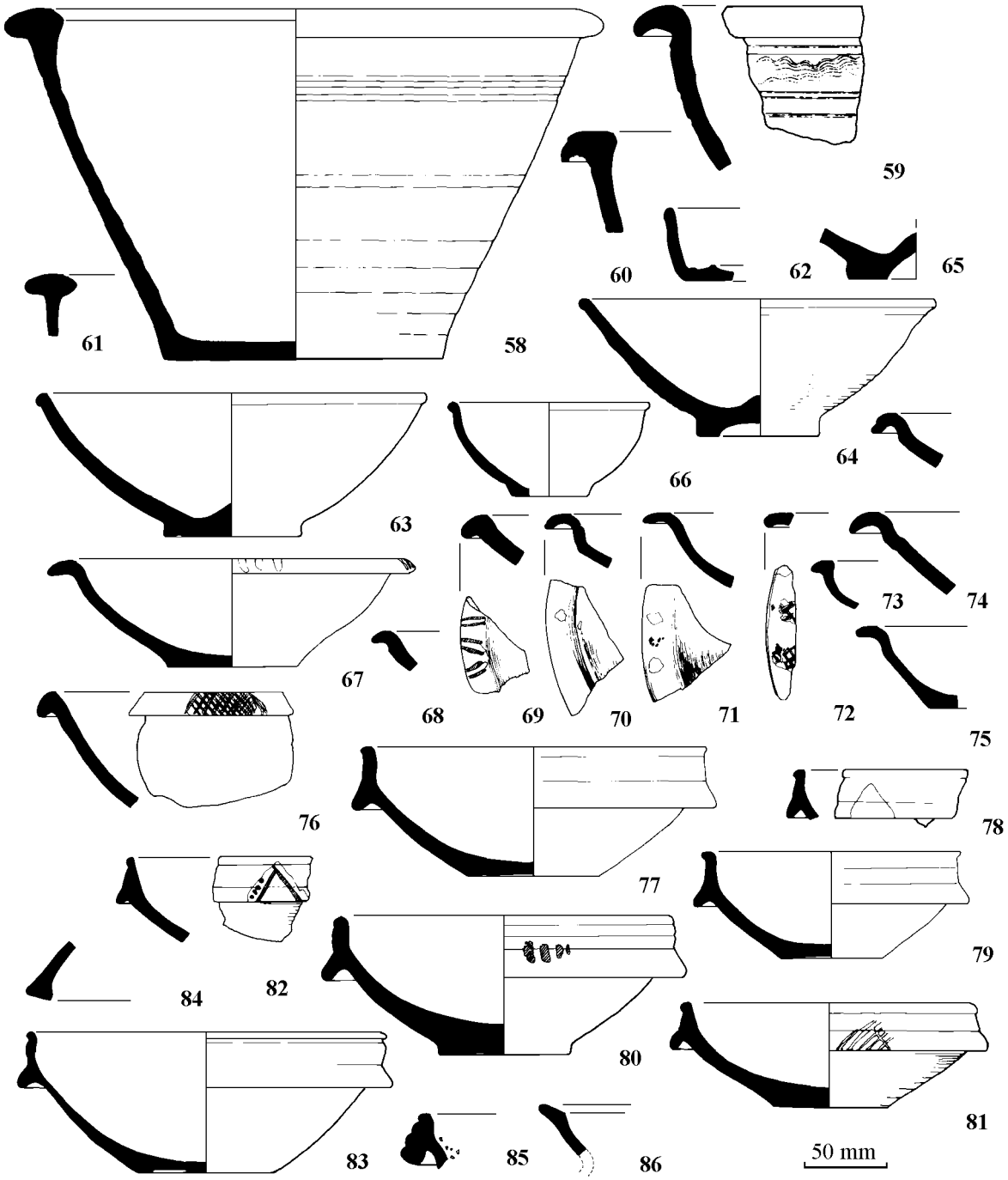



*Fig 15: Pottery from the Goodison Boulevard kilns, Cantley: bowls and imitations of samian forms*

75 Form 35 bowl, l40mm in diameter; fabric as 70 above, *C/38/S*

76 Form 36 bowl, 250mm in diameter; in an oxidised light red (2.5YR 6/6) fabric with burnished red (l0R 5/8) slip, with dusky red (2.5YR 3/2) criss-cross over a white (l0YR 8/2) triangle, *C/38/K*

77 Form 38 bowl complete, fabric in an oxidised light red (2.5YR 6/6) fabric with burnished light-red (2.5YR 6/6) surface, *C/34/K*

78 Form 38 bowl, l80mm in diameter in a hard over-fired red (l0R 4/6) fabric with dark grey (N4) core and surface. On the flange occur traces of a light grey (N7) painted triangle, *C/38/K*

79 Form 38 bowl; fabric as 77 above, *C/34/K*

80 Near complete form 36 bowl, in an oxidised light red (2.5YR 6/6) with red (2.5YR 5/8) burnished slip, *C/34/K*

81 Bowl, form 38, about 200mm in diameter but distorted, in a hard dark grey (N4) fabric with burnished surface; with traces of red over white triangles on flange, *C/33/K*

82 Form 38 bowl, 200mm in diameter in an over-fired grey (N3–4) fabric as 78, with white (l0YR 8/2) triangle over painted in dark reddish-brown (5YR 3/2) on the flange, *C/38/K*

83 Bowl form 38, in an oxidised light red (2.5YR 6/6) fabric with burnished red (l0R 5/8) slip, *C/34/K*

**Lid**

84 Rim, probably from a lid, l80mm in diameter, in an oxidised light red (2.5YR 6/8) fabric with grey (N6) core and traces of red (2.5YR 5/6) burnished slip, *C/38/S* (one example)

**Non-local vessels**

85 Mortarium 240mm in diameter, in a white (l0YR 8/2) fabric, *C/34/S*. A Mancetter-Hartshill product, similar to Catterick fig 165, no M96a (Bell and Evans 2002), late-second to early-third century.

86 Dales Ware rim l40mm in diameter in a vesicular grey (N5) fabric with light brown (7.5YR 6/4) outer zone and dark grey (l0YR 4/l) surface, *C/33/S* (further example in C/34/S). The form and type have been extensively discussed by Loughlin (1977), and a broad date range of *c* AD 200–350 seems generally agreed (see also Darling 1977). Its absence from Severan Cramond (Holmes 2002) and Carpow (Dore and Wilkes 2000), however, would support a slightly later starting date for the widespread distribution of the type, although the type is not particularly common in the north.

## *Discussion*

**The product range**

As Cregeen's (1957) publication of the Cantley type series did not indicate from which kilns the illustrated material came, we cannot ascertain what kilns 9–12, adjacent to kilns 33 *et seq,* produced. Only the type series was retained by the Museum, and much of this seems to have been dispersed in the move to new premises during the early 1960s. Furthermore, only the kiln structures and occasionally the stokeholes were recorded at Cantley, with little attempt to subdivide stokehole and other fill. Because of the lack of area excavation, neither is there any evidence of ancillary structures. Some vessels, such as Fig 13, nos 13–14, the bead-rimmed and lipped dishes, and Fig 13, no 36, the lid-seated jar, types represented by few sherds, may be residual from earlier production sites adjacent to the kilns. These forms, however, are present in small numbers at the isolated late kiln site at Branton, where contamination with older material seems unlikely (Buckland 1976).

**The date of the kilns**

The date range of production is not easily assessed. The few non-local products, two Dales Ware rims and a Mancetter-Hartshill mortarium rim, may be either residual or intrusive, and dating has to rely largely upon external parallels from well-dated groups; in the third century this can be particularly difficult. However, straight-sided flanged bowls are absent from Severan Scotland, perhaps implying a date after 220, and in the extensive series from *Verulamium* Wilson (1984, 246) suggests a start date for the type of AD 265. The Oxfordshire versions of samian forms 31 and 38 are also dated at *Verulamium* to AD 270 plus (*ibid*). In addition, Kay Hartley (personal comment) has suggested that painting does not become widespread on Mancetter-Hartshill mortaria until after AD 250. Some Cantley products appear in fourth-century deposits in Doncaster, but the absence of well-sealed pit groups makes closer dating problematic. Whilst occupation in the fort enclosure must extend into the fifth century (Buckland 1986; Buckland and Magilton, in prep), Cantley products in the latest deposits appear to be strongly residual, the final pottery supply to the fort coming largely from either Swanpool, near Lincoln (Webster and Booth 1947) or East Yorkshire sources (Swan 2002), with some Nene Valley material. At this end of the sequence, there is no overlap at Cantley with Signal Stations forms (Hull 1932), which Ottaway (2000) has recently dated to the AD 380s and later, but there is some with the earlier phases of Crambeck production, in particular the flanged mortaria (Corder 1928, nos 101–22). The latter industry appears to begin *c* AD 270 at the earliest (Evans 1989; Swan 2002), and a late-third to first quarter of the fourth-century date for Goodison Boulevard also seems probable, perhaps slightly earlier than the kilns at Branton, 3km to the east (Buckland 1976).

**Links with other potteries**

In the absence of die-linked stamps on either mortaria or fine wares it is hazardous to suggest connections with other manufactories. Two points, however, are immediately apparent: as well as forms that are common to eastern British production throughout the late Roman period (such as the flanged bowls), and types characteristic of South Yorkshire (colanders and large bowls of truncated conical form), two other sources of forms, and presumably of potters, are evident. All mortaria are closely matched by those in the pipeclay fabrics of the Mancetter-Hartshill region on the Warwickshire/ Leicestershire border, and the oxidized samian imitations with traces of red slip can be matched in the Oxford region (Young 1977). Swan (1984) has also noted that the best parallels for the Goodison Boulevard kiln structures lie in the Hartshill group in Warwickshire. Although there are other possible sources for the potters making vessels in oxidised fabrics, the connection with the West Midland mortarium industry is particularly significant in that it either perpetuates or renews a contact that is more readily apparent in the mid-second century, when the principal kilns producing the mortaria stamped by SARRIVS were located there. A subsidiary production site at Rossington Bridge, 2km south of the Goodison Boulevard kilns, made not only mortaria stamped with the same die, but also black-burnished and parisian wares destined, at least in part, for the new military markets along the Antonine Wall (Buckland *et al* 2001).

**Markets for South Yorkshire products**

Pottery is, generally speaking, a low-value, bulky and fragile commodity. In Britain, materials for its manufacture can be found in much of the lowlands as well as in pockets of the highland zone, and it ought, therefore, to be manufactured closest to where it was required. It is also the most intensively studied of Roman Britain's industries and, as is well known, its distribution defies simple economic models. Amongst the potential distorting factors are taxes.

One of us has argued that the products of the earliest

known South Yorkshire manufactory, at Rossington Bridge, reflect the purchase of potters as slaves from Aquitania, as well as from the territories of the *Corieltauvi* and *Durotriges*, rather than a disparate group of independent craftsmen recruited to work at the site (Buckland *ibid*). He has also argued that the location of these second-century kilns reflects the northern boundary of the *civitas Corieltauvorum*; any further north and taxes would be due also to the *Brigantes*. On the frontiers of the Empire at this time, imports and exports were taxed at 25% and there were lesser transit duties to be paid at the frontiers of provinces or groups of provinces such as the *quadragesima Galliarum* ('the fortieth of the Gauls': 2½ percent). By the time of Severus Alexander the import/export tax had been reduced to 12½ percent but the provincial tax survived at a fortieth or fiftieth into the later fourth century. The *civitates* also levied tolls, including harbour dues and duties at the city gates although the latter were waived for peasants bringing in produce to pay their taxes or taking out goods for their own use, tolls levied by cities were appropriated for the state by Constantine (Jones 1986, 429–30 and 1175, n 47). In brief, unless the products of the Rossington Bridge kilns were intended for consumption within the *civitas,* they were in all probability going to attract some modest level of taxation unless, as goods destined for the army, they were exempt. A study of later pottery production centres in East Yorkshire (Evans 1989), however, has concluded that, in the third century, there were some social constraints affecting their regional markets, which, in the fourth century, broke down, but that *civitas* boundaries were irrelevant.

The establishment of an offshoot of the Mancetter-Hartshill potteries in South Yorkshire is commonly attributed to a desire to be nearer to the new military markets (eg Williams 1980). As the market in question was principally the Antonine Wall, the distance saved would have been slight. Transport by river and sea from South Yorkshire would have been a possibility that was denied to the Midland potters, but there were numerous other potential sites much closer to the Wall. The importance of the military market is perhaps overstated as a result of the second century evidence. Even in the North, the civil population must have greatly outweighed the military, and if civilians were slow to take up army-style cooking and the kitchenware that went with it, there may soon have been veterans amongst them in sufficient numbers who clung to their military diet. Another questionable concept is that of the military market as a monolith. Each legion was in effect an independent army, and although they could work together to a common end, their individual contributions (as attested by the numerous inscriptions along Hadrian's Wall) were what mattered to them. The fortress at York made its own arrangements for pottery and tile with little regard for what was locally available (Monaghan 1997), and even auxiliary units may have been free to make independent deals to secure the pottery they required (*cf* Swan 2000). Demand will have varied according to the culinary and bibular traditions of units. North Gaulish grey ware beakers in Trajanic contexts at York and *Vindolanda* have been attributed to beer-swilling Tungrians, Batavians and northern Gauls in the garrisons (Swan 2002, 47) and, in a slightly earlier context, tripod bowls at Malton seem to have been produced locally for Gallic soldiers who kept to their traditional cuisine (*ibid*, 41).

Part of the answer to the 'Why South Yorkshire?' question may be provided by the way the pottery market operated. The Rossington Bridge and later kilns may not always have manufactured goods with a particular market in mind, and perhaps responded to specific orders rather than to a perception of local or regional demand. *Negotiatores cretarii*, 'pottery merchants', were the intermediaries between the producers and users of pottery (a *negotiator cretarius Britannicianus* is known from the Netherlands: Hassall 1978) and it is conceivable that they bought from rural potteries whatever could be had of an adequate quality and at a keen price to fulfil orders. They may have had other interests in, for example, coastal shipping, and used pottery instead of ballast to minimise transport costs, although pottery is too bulky for most ballast. Such a hypothesis does not, however, explain the distribution of South Yorkshire products in the military zone, where ships would have taken grain northwards but have had little to bring back. Perhaps in this instance the pottery, in modest quantities, 'piggy-backed' with the grain grown in the extensive field systems visible from the air in the Cantley area (Riley 1980). A possible parallel is provided by the supply of pottery from South Essex, another good grain-growing area, to South Shields, a supply that dried up by *c* AD 270 as, perhaps, piracy disrupted sea-borne trade (Swan 2002, 71).

**An historical context?**

If not a fiction created by vagaries of the archaeological record, increased production at Cantley may have been stimulated by new markets at the end of the third or during the early-fourth century. It may specifically reflect the return of a garrison to Doncaster that is indicated by the construction of a stonewalled enclosure on the site of the Antonine fort there, as this is where much of the Cantley production ended up. At present, the enclosure is dateable only broadly to post-Severan, pre-350 (Buckland and Magilton, in prep). The other principal markets for Cantley products do not appear to be 'native', and there is little ceramic material away from towns, forts and villas. Whilst the occasional large bowl is found during field-walking on most sites, mortaria, small bowls, jars and samian imitations are very infrequent, and it is tempting to see these vessels as

produced largely for military and related markets although, as Monaghan (1997, 893) has noted, only the occasional South Yorkshire vessel seems to make it to York. The close association between second century production at Rossington Bridge and military activity on the northern frontiers suggests a similar context might be sought for the later kiln group. It is possible that the Goodison Boulevard kilns reflect the stimulus to the economy provided by the Constantinian reorganisation of the province and subsequent activities in the north, either by Constantius Chlorus in AD 306 or on the occasion for which Constantine assumed the title *Britannicus* in AD 316 (*cf* Donaldson 1990). Whilst this suggestion runs the risk of falling into a trap that one of us has criticised elsewhere, of hanging archaeological evidence on a very slim and incomplete historical framework (Buckland 1982), it provides a hypothesis for testing, and a potential explanation for what seems a remarkable period of pottery production in South Yorkshire. Thereafter, local pottery manufacture rapidly declined to extinction. Late Roman pottery, whilst abundant in the fort at Doncaster (Buckland and Magilton, in prep) and in the roadside enclosure at Bawtry (Dearne 1997 and unpubl material in Doncaster Museum), is virtually absent elsewhere in South Yorkshire. What Neil O'Loughlin (personal comment) has facetiously described as 'cumulative aceramicity' begins in the late Roman countryside and spreads to the towns.

**Acknowledgments**

The primary sorting of the Cantley and Rossington material was carried out by a group of local volunteers including Joan Buckland, Neil O'Loughlin and Ian MacDonald, to whom many thanks are due. Successive curators and keepers, including Malcolm Dolby, Stuart Eastwood, Gillian Cawley and Peter Robinson, have facilitated access to the collections in Doncaster Museum. Assistance with drawing of the material was provided by Mick Durrant, and interpretation owes much to discussion with Kay Hartley.

## Bibliography

Annable, FK, 1954, The Romano-British Pottery at Cantley Housing Estate, Doncaster: Kilns 1–8. *Yorkshire Archaeol J* **38,** 403–6

Annable, FK, 1960, *The Romano-British Pottery at Cantley Housing Estate, Doncaster*. Doncaster Museum Pub **24**, Doncaster

Bell, A and Evans, J, 2002, Pottery from the CfA excavations, with contributions by K F Hartley, D F Williams and B Dickinson, in Wilson, PR, *Cataractonium: Roman Catterick and its hinterland. Excavations and research, 1958–97, Part 1*, CBA Res Rep **128,** York 352–496

Birley, R, 1965, Excavation of a Roman fortress at Carpow, Perthshire, *Proc Soc of Antiq of Scotland*, **96**, 184–207

Buckland, PC, 1976, A Romano-British Pottery Kiln Site at Branton, near Doncaster, *Yorkshire Archaeol J* **48**, 69–82

Buckland, PC, 1982, The Malton Burnt Grain: a cautionary tale, *Yorkshire Archaeol J* **54**, 53–61

Buckland, PC, 1986, *Roman South Yorkshire: A Source Book*, Sheffield

Buckland, PC and Dolby, MJ, 1980, *A Roman pottery kiln site at Blaxton Quarry, near Doncaster*. Doncaster Museum and Art Gallery, Doncaster

Buckland, PC, Hartley, KF and Rigby, V, 2001, The Roman Pottery Industry at Rossington Bridge: Excavations 1956–61, *J Roman Pottery Studs* **9**

Buckland, PC, Magilton, JR and Dolby, MJ, 1980, The Roman Pottery Industries of South Yorkshire, *Britannia* **11**, 145–64

Buckland, PC and Magilton, JR, 1986, *The Archaeology of Doncaster 1, The Roman civil settlement*. British Archaeol Rep **148**, Oxford

Buckland, PC and Magilton, JR, (in prep), *The Archaeology of Doncaster 3, The Roman forts*

Collingwood, RG and Richmond, I, 1969, *The Archaeology of Roman Britain,* London

Corder, P, 1928, *The Roman Pottery at Crambeck, Castle Howard*, Roman Malton and District Report **1**, Leeds

Cregeen, SM, 1956, The Roman excavations at Cantley Housing Estate, Doncaster, Part III Kilns 22–25 and Iron-smelting furnace I, *Yorkshire Archaeol J* **39**, 32–47

Cregeen, SM, 1957, The Roman Pottery Excavations at Cantley Estate, Doncaster: the pottery from kilns 9–25, *Yorkshire Archaeol J* **39**, 364–88

Darling, MJ, 1977, *A group of late Roman pottery from Lincoln*, CBA for Lincoln Archaeol Trust, London

Dearne, MJ, 1997, The Roman ?fortlet and timber causewayed road at Scaftworth, Notts: the excavations of 1980, 1983 and 1991, *Trans Hunter Archaeological Society* **19**, 12–31

Donaldson, GH, 1990, A reinterpretation of RIB 1912 from Birdoswald, *Britannia* **21**, 207–14

Dore, JN and Wilkes, JJ, 2000, Excavations directed by JD Leach and JJ Wilkes on the site of a Roman fortress at Carpow, Perthshire, 1964–79, *Proc Soc of Antiq of Scotland* **129**, 481–575

Evans, J, 1989, Crambeck: the development of a major northern pottery industry, in Wilson, PR (ed) *The Crambeck Roman pottery industry*, Yorkshire Archaeol Soc, Leeds, 43–90

Gaunt, GD, 1994, *Geology of the country around Goole, Doncaster and the Isle of Axholme. Memoir of the British Geological Survey Sheets 79 and 88 (England and Wales)*, London

Gillam, JP, 1976, Coarse Fumed Ware in North Britain and beyond, *Glasgow Archaeol J* **4**, 57–80

Gilmour, EF, 1954, The Roman pottery kilns at Cantley Housing Estate, Doncaster, kilns 9–15, *Yorkshire Archaeol J* **38**, 407–12

Gilmour, EF, 1955, The Roman Excavations at Cantley Housing Estate, Doncaster a) The Roman well. b) Kilns 16–21, *Yorkshire Archaeol J* **38**, 536–45

Gilmour, EF, 1956, Kilns 26–29. The Roman excavations at Cantley Housing Estate, Doncaster, *Yorkshire Archaeol J* **39**, 47

Grimes, WF, 1930, Holt, Denbighshire: The Works-depot of the Twentieth Legion at Castle Lyons*, Y Cymmrodor* **41**, London

Hartley, BR, 1966, The Roman fort at Ilkley, Excavations of 1962, *Proc Leeds Philosophical Soc, Lit and Hist Section* **12**, 23–72

Hartley, BR, 1969, Samian ware or *Terra Sigillata*, in RG Collingwood and IA Richmond, *The Archaeology of Roman Britain*, London*,* 235–51

Hartley, KF, 1976, Mortaria, in Stead, IM, *Excavations at Winterton Roman villa and other Roman sites in North Lincolnshire 1958–67*, Dept of Environment Archaeol Rep **9,** 116–26

Hartley, KF, 1995, Mortaria, in Phillips, D, Heywood, B and Carver, MOH (eds) *Excavations at York Minster, I. From Roman fortress to Norman cathedral*, *The finds*, Mono **2**, RCHM(E), London, 304–23

Hartley, KF, 2002, Mortaria fabrics, in Bell, A and Evans, J, 2002, 355–60

Hassall, M, 1978, Britain and the Rhine Provinces: epigraphic evidence for Roman trade, in du Platt Taylor, J and Cleere, H (eds) *Roman Shipping and Trade: Britain and the Rhine Provinces,* CBA Res Rep, London, 41–48

Holmes, N 2002, *Excavation of Roman sites at Cramond Edinburgh*, Soc Antiq of Scotland, Edinburgh

Howe, MD, Perrin, JR and Mackreth, DF, 1980, *Roman pottery from the Nene Valley*. Peterborough Museum Occ Paper **2**

Hull, MR, 1932, The pottery from the Roman signal stations on the Yorkshire coast, *Archaeol J* **89**, 220–53
Jones, AHM, 1986, The Later Roman Empire 284–602 : a social, economic and administrative survey, Baltimore
Loughlin, N, 1977, Dales Ware: a contribution to the study of Roman coarse pottery, in, Peacock, D.P S (ed), *Pottery and early commerce. Characterization and trade in Roman and later ceramics*, London, 85–162
Monaghan, J, 1997, Roman pottery from York*, Archaeology of York* **16/8**, CBA, York
Munby, J, 1975, Some moulded face flagons from the Oxford kilns, *Britannia* **6**, 182–88
Munsell Color, 2000, *Munsell soil color charts.* New Windsor (NY)
Ottaway, P, 2000, Excavations on the site of the Roman signal station at Carr Naze, Filey, 1993–4, *Archaeol J* **157**, 79–199
Perrin, JR, 1981, Roman pottery from the Colonia: Skeldergate and Bishophill in *Archaeology of York* **16/2**, 45–111, CBA, London
Perrin, JR, 1990, Roman pottery from the Colonia. 2. General Accident and Rougier Street, with a report on the amphora from York, *Archaeology of York* **16/4**, CBA, London, 241–373
Riley, DN, 1980, *Early Landscape from the Air*, Sheffield
Sumpter, AB, 1990, Pottery from Well 1, in Wrathmell, S and Nicholson, A (eds) *Dalton Parlours Iron Age settlement and Roman villa*, Yorkshire Archaeology **3,** West Yorkshire Archaeol Service**,** Wakefield, 235–45
Swan, VG, 1984, *The pottery kilns of Roman Britain,* RCHM(E) Sup Ser **5,** London
Swan, VG, 2000. The Twentieth Legion and the history of the Antonine Wall reconsidered. *Proc Soc Antiq Scot* **129**, 399–480
Swan, VG, 2002, The Roman pottery industry of Yorkshire in its wider historical context, in Wilson, P and Price, J (eds), *Aspects of Industry in Roman Yorkshire and the North*, 35–80, Oxford
Tomber, R, and Dore, J, 1998, *The National Roman fabric collection. A handbook.* London, Museum of London Archaeol Service
Webster, G and Booth, N, 1947, A Romano-British pottery kiln at Swanpool, near Lincoln, *Antiq J* **27**, 61–79
Williams, DF, 1980, The Black-Burnished Ware, in Macivor, I, Tomas, MC and Breeze, DJ, Excavations on the Antonine Wall fort of Rough Castle, Stirlingshire, 1957–61, *Proc Soc Antiq Scot* **110**, 256–7
Wilson, MG, 1984, The other pottery, in, Frere, SS, *Verulamium Excavations III*, , Oxford Univ Comm for Archaeology, 201–76
Young, CJ, 1977, *Oxfordshire Roman pottery*. British Archaeol Rep **43**, Oxford

# Roman stone mortars – a preliminary survey

*HEM Cool*

It is becoming increasingly clear that there are many questions to be asked about the use of mortaria in Roman Britain. They are normally seen as a good indication of the adoption of Romanised cuisine (Tyers 1996, 116; Alcock 2001, 117–8); but the patterns of recovery increasingly argue against this being so in every case. Britain appears to have been an unusually heavy user of these vessels (Hartley 1998, 209–10); and the presence of them on rural sites, which otherwise show little or no interest in Roman material culture, hints that they may have been used for a variety of purposes (Evans 1999, 177; Cool 2004). Though pottery was by far the commonest material used, they also occur in stone. These stone examples will have to take into consideration in any future investigation of how mortaria were used but, as Kay herself has pointed out 'few data are available on stone mortars' (Hartley 1998, 214). This note is a preliminary attempt to rectify this. It is offered to her with great respect and affection.

Synthetic studies about mortars are rare. In publishing those from Richborough, Dunning (1968) took the opportunity to draw attention to a number from other sites; and mortars also formed part of the study of the Purbeck marble industry by Beavis (1971). Apart from this, information generally consists of brief catalogue entries in excavation reports. As with many stone artefacts these can be rather cursory, because stone artefacts do not always receive detailed specialist study (Peacock 1998, vii). Some excavation reports do not have reports on any worked stone other than querns, and the lingering suspicion with these is always that other items may have been found but not reported on. Despite these caveats, some progress can be made in establishing sources, distribution and date; and there is also some information on what they might have been used for.

The vessels that show wear consistent with their being mortars are generally shallow bowls with lugs around the rim, one of which may have the top channelled to form a spout. The profile is normally convex-curved with a small vertical base edge; but they can be straight-sided externally and concave within. In some cases the wear is so extreme that the bases may be worn through, as in the case of ones from a mid-third-century context at Baldock (Stead and Rigby 1986, 179 no 775), and one of early to mid-fourth-century date from Dorchester (Mills and Woodward 1993, 146 no 16). In the case of the latter the hole had been plugged with lead, just as can be seen in some pottery mortaria (Oswald 1943, 45).

Mortars made of white marble, possibly from Italy, have been found in first and second-century contexts, and these were clearly imported soon after the conquest. One example securely identified as Carrera marble was recovered from a Boudican destruction level at Colchester (Crummy 1983, 76 no 2082). An example from Wroxeter may be associated with the military occupation (*c* AD 57 – 90, Webster 2002, 127 no 214). One from Richborough comes from an early to mid second century context (Dunning 1968, 114 no 9). In addition to these Dunning notes examples from London and Cirencester and another from Colchester. At present the evidence would seem to suggest that these imported mortars are rare, and tend to be found at major urban sites. This might be misleading and the result of the frequently poor reporting of stone finds; but it seems likely that even when other stone finds might be consigned to the archive, the discovery of this obviously exotic material would be commented on.

The most frequently encountered stone type is Purbeck marble from Dorset. This is a hard freshwater limestone that will take a high polish, and is normally a bluish grey. This stone was undoubtedly regarded as a marble during the Roman period; and was exploited from very soon after the conquest, for inscriptions, veneers and some sculptural figures (Williams 2002). Mortars were certainly made from it by the early Flavian period as examples have been found in contexts of AD 75–85 at Exeter and London (Holbrook and Bidwell 1991, 278 no 2; Pritchard 1996, 84 no 78, 47). Not only the marble strata were exploited for mortars, other shelly Jurassic limestones from Purbeck or elsewhere in Dorset were also used (eg Holbrook and Bidwell 1991, 279 nos 4–6; Pritchard 1996, 83 no 77). As not all reports make a distinction between these stones, in what follows the

stones will just be called Purbeck.

Purbeck mortars are, unsurprisingly, very common in the Dorset area itself, both on urban and rural sites. Fragments from twelve of Roman date were recovered from the excavations at Greyhound Yard in the centre of Dorchester (Mills and Woodward 1993, 145). Neighbouring rural sites are also prolific. There are, for example, seven from Alington Avenue (Walker 2002, 85), at least two from Poundbury (Davies 1987, 105 fig 75 nos 19 and 21), and one from Fordington Bottom (Seager Smith 1997, 249). In the Isle of Purbeck itself, the settlement at Worth Matravers has produced three (Graham *et al* 2002, fig 1.27 nos 4–6), whilst the villa at Halstock, close to the Somerset border, has also produced three (Lucas 1993, 95).

A high level of use seems to extend as far as Exeter with five reported (Holbrook and Bidwell 1991, 278 nos 2–6), but in other directions this level of use falls off noticeably the further away from the source one travels. This can be shown by examination of large finds assemblages from Roman sites in the neighbouring counties where stone artefacts have been published. In Somerset there are no stone mortars of any type at Ilchester (Leach 1982), and only a single fragment from one of Ham Hill Stone at Catsgore (Leech 1982, 129 no 18). In Wiltshire there appear to be none from Wanborough (Anderson *et al* 2001), and in Hampshire there is only a single Purbeck mortar from Neatham (Timby and Peacock 1986, 135 no 518). The case of Silchester is particularly informative here. Boon (1974, 237) notes that there are 'some' Purbeck mortars from the late-nineteenth and early-twentieth-century excavations; but it may be observed that none are published in the extensive reports of the more recent excavations of Professor Fulford. Had the levels of use seen in Dorset stretched further north, more finds might certainly have been expected from Silchester. More widely, in the south of England one can point to occasional rather than regular use. In Kent, for example, though there are the examples from Richborough (Dunning 1968, 110) and Lullingstone (Meates 1987, 59 no 48, fig 22), those from Canterbury appear to be of medieval date (Blockley *et al* 1995, 1218 nos 1445–8). Similarly, if we look at Essex, the extensive excavations in Colchester city centre have produced a single Purbeck mortaria (Crummy 1983, 76 no 2084), as has the small town of Great Dunmow (Wickenden 1988, 60 no 10) and the rural site of Gestingthorpe (Draper 1985, 75; while there appear to be none recorded at Chelmsford (Drury 1988). Reports of Purbeck mortars become rarer the further north you go. An example was found in a mid-second-century context at Castleford (Clarke 1998, 264 no 130), and there is an unstratified example from Catterick (Wilson 2002, 307 no 24.3.2.1); but they appear to be rare in the vicinity of Hadrian's Wall. Dunning reported the presence of one at Corbridge (Dunning 1968, 111). At South Shields one of shelly limestone is noted but it is not known whether this is of Purbeck origin (Bidwell and Speak 1994, 201 no 118). Elsewhere where stone mortars are recorded, they tend to be both of other stone and frequently of non-typical shape, such as those from Carlisle which are both made of sandstone. One from a second-century context is unusually deep, and another from a late-Roman context has a perforated spout worked through the wall of the vessel (Padley 1991, 161–2 nos 606–7)

As with all stone artefacts, it is easier to trace the introduction of Purbeck mortars than their decline. When broken, they can be useful as rubble leading to their deposition in contexts considerably post-dating their use. Dunning (1968, 111) proposed that the industry producing them was active in the later first and second centuries and then ceased work, only reviving in the late fourth century. He used the evidence of the mortars from Maiden Castle in late-fourth-century contexts for this (Wheeler 1943, 251, nos 57 and 58), though both of these are fragmentary Beavis (1971, 204) suggested that the production may have been continuous. Possibly the best evidence of continued use of Purbeck mortars into the fourth century comes from Dorchester where a substantially complete one was found in an early to mid-fourth-century context (Mills and Woodward 1993, 146 no 16). The fact that this example had seen long use, and had been plugged with lead might suggest, though, that even in their heartlands it was not easy to acquire Purbeck mortars by the early fourth century.

The other principle source of stone mortars is Cornwall (Quinnell 1993). They are made from elvan and greisen. Elvan is a quartz porphyry, generally cream-coloured, and greisen a metamorphosed granite, generally of a silver or yellowish grey colour. The mortars seem to attempt to copy pottery mortaria much more closely than the Purbeck mortars, having a single spout at the rim and lacking the side lugs. Quinnell (*ibid*, 70) notes that virtually every second to fourth or fifth-century site in Cornwall has produced them. In addition to these Cornish mortars there is also a distinctive variant called a Trethurgy bowl, made of the same stones but much larger than the mortars. The latter are *c* 20–30cm in diameter whereas the bowls are *c* 50cm. The bowls lack the spouts of the mortars, but have angular ribs worked on their sides, which are thought to skeuomorph the handles on the sides of large metal basins. The current evidence suggests the bowls were a later development, and a fourth to sixth-century date is suggested (*ibid,* 73). Both the mortars and the bowls show wear patterns inside consistent with them being used for grinding.

The distribution of both mortars and bowls is overwhelmingly restricted to Cornwall. A few mortars are recorded in Devon (*ibid*, 77) but none, apparently further east. A few of the bowls are known elsewhere in Roman Britain. Quinnell (*ibid*, 77) notes single examples from Richborough and London, and to these a third may

be added from the Fortress Baths at Caerleon in a late-third-century or later context (Zienkiewicz 1986, 216 no 44).

Another area where there was a regular pattern of stone being exploited is Somerset. A large mortar from a late second century context at Exeter was made of red sandstone from Bishop's Lydeard (Holbrook and Bidwell 1991, 278 no 1); the mortar from Catsgore was made of Ham Hill stone, a Jurassic limestone from Hambledon Hill; whilst one from Bradley Hill (Leech 1981, 248 no 10) was suggested to be Doulting stone, an oolitic limestone obtained from near Shepton Mallet further to the east in the same county. Mortars from this area are also found farther afield. Dunning thought that three of the Richborough mortars were made of oolitic limestone from the Bristol area and a forth was coral limestone from the Bristol / Mendip region (Dunning 1968, 111). It might also be suspected that some others merely described as non-local shelly limestone from South Shields and Jurassic oolitic limestone from Scole (Rogerson 1977, 150 no 10), could also have come from this area. A south-west origin is also suggested for the basalt used for a mortar from London (Pritchard 1996, 85).

Apart from these south-western industries, the production of stone mortars seems to have been undertaken only occasionally by the stone masons exploiting other sources of rock. This is especially noteworthy in relation to Kentish Rag. This was a stone used to produce hones that were widely used in Roman Britain, and which obviously had well-established industries exploiting it (Peacock 1971; Miller *et al* 1986, 240–1). These had been established by the later first century AD (Pritchard 1996, 91 no 121). Kentish Rag is a sandy glauconitic limestone; and there seems no reason why it should not have been used to manufacture mortars; but such evidence as we have suggests this only occasionally happened. Dunning identified two from Richborough (Dunning 1968, 113 no 7–8), and more recently one has been published from Fosse Lane, Somerset (Roe 2001a, 178 no 1). Significantly the specialist in the latter case, who does work extensively with stone artifacts, could not cite any *comparanda* in addition to the Richborough examples, suggesting they are indeed rare.

Another areas where mortars may have been made is the west Midlands; one from the fort at Loughar in Glamorgan is made of olivine dolerite that may have come from Shropshire (Parkhouse 1997, 417 no 13). The mortars from Carlisle are described as red sandstone so it might be suspected that these were produced locally, as red sandstones are common in the vicinity. At present, though, there are insufficient detailed geological descriptions of mortars to map production spots outside of the south-west with any degree of accuracy.

Generally, mortars made of other stones conform to the standard shallow bowl with external lugs shape, but another form is known from Usk (Manning *et al* 1995, 212) and Alchester (Roe 2001b, 252 no 24). These consist of a stone cylinder with straight sides and a bowl-shaped depression in the upper face. A projecting spout is worked at one point of the upper margin. Both are made of sandstone, and that used at Alchester came from Northamptonshire. Both are substantially complete and so are unlikely to be residual. The Alchester example came from a mid-second-century context, and the Usk example from one of the second to third-century.

It seems clear from the wear in them that these bowls were used to grind things; as does the recovery of stone pestles such as the Purbeck marble example from Chichester (Down 1989, 162 no 4) and the white marble ones from Richborough (Dunning 1968, 112) and Lullingstone (Meates 1987, 61 no 51). It is also clear though that it was not always foodstuffs that were being ground. At Well, Silchester and London, there is evidence of red pigment being ground in stone mortars, presumably for use with wall paintings (Gilyard-Beer 1951, 59 no 4; Boon 1974, 112; Pritchard 1996, 85). As with many artefacts, stone mortars could occasionally be put to uses that their makers did not intend; the marble one from Wroxeter for example appears to have been used as an open lamp. Unfortunately there is no note of the nature of the interior surface, so it is not possible to say whether or not prior to that it had been used to grind things or not.

This has been a survey based on a scan of the literature, rather than by a systematic inspection of the actual artefacts. As pointed out in the introduction, surveying the literature for stone objects brings its own problems; but the patterns that do emerge are rather curious. It is clear that most stone mortars take as their model imported marble mortars with lugs around the circumference. It is only the Cornish mortars, and possibly those such as the sandstone examples from Usk and Alchester that may have looked to pottery mortaria as their prototype. It is also clear that stone mortars appear to be a Romano-British development rather than having antecedents in the later Iron Age. Geographically the focus of both manufacture and use seems greatest in the south-west, stretching west from Dorset through Somerset and into Cornwall. Why there should be so great an interest and demand in this area is difficult to say. Quinnell, in discussing the Cornish mortars, suggested that the development of the industries producing both them and the Purbeck mortars was related to the fact that in neither area did the pottery industries produce mortaria (Quinnell 1993, 72). This does not seem entirely convincing since pottery mortaria production was always a specialised branch of the pottery industry; and there are many areas without local sources which imported them. Indeed it is noticeable on both the Cornish and Dorset sites where stone mortaria are common, that they are present in addition to pottery mortaria, not as a replacement for them.

Outside of the south-western heartlands of stone mortars, there seems to have been only an occasional demand for them. It seems likely that this was a matter of choice rather than supply. Purbeck mortars, after all, were coming from precisely the same area as Black Burnished 1 wares. This was a pottery type that was exported in large quantities to most parts of Roman Britain accessible from the west coast. In the north it often formed 20% of assemblages in the second century and more in the third (Jeremy Evans *personal comment*). Had there been a nation-wide demand for stone mortars, there would seem to have been few logistical reasons why the Purbeck industries could not have satisfied much of it. Though it is possible that expense was a limiting factor, the types of sites that Purbeck mortars have been found on outside of Dorset do not show the sort of patterns that might hint that this was an expensive product favoured by the elite. The common use of stone mortars should probably be seen as yet another aspect of the suite of material culture traits that makes the Roman south-west so very distinctive. We are left with a picture that this was an artefact type that only one particular area of the country found very useful. Why this should be so is a rather large unanswered question, but it might call into question the assumption that they were generally cooking implements. As with the pottery mortaria, the more you look at the British pattern of use, the stranger the picture that emerges.

**Acknowledgements**

My grateful thanks to Lindsay Allason-Jones and Jerry Evans for helpfully clarifying points, and Pete Wilson for checking a reference I had no access to.

## Bibliography

Alcock, JP, 2001, *Food in Roman Britain,* Stroud

Anderson, AS, Wacher, JS, and Fitzpatrick, AP, 2001, *The Romano-British 'Small Town' at Wanborough, Wiltshire* Britannia Mono **19**, London

Beavis, J, 1971, Some aspects of the use of Purbeck marble in Roman Britain, *Proc Dorset Nat Hist Archaeol Soc* **92** (for 1970), 181–204

Bidwell, PT, and Speak, S, 1994, *Excavations at South Shield Roman Fort vol 1* Soc of Antiqu Newcastle upon Tyne Mono **4,** Newcastle upon Tyne

Blockley, K, Blockley, M, Blockley, P, Frere, SS, and Stow, S, 1995, *Excavations in the Marlowe Car Park and Surrounding Areas*, Archaeol of Canterbury **5**, Canterbury

Boon, GC, 1974, *Silchester; The Roman Town of* Calleva, Newton Abbot and London

Clarke, JC, 1998, Other artefacts of stone, in Cool, HEM, and Philo, C, (eds), *Roman Castleford Excavations 1974–85. vol I: the Small Finds* Yorkshire Archaeol **4**, Wakefield, 253–65

Cool, HEM, 2004, Some notes on spoons and mortaria, in Croxford, B, Eckardt, H, Meade, J, and Wakes, J (eds) *TRAC: Proc of the Thirteenth Theoretical Roman Archaeol Conf, Leicester 2003,* Oxford, 28–35

Crummy, N, 1983, *The Roman Small Finds from Excavations in Colchester 1971–9*, Colchester Archaeol Rep **2**, Colchester

Davies, S, 1987, The stone objects, in Sparey Green, C, *Excavations at Poundbury*, vol *I: the Settlements*. Dorset Nat Hist and Archaeol Soc Mono **7**, Dorchester, 103–8

Down, A, 1989, *Chichester Excavations* **6**, Chichester

Draper, J, 1985, *Excavations at Hill Farm, Gestingthorpe, Essex* East Anglian Archaeol Rep **25**, Chelmsford

Drury, PJ, 1988, *The Mansio and other sites in the South-eastern sector of* Caesaromagus CBA Res Rep **66,** London

Dunning, GC, 1968, The stone mortars, in Cunliffe, BW (ed) *Fifth Report on the Excavations of the Roman Fort at Richborough, Kent.* Res Rep Soc of Antiqu of London **23**. Oxford, 110–14

Evans, J, 1999, The Iron Age and early Roman pottery, in Millett, M, and Halkon, P (eds) *Rural Settlement and Industry: Studies of the Iron Age and Roman Archaeology of Lowland East Yorkshire* Leeds: Yorkshire Archaeol Rep **4**, 177–83

Gildyard-Beer, R, 1951, *The Romano-British Baths at Well,* Yorkshire Roman Antiqu Com Res Rep **1**, Leeds

Graham, AH, Hinton, DA, and Peacock, DPS, 2002, The excavation of an Iron Age and Romano-British settlement in Quarry Field, south of Compact Farm, Worth Matravers, Dorset, in Hinton, 2002, 1–83.

Hartley, K, 1998, The incidence of stamped mortaria in the Roman Empire, with special reference to imports to Britain, in Bird, J (ed) *Form and Fabric,* Oxford: Oxbow Mono **80**, 199–217.

Hinton, DA (ed), 2002, *Purbeck Papers* Univ of Southampton, Dept of Archaeol Mono **4,** Oxford

Holbrook, N, and Bidwell, PT, 1991, *Roman Finds from Exeter*, Exeter Archaeol Rep **4**, Exeter

Leach, P, 1982, *Ilchester vol 1: Excavations 1974–5* Western Archaeol Trust Mono **3,** Bristol

Leech, R, 1981, The excavation of a Romano-British Farmstead and Cemetery on Bradley Hill, Somerton, Somerset, *Britannia* **12**, 177–252

Leech, R, 1982, *Excavations at Catsgore 1970–73.* Western Archaeol Trust Mono **2,** Bristol

Lucas, RN, 1993, *The Romano-British villa at Halstock, Dorset; Excavations 1967–85.* Dorset Nat Hist and Archaeol Soc Mono **13**, Dorchester

Manning, WH, Price, J, and Webster, J, 1995, *Report on the excavations at Usk 1965–76. The Roman Small Finds,* Cardiff

Meates, GW, 1987, *The Roman Villa at Lullingstone, Kent. Volume II: the Wall Paintings and Finds,* Kent Archaeol Soc Mono **3**, Maidstone

Miller, L, Schofield, J, and Rhodes, M, 1986, *The Roman Quay at St Magnus House, London*, London and Middlesex Archaeol Soc Spec Pap **8**, London

Mills, JM, and Woodward, PJ, 1993, The portable stone objects, in Woodward, PJ, Davies, SM, and Graham, AH, 1993, *Excavations at the Old Methodist Chapel and Greyhound Yard, Dorchester, 1981–4* Dorset Nat Hist and Archaeol Soc Mono**12,** Dorchester, 145–9

Oswald, F, 1943, The mortaria of *Margidunum* and their development from AD 50 to 400, *Antiqu J* **22**, 45–63

Padley, TG, 1991, *The Metalwork, Glass and Stone Objects from Castle Street, Carlisle: Excavations 1981–2*, Cumberland and Westmorland Antiq and Archaeol Soc Res Ser **5**, fasc 2, Kendall

Parkhouse, J, 1997, Stone objects, in Marvell, AG, and Owen-John, HS, *Leucarum* Britannia Mono **12**, London, 411–25

Peacock, DPS, 1971, Whetstones, in Cunliffe, B, *Excavations at Fishbourne 1961–69. Vol II: The Finds,* Res Rep Soc Antiqu London **27**, Leeds, 153–6

Peacock, DPS, 1998, *The Archaeology of Stone,* London

Prichard, F, 1996, Mortars, 83–5 in Milne, G, and Wardle, A, Early Roman development at Leadenhall Court, London and related research', *Trans London and Middlesex Archaeol Soc* **44** (for 1993), 23–169

Quinnell, H, 1993, A sense of identity: distinctive Cornish stone artefacts in the Roman and post-Roman periods, in Carver, M (ed), *In search of cult: archaeological investigations in honour of Philip Rahtz,* Woodbridge, 69–78 (reprinted in *Cornish Archaeol* **32**, 1993)

Rogerson, A, 1977, Excavations at Scole 1973, *East Anglian Archaeol Rep* **5**, Dereham, 97–224

Roe, F, 2001a, Stone mortars, in Leach, P, and Evans, CJ, *Fosse Lane Shepton Mallet 1990,* Britannia Mono **18**, London, 177–8

Roe, F, 2001b, Worked stone, in Booth, PM, Evans, J, and Hiller, J, *Excavations in the extramural settlement of Roman Alchester, Oxfordshire, 1991,* Oxford Archaeology Monograph 1, Oxford, 248–53

Seager Smith, R, 1997, Objects of worked stone, in Smith, RJC, Healy, F, Allen, MJ, Morris, EL, Barnes, I, and Woodward, PJ, 1997, *Excavations along the Route of the Dorchester by-pass, Dorset, 1986–8.* Wessex Archaeol Rep **11**, Salisbury, 249–51

Stead, IM, and Rigby, V, 1986, *Baldock:. The Excavation of a Roman and pre-Roman Settlement, 1968–72*, Britannia Mono **7,** London

Timby, J, and Peacock, DPS, 1986, The objects of stone, in Millett, M, and Graham, G, *Excavations on the Romano-British small town at Neatham, Hampshire 1969–79*, Hampshire Field Club Mono **3**, Farnham, 132–38

Tyers, P, 1996, *Roman Pottery in Britain*, London and New York

Walker, K, 2002, Stone objects, in Davies, SM, Bellamy, PS, Heaton, MJ, and Woodward, PJ, 2002, *Excavations at Alington Avenue, Fordington, Dorchester, Dorset, 1984–7* Dorset Nat Histand Archaeol Soc Mono **15,** Dorchester, 85–7

Webster, G, 2002, *The Legionary Fortress at Wroxeter excavations by Graham Webster, 1955–85*, English Heritage Archaeol Rep **19**, London

Wheeler, REM, 1943, *Maiden Castle, Dorset* Res Rep Soc Antiqu London **12**, London

Wickenden, NP, 1988, *Excavations at Great Dunmow, Essex: a Romano-British Small Town in the* Trinovantian Civitas, East Anglian Archaeol **41**, Chelmsford

Williams, DF, 2002, Purbeck Marble in Roman and medieval Britain', in Hinton, 2002, 126–31

Wilson, PR, 2002, *Cataractonium: Roman Catterick and its Hinterland; Excavations and Research 1958–1997. Volume 2,* CBA Res Rep **129**, York

Zienkiewicz, JD, 1986, *The Legionary Fortress Baths at Caerleon. Volume II: the Finds*, Cardiff

# The mixed grill over-egged

*Nina Crummy*

When Kay Hartley first started her archaeological career museums displayed the objects in their collections by the straightforward method of placing them in a case with a simple descriptive label. This began to change in the 1970s when a more pro-active method was introduced, with the museum acting as the interpreter of archaeological evidence and presenting it in ways that were visually stimulating and could be understood and assimilated by a much wider public. Both three- and two-dimensional reconstructions of Roman room settings began to appear, allowing even the very young to make comparisons between aspects of life 'then' and 'now'.

This otherwise admirable approach unfortunately gives the impression that Roman Britain can be represented by a single frozen moment; The subtleties of 400 years of Roman rule are lost, all the shades of its economy, society and culture, and its very diverse population: indigenous Britons, migrants and visitors from other provinces and other continents, entrepreneurs, artisans, fisher-folk, butchers, bakers, tanners, shepherds, weavers, slaves, military personnel, veterans, civil servants, actors, gladiators, musicians, priests and priestesses, skivvies, socialites, subsistence farmers, wealthy estate owners, tinkers, tailors, soldiers, sailors, rich men, poor men, beggars and thieves, the list is endless.

Museums with the limited display space available to them cannot hope to show how all these individuals lived, and so they generally choose a period and a social level for their room settings or painted reconstructions, usually one that conforms to the Roman 'gracious-living' stereotype of mosaic floor, painted walls, and elegant furniture. This frequent choice has the advantage of showing off the best pieces in the collection; all perfectly reasonable and in the best interests of local council-tax payers. However, reconstructions of Roman kitchens rely heavily on the Pompeian model of a raised hearth with a gridiron set over hot ashes, sometimes with meat set directly onto the gridiron, sometimes with a cooking pot set on it. This closely follows Boon's Pompeii-driven interpretation of the Silchester gridiron (see item no 8 below): '*meat and fish, perhaps cakes, could be grilled on it, or vessels placed on it to simmer*' (Boon 1974, 237; de Franciscus 1979, pl 62; Connolly 1979, 36–7). In the Newstead report, Curle illustrated both a gridiron and a copper-alloy jar by placing the latter on the former, but he noted in the text that the two were not found together (1911, pl liii, 2).

The gridirons in these reconstructed kitchens are almost invariably replicas, understandable given the delicacy of excavated iron, but they are also usually replicas of objects that the museums do not actually have in their own collections. Gridirons are rare in the archaeological record, and thus rare in museum collections. It seems that in Roman Britain vessels rarely simmered and meat, fish and cakes were rarely grilled on a gridiron set over a low fire. Are museums, therefore, currently presenting a distorted idea of Romano-British cooking methods not just in their town, but also in the province as a whole?

## *Catalogue*

It could be argued that, as gridirons were made of simple strips of iron, many were used to destruction and that fragments are not recognised when found. The provenances and contexts of the examples listed below suggest that this *caveat* is not entirely valid.

**1** Colchester, Essex. A small, almost square, gridiron was found in the early 1970s during excavations at Lion Walk in a pit in the legionary fortress dated to *c*AD 44–49 (Fig 1, a). It is about 210mm square and has six crossbars set between legged sides (Crummy 1983, 73).

**2** Colchester, Essex. An elegant semicircular gridiron came from the Gilberd School excavations in the mid 1980s (Fig 1, b). It was found in a room of a barrack block converted for domestic use in the pre-Boudican colony, and rested on a rudimentary hearth made of tile fragments. Dated *c*AD 49–60/1, it need not itself be of military origin, but it was certainly used by a veteran family. It is large, measuring 503mm along the straight side, and with a maximum width of 298mm (Crummy 1992, 217, fig 6.13).

A gridiron fairly similar to this example was among the grave goods in a richly-furnished warrior grave found

at Fléré-la-Rivière, Indre, France (Fig 1, c). The burial is dated to the Augustan period and it has been suggested that the warrior had been a Roman auxiliary (Ferdière and Villard 1993).

**3** Colchester, Essex. A damaged rectangular gridiron was found in a pit on the site of the former Maternity Home to the west of Colchester, close to the main Roman Colchester to London road (Fig 1, d). Though no cremated bone was found, it seems likely that the pit was a cremation grave that had been disturbed in antiquity. The feature is dated by the pottery to the late first or early second century (Colchester Archaeological Trust archive report 46). The gridiron has five surviving crossbars set into legged sides and measures about 300mm by 260mm by 93mm high

**4** Newstead, Borders. Excavations in the early twentieth century by James Curle at the Roman fort of Newstead produced a plain rectangular gridiron with six crossbars set into legged sides. It was found in Pit lxi, at 36ft deep almost certainly a well, dated by Curle to the early phase of occupation (Curle 1911, 107, 130–1, 274, pl liii, 2).

**5** Carlingwark Loch, Galloway. A smith's hoard of over 100 pieces of copper-alloy, iron and wooden objects found in 1866 in Carlingwark Loch included a well-preserved rectangular gridiron of slightly more complex construction than items 1, 3 and 4. It measures about 170mm by 152mm, and stands 38mm high (Curle 1932, 311–13; Piggott 1953, fig 10, C71).

Among the other objects in the Carlingwark Loch hoard was a round long-legged tripod, another item rarely found in Britain (Piggott 1953, fig 10, C73), as well as tools, harness and structural fittings, and a wide variety of other items, ranging in date from Iron Age to Roman, all contained in a large bronze cauldron. Many of the tools and fittings, including the gridiron and tripod, were probably salvaged from a Roman military establishment, and the hoard does include some fragments of sword blades and chain-mail (*ibid,* C26–33, C74). A military origin for this item is therefore quite likely. Given the wide date-range of the objects, it is impossible to place a precise date on the gridiron, but it must post-date the first Roman incursions into Scotland by at least a few years, and is unlikely to be later than the early second century (Manning 1972, 233).

Another gridiron may have been among the objects from the Eckford, Borders, hoard but it is now lost (Piggott 1953, 2). If it truly existed, then again a date in the first or early second century is likely (Manning 1972, 234).

**6** *Margidunum*, Notts. This gridiron resembles that from Carlingwark Loch and may be associated with the early Roman military origins of the site (Manning 1985, 100; Burnham and Wacher 1990, 260–4).

**7** Icklingham, Suffolk. The origin of this gridiron is somewhat uncertain, but, together with an iron frying pan, it is probably part of a fourth-century hoard found in 1839 that included nine pewter vessels. The gridiron measures about 289mm by 185mm, and is of open form, with two omega-shaped central bars set in a frame with two outer bars on the long sides and one on the short sides. There is a ring-handle at one end (Fig 1, e). A fourth-century date seems fairly certain for this gridiron, but it may be earlier; it is similar to one from Kastell Pfünz, Germany, which provides a possible military connection (Manning 1985, 100, 183, pl 45, P8; *ORL* BVII (1914), 10, 42, taf 17, 14).

**8** Silchester, Hants. Fragments of a gridiron were among more than sixty iron objects, including many tools, in a hoard found in 1890 in a pit in Insula 1 at Silchester. It is 457mm square, and has a main central grid, with a ring in the middle, set within an outer three-barred grid. There is a ring-handle at each end (Fig 1, f). The hoard dates to the fourth century, and the gridiron is assumed also to be late Roman (Fox and Hope 1890, 742; Evans 1894, 153, fig 21; Manning 1972, 236; Boon 1974, 195, 235, fig 30).

## *Discussion*

The standard archaeological tools of typology, chronology and chorology have little to work on with the small sample in the catalogue, but four things are apparent:

several of the gridirons have military associations;

several were, or may have been, part of a hoard;

most can be shown either by stratigraphy or association to be early Roman or late Roman;

early square/rectangular gridirons are quite plain while later ones are more decorative and are fitted with ring-handles.

These features of the catalogue are summarised in Table 1, and demonstrate that gridirons have never been an integral part of everyday life in civilian Roman Britain at any social or cultural level. The early examples represent instead the military and immigrant veteran populations, who brought with them new objects and new methods of doing things. Despite the large-scale excavations of the past 30 years or more, these objects and methods do not seem to have passed wholesale into the Romano-British population. Rather the military associations of the stratigraphically early gridirons are reinforced by the example from the Fléré-la-Rivière warrior burial (*cf* no 2 above), by square/rectangular gridirons from other warrior graves in Gaul, such as those of Ornavasso and Clemency (Metzler *et al* 1991, figs 36, 80, 101), and by an iron folding tripod-stand from the legionary fortress at Wroxeter (Webster 2002, 127, figs 4.24–5). With reference to the fourth observation above,

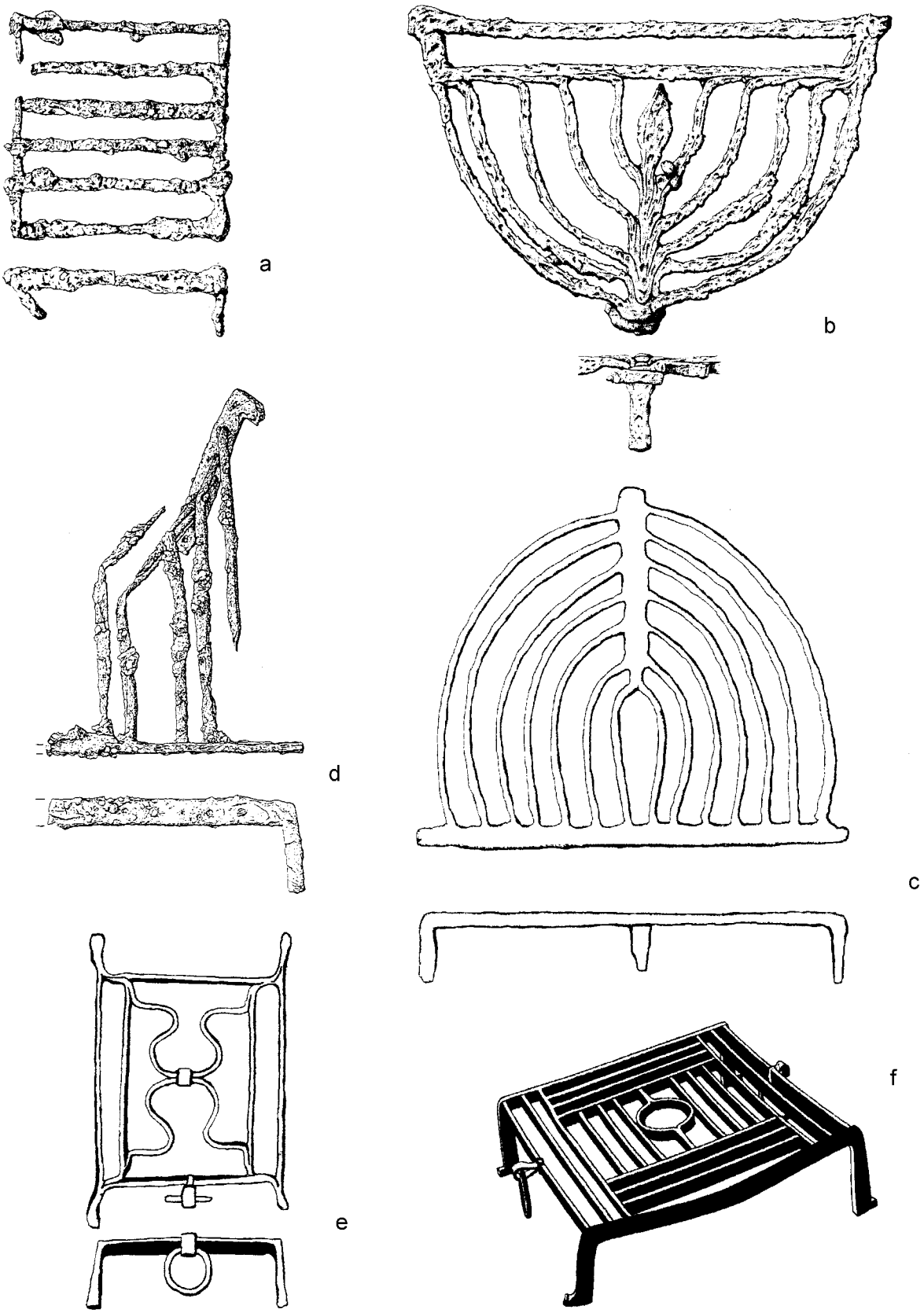



*Fig 1: Gridirons; a Lion Walk, Colchester; b Gilberd School, Colchester; c Fléré-la-Rivière, Indre, France; d Maternity Home, Colchester; e Icklingham, Suffolk; f Silchester, Hants (scale c.1:6; a, b and d drawn by RH Moyes, T Cook and J Walker © Colchester Archaeological Trust)*

*Table 1: summary of gridron site types*

| *Gridiron no* | *Date* | *site type* | *military* | *?military* | *hoard* | *?hoard* |
|---|---|---|---|---|---|---|
| **1** | *c*AD 44-49 | Military | y | - | - | - |
| **2** | *c*AD 49-60/1 | veteran colony | - | y | - | - |
| **3** | late 1st-early 2nd century | veteran colony | - | y | - | - |
| **4** | late 1st-early 2nd century | Military | y | - | - | - |
| **5** | 1st-2nd century | rural/hoard | - | y | y | - |
| **6** | 1st-2nd century | military/small town | - | y | - | - |
| **7** | 4th century | rural/hoard | - | (y) | - | y |
| **8** | 4th century | Large town/hoard | - | - | y | - |

it should be noted that the square Clemency gridiron is of elaborate construction (concentric squares) and has a drop-handle at each end, but it is dated to the first century BC and so is not directly linked to the first-century AD examples from Britain.

Some recent studies have attempted to define the social and cultural context of artefacts by allocating the sites on which they are found to a site-type in the manner used by Reece for coins (Reece 1991; 2002). Lamps and other lighting equipment have been shown to derive mainly from military sites and large towns (Eckardt 2002, 37–41, 135–8), while bifid nail-cleaners have been shown to be peculiarly British, survivals of a La Tène tradition that all but disappeared on the continent, and their 'Britishness' is emphasised by their concentration on small settlements (Crummy and Eckardt 2004). Lighting equipment is representative of incoming ideas and practices, bifid nail-cleaners of the survival of old ideas and practices. Using the same method, wax spatulae have been shown to come from military sites and large towns, but the decorative Minerva-bust handles of Feugère's type A5 spatulae come mainly from rural sites and may either have been the property of wealthy villa owners, or, probably more likely, were reused as *ex votos* (Feugère 1995; Crummy 2003).

Using the same method to examine the social and cultural context of gridirons places them firmly alongside lighting equipment and the majority of wax spatulae as 'Roman'; they do not appear on the generality of sites within the landscape of Roman Britain. The sample is too small to produce a meaningful graph, but of the eight listed most are either from military establishments or have strong military associations. The remainder are either definitely, or possibly, from hoards, and thus they have been divorced from their original point of use, but of those from hoards at least one is highly likely to be of military origin.

While the early simple square/rectangular gridirons are paralleled not only on first-century military sites on the continent but also in Italian towns, the stylistic link between the elaborate semicircular example from Colchester and that from the Fléré-la-Rivière grave suggests that D-shaped gridirons are Gaulish, and indeed a Gaulish origin has also been claimed for square/rectangular gridirons (Brouquier-Reddé and Deyber 2001, 308, pl 96, 167). The Gaulish warrior burials are all furnished with objects and vessels associated with élite feasting, though the Colchester gridiron was found in much humbler surroundings. There is a third D-shaped example from Rouen, but it is smaller, of less elaborate construction, and is from a context dated to the late second to early third century (Halbout *et al* 1986, 84).

It has to be said that though the early examples from Britain are linked with the military, they are nothing like as common in military establishments as might be expected. This rarity certainly may have something to do with lack of recognition of fragments, particularly as many of the excavations that have taken place on military sites in Britain pre-date the use of X-rays.

That the later gridirons from Icklingham and Silchester may have been in use by civilians is perfectly possible, but their inclusion in hoards suggests that their use was restricted to a small segment of society. The Icklingham hoard with its pewter vessels may suggest that the owners could be described as élite, and it seems to be most impractical both for grilling (it is too open) and for stewing (the two omega-shaped bars are joined in the centre by a clamp so that the surface is not level). The Silchester gridiron was associated with many tools, and so may have had a practical use, but again it is decorative, and has been described by Professor Manning as a '*tour de force* of smithing' (1985, 100). Such an item is again indicative of élite status, and support for an interpretation of late gridirons as élite equipment can be found by the inclusion of gridirons and tripod stands in richly furnished fourth-century graves at Tongeren, Belgium (Vanvinckenroye 1984, graves 141 and 179). A round tripod from the villa at Brading and another from Silchester should also be mentioned here as they do not appear to be from military contexts, but they are nineteenth-century finds and their precise contexts are unknown (Cleere 1958, 67, fig 11, a; Boon 1974, 237).

What is certain is that gridirons are not standard pieces of kitchen equipment. This is not the place to discuss whether or not local museums should display a generic picture of Roman life rather than the specific story of their own town's origins and development, but I would like to put forward the notion that there is still a need for accuracy within museums and that curators and

designers should resist using material evidence from beyond their area which distorts the true picture of life in their town, however tempting it is to make their displays more visually exciting.

## Bibliography


Boon, GC, 1974, *Silchester* , London

Brouquier-Reddé, V, and Deyber, A, 2001, Fourniment, harnachement, quincaillerie, objets divers in Reddé, M, and von Schnurbein, S (eds), *Alésia, fouilles et recherches franco-allemande sur les travaux militaires romains autour du Mont-Auxois (1991–97), 2: le matériel*, Memoires de l'Academie des Inscriptions et Belles-Lettres, Paris, 97–120

Burnham, BC, and Wacher, J, 1990, *The small towns of Roman Britain*, London

Cleere, H, 1958, Roman domestic ironwork, as illustrated by the Brading, Isle of Wight, Villa, *Bull Inst Archaeol London* **1**, 55–74

Connolly, P, 1979, *Pompeii*, London

Crummy, N, 1983, *The Roman small finds from excavations in Colchester 1971–9*, Colchester Archaeol Rep **2**, Colchester

Crummy, N, 1992, Chapter 6: Roman small finds from the Gilberd School site' in Crummy, P, *Excavations at Culver Street, Gilberd School, and other sites in Colchester 1971–85*, Colchester Archaeol Rep **6**, Colchester, 206–50

Crummy, N, 2003, Other types of wax spatulae from Britain, *Lucerna (Roman Finds Group Newsletter)* **25**, 14–17

Crummy, N, and Eckardt, H, 2004, Regional identities and technologies of the self: nail-cleaners in Roman Britain, *Archaeol J* **160** (2003), 44–69

Curle, J, 1911, *A Roman frontier post and its people. The fort of Newstead*, Glasgow

Curle, J, 1932, An inventory of objects of Roman and provincial Roman origin found on sites in Scotland not definitely associated with Roman constructions, *Proc Soc Antiq Scot* **66**, 277–397

Eckardt, H, 2002, *Illuminating Roman Britain*, Instrumentum Mono **23,** Montagnac

Evans, J, 1894, On some iron tools and other articles formed of iron found at Silchester in the year 1890, *Archaeologia* **54**, 139–56

Ferdière, A, and Villard, A, 1993, *La tombe augustéene de Fléré-la-Rivière (Indre)*, Mémoire 2 du Musée d'Argentomarus, Revue Archéologique du Centre, Supp **7,** Saint-Marcel

Feugère, M, 1995, Les spatules à cire à manche figuré in Czysz, W, Hüssen, C-M, Kuhnen, H-P, Sommer, CS, and Weber, G (eds), *Provinzialrömische Forschungen. Festschrift für Gunter Ulbert zum 65 Geburtstag*, edited by, 321–8, Munich

Fox, GE, and St John Hope, WH, 1890, Excavations on the site of the Roman city at Silchester, Hants, *Archaeologia* **52**, 733–58

de Franciscus, A, 1979, *The buried cities, Pompeii and Herculaneum* (London)

Halbout, P, Pilet, C, and Vaudour, C, 1986, *Corpus des objets domestiques et des armes en fer de Normandie*, Caen

Manning, WH, 1972, Ironwork hoards in Iron Age and Roman Britain, *Britannia* **3**, 224–50

Manning, WH, 1985, *Catalogue of the Romano-British iron tools, fittings and weapons in the British Museum,* London

Metzler, J, Waringo, R, Bis, R, and Metzler-Zens, N, 1991, *Clemency, et les tombes de l'aristocratie en Gaule Belgique*, Luxembourg

*ORL Der Obergermanisch-Raetische Limes des Römerreiches*

Piggott, S, 1953, Three metal-work hoards of the Roman period from southern Scotland, *Proc Soc of Antiq of Scotland* **87**, 1–50

Reece, R, 1991, *Roman coins from 140 sites in Britain*, Cotswold Stud **4**

Reece, R, 2002, *The coinage of Roman Britain,* Stroud

Vanvinckenroye, W, 1984, *De Romeinse Zuidwest-begraafplaats van Tongeren*, Tongeren

Webster, G, 2002, *The legionary fortress at Wroxeter. Excavations by Graham Webster 1955–85*, English Heritage Archaeol Rep **19**, London

# A Study in Scarlet: samian pottery and the Claudian invasion

*Geoffrey B Dannell*
*(with apologies to the shades of Conan Doyle)*

I first met Kay when rubbing decorated samian at the Guildhall Museum in London. The pottery was then housed in a bug-infested temporary home in 'The Flats' of the Guildhall complex. While working away, I became aware of a somewhat rosy-cheeked lady fiercely beating paper over mortaria with a scrubbing brush, which I found later was her method of recording their stamps. For many years Kay has applied her technology to the moulds used for making the decorated samian of La Graufesenque; and her exploits are told elsewhere in this volume. Suffice it to say she has been, and still is, a much loved and respected member of the team; regarded among our French colleagues as a *Grande Dame*, and to me, a much-valued personal friend.

Throughout most of her archaeological career she has been involved in the study of mortaria, and like so many of those deeply committed to pottery studies, has been asked to provide close dating for archaeological contexts. As a dedicated academic, she knows only too well how difficult it is to make close calls. The evidence for pottery dating is often circular, and the collateral evidence annoyingly slight. Historically dated sites provide benchmarks for morphological attributes, but those traits are often fed back to provide dates for other sites. Kay has of course had the benefit of the stamps impressed on some mortaria as firmer crutches on which to rely. But the habit of her potters to wander over the Roman Empire in pursuit of their careers has added a layer of complexity, which she has increasingly resolved with conspicuous success.

These issues are no less daunting in the case of samian ware. There is a tendency among some to believe that each sherd can be categorised and dated precisely, and in the case of decorated ware, attributed to a particular 'potter'. Tremendous advances have been made over the last 40 years. These are due in part to the huge increase in available data, following the rebuilding of western Europe after the Second World War. At the same time the development of technology connected with electronic data processing has made powerful tools available to modern scholars, which were undreamed of by their predecessors. However small quantities of material can still cause problems.

The ongoing revision of the *Index of Potters Stamps* (IPS) at the University of Leeds has revolutionised knowledge of the careers of individual vessel makers and their stamp dies, providing a broadly firm basis for dating stamped sherds. The understanding of all decorated ware is similarly improving following landmark publications of such volumes as *Central Gaulish Potters* (Stanfield and Simpson 1958), *Rheinzarbern* (Ricken and Fischer 1963), *Trierer Reliefsigillata Werkstatt 1* (Hulde-Zetsche 1972), *Südgallischer Terra Sigillata* (Mees, 1995), and the series *Gestempelte Ausformungen aus La Graufesenque* (Dannell *et al* 2003).

The dating of stamped and decorated samian can however be incestuous. There is a degree of amplification of correspondence akin to acoustic feedback, since many decorated vessels are also stamped. This has its dangers, and needs to be understood in the context of the way in which samian is made. No excuses are made for repeating the most basic facts. First both the moulds and the bowls impressed from them had lives of their own. Second, the moulds were sometimes used by different bowl makers each marking with his own name. Third, the mould ***may*** have lasted in use well beyond the artistic period of its creation. Finally on some manufacturing sites there is evidence for the reuse of old moulds, presumably when the capacity to produce new ones was impaired. There is also a less frequent complication, where it appears mould-makers worked in an out of date style. Some decorated vessels from the Fosse Malaval (La Graufesenque) have the mould stamp of Gallicanus (IPS die 2a), his internal stamp (IPS die 10a) and a signature N.FE. All are decorated in a style more appropriate to *c* AD 40–55 than the main context of the group stamped with IPS die 10a. For stamps, the dies show varying degrees of wear, or re-use in different spellings, as they were cut down or broken. This can be a result of the material from which they were cut, but can also be due to their employment over a prolonged period.

These caveats need to be remembered when very precise dating of contexts is required, and particularly in the current debate over the primacy of a landing site for the army of Claudius. Manley (2002), quoting M Lyne, uses the dating of bowls by Senicio to provide evidence of doubt about Richbrough's claim to be that site (*ibid,*

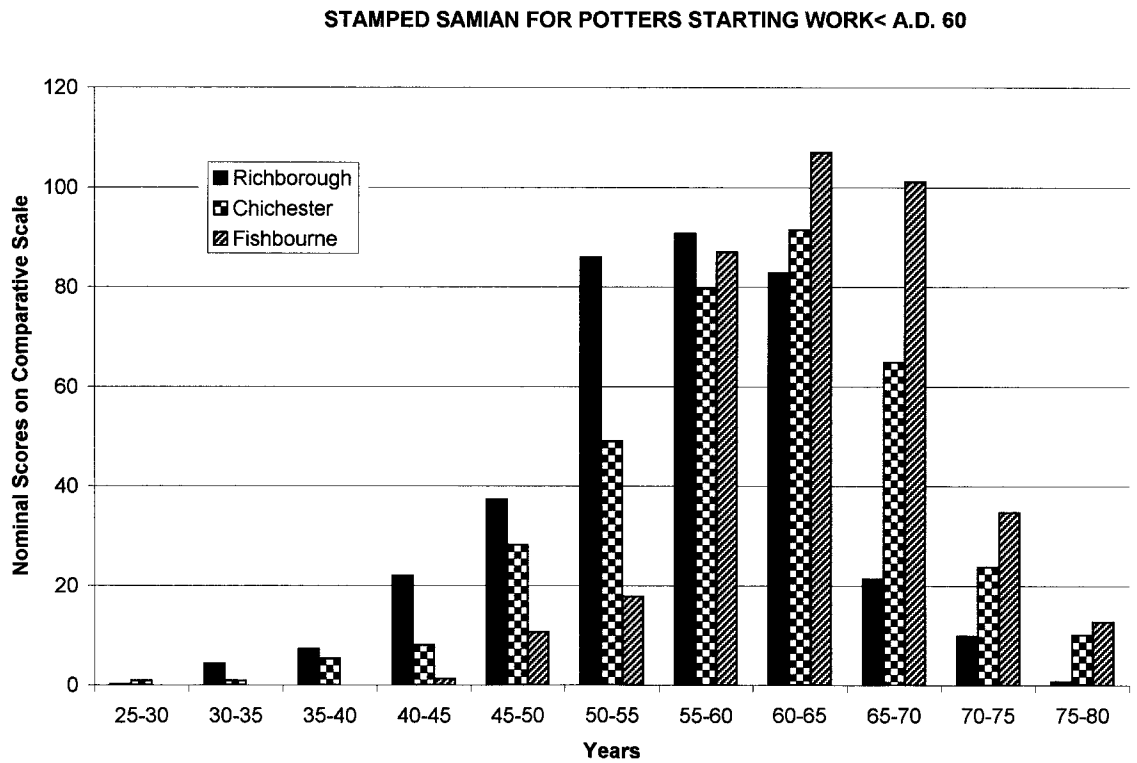



*Fig 1: Histogram comparing samian stamps from Richborough, Chichester and Fishbourne*

154, n 10, *but cf Manley's own comments, ibid,* 105) as opposed to that of the Fishbourne/Chichester area.

This discussion is aimed at examining the available data more closely in the light of current knowledge from two aspects: the occurrence of dated potters stamps, and of decorated samian. The exacting nature of claims to be able to distinguish precise dating must be appreciated. The horizon of AD 43 is itself a benchmark for samian studies. Quite simply, samian appearing on attested military sites in Britain is assumed to have arrived in or after that year (and that it could not have arrived before AD 43) and dates for many continental sites are predicated on that assumption. But ***can*** samian experts so ***firmly distinguish*** between pottery made just before or just after that date? The answer must be no; however there is a balance of probabilities that may suggest slight chronological differences in the collections from particular sites which are suggestive.

Next, the conventions of dating samian need to be considered. The best that can be offered for most identifications, is a five-year time-block during which the pottery is known to appear on external sites (as opposed to production sites). Such dating is rarely for total spans of less than 15–20 years, and is rounded up to decades or *quinquennia.* In other cases dating is to the reigns of emperors, eg Claudius to Nero, either because sherds are too small for more precise ascription, or in the case of unstamped decorated wares the style of composition cannot be more closely attributed. For the purposes of such generic dating, 'Tiberian' in this article is taken to mean the reign of Tiberius. The reign of Gaius is taken into the Claudian period. There now seem to be good archaeological reasons for this 'rule of thumb', Rien Polak points out that there are two barrel staves marked with Gauis's brand. The first is from Valkenburg (Glasbergen and Groenman-van Wateringe, 1974). The second comes from Vechten (cf Wynia, 1999, 145–8). Polak reports (personal comment) that 320 of the 800 coins recently found at the fortress of Alphen are of Gaius. As he remarks, '… there is a growing belief in the Netherlands that "we" certainly played a role in the invasion of Britain, not necessarily as an assembly area for troops, but certainly for food and other supplies.' Thus it is possible that supplies earmarked for the earlier invasion were still available for that of Claudius.

The word 'style' applied to decorated-ware also needs some explanation. It refers to the artistic compositions of the mould makers, and to characteristic ways in which a particular worker chose to assemble a variable repertoire of poinçons to impress an individual mould. It has long been recognised that styles are appropriate both to individual vessel forms, to the same form in different sizes, and also change over time, partly in response to artistic creativity, but also seemingly, to do with ease and speed of production.

## *Stamps*

The stamps from three sites, Richborough, Chichester and Fishbourne are compared in Fig 1. Only those

stamps for potters who are deemed to have started their careers before *c* AD 60 were included for study, since it is the occurrence of early pottery that is significant. Richborough has produced roughly five times the number of stamps as compared with the other two sites individually which each have *c* 80 stamps in this category. Accordingly the totals for each site were multiplied up to a common level. The date bracket for each stamp was then broken into units of five years, ie a stamp dated *c* AD 50–70, with a total life span of 20 years, has a score of .25 for each of the four quinquennia involved. The scores were then totalled and plotted for each of the quinquennia on a histogram.

The results are very clear. Richborough and Chichester both have a number of early stamps spanning the periods up to *c* AD 40. Fishbourne enters the histogram only in the period *c* AD 40–45 and then at a much lower level than the other two sites, and this persists until *c* AD 55–60.

Additionally, Table 1 compares early dies, this time with careers starting before *c* AD 50, which are shared between the three sites. Multiple dies of the same potter occurring on each individual site (possibly implying arrival in a single cargo) are not presented since Richborough has a quantitative advantage. Obviously the possibilities of concurrence are limited by the date profile of the stamps represented in Fig 1, however it is striking that Chichester and Richborough share 45% of identical early dies while for Fishbourne and Richborough the ratio is only 16%. This is perhaps a slender indicator that Chichester and Richborough are more firmly connected before *c* AD 50 than Fishbourne and Richborough.

*Table 1: Occurrence of stamp dies at Richborough, Chichester and Fishbourne*

| *Sites* | *No of identical dies* | *Before c AD 50* |
|---|---|---|
| Chichester and Richborough | 26 | 11 |
| Fishbourne and Richborough | 19 | 3 |
| Chichester and Fishbourne | 2 | - |
| Richborough, Chichester and Fishbourne | 6 | - |

## *The decorated ware*

The decorated samian associated with the invasion forces might expect to have been made in a style appropriate roughly to the period AD 30–50 (using conventional samian dating). All that can be achieved here is to see who was active over the period, how the mould makers were developing their styles and then to try to place the known pottery into this background. ***No piece can be convincingly dated to the year AD 43.***

In this respect recent finds at La Graufesenque have helped in three ways. The first, the discovery of a pit group known as the 'Fosse Malaval' (Vernhet, in prep) excavated in 1971, and probably to be dated on external evidence to *c* AD 50–65. Next came the discovery of another fairly homogeneous deposit known as 'Cluzel 15' (Haalebos 1979, 121–35) with a likely date range *c* AD 45–60; Finally the excavation in 1980 of a kiln disaster known as the 'Fosse Cirratus' (Vernhet in prep). Among the fused kiln furniture were a number of kiln spacers inscribed CIR. The potter Cirratus is the only potential victim of this period whose abbreviated name would be appropriate. The decorated ware recovered from the over-fired lot comprises nearly 120 stamped or signed bowls, most of which have a complete profile as well as many unstamped pieces. Although unfortunately the potters dies concerned rarely appear in closely dated contexts Brenda Dickinson and Brian Hartley favour a date towards *c* AD 30–35 for the loss of this kiln-load, which may clarify the occurrence of the Anextlatus stamp from Chichester (see below) (Dickinson and Hartley personal comment).

It is a fascinating feature that the bowls were stamped internally by only a few firms, and decoration is extant from only two; those of Firmo i (using IPS die 7a) and Salvetus (using IPS die 5b). Some of Firmo's bowls are marked with a signature PA[. Each bowl-making shop appears to have had its own mould supplier, as Firmo's bowls are universally unrouletted on the central moulding, while those of Salvetus are universally rouletted. This differentiation has been broadly confirmed by an analysis of the decorative details and compositions although there may be some shared poinçons. (Dieulafait and Dieulafait 1983; A Mees (personal comment) has reassessed their work using a more complete data-set, with similar results.)

The rouletted central moulding is derived from Italian models of Drag 11 (Oswald and Pryce 1920, 67). It is also present on some of the earliest vessels of Drag 29 made at La Graufesenque, which have stamped rather than moulded decoration (Genin *et al* 2002, figs 41.3, 5 and 8), and continues to have been employed by mould-makers as an archaic feature well into the Claudian period (*cf* Glasbergen 1940–44, afb 55). The rouletted central moulding seen on the earliest bowls was thus already being abandoned by the time of the Fosse Cirratus, which also contained many stamped plain vessels. However, rouletting is a trait rather than a constant for some twenty years, which accounts for its survival into the Claudian period. It cannot therefore be used as an absolute indicator of early manufacture.

As for the other features: large square beads were favoured as borders on earlier bowls; open running scrolls and wreaths with relatively large poinçons are also an early trait, as are the shapes of the earlier, more rounded Drag 29a, as opposed to the later, more sharply carinated Drag 29b (Oswald and Pryce, 1920, 67). The slip and body of individual vessels can also be used to differentiate periods of production. It is on

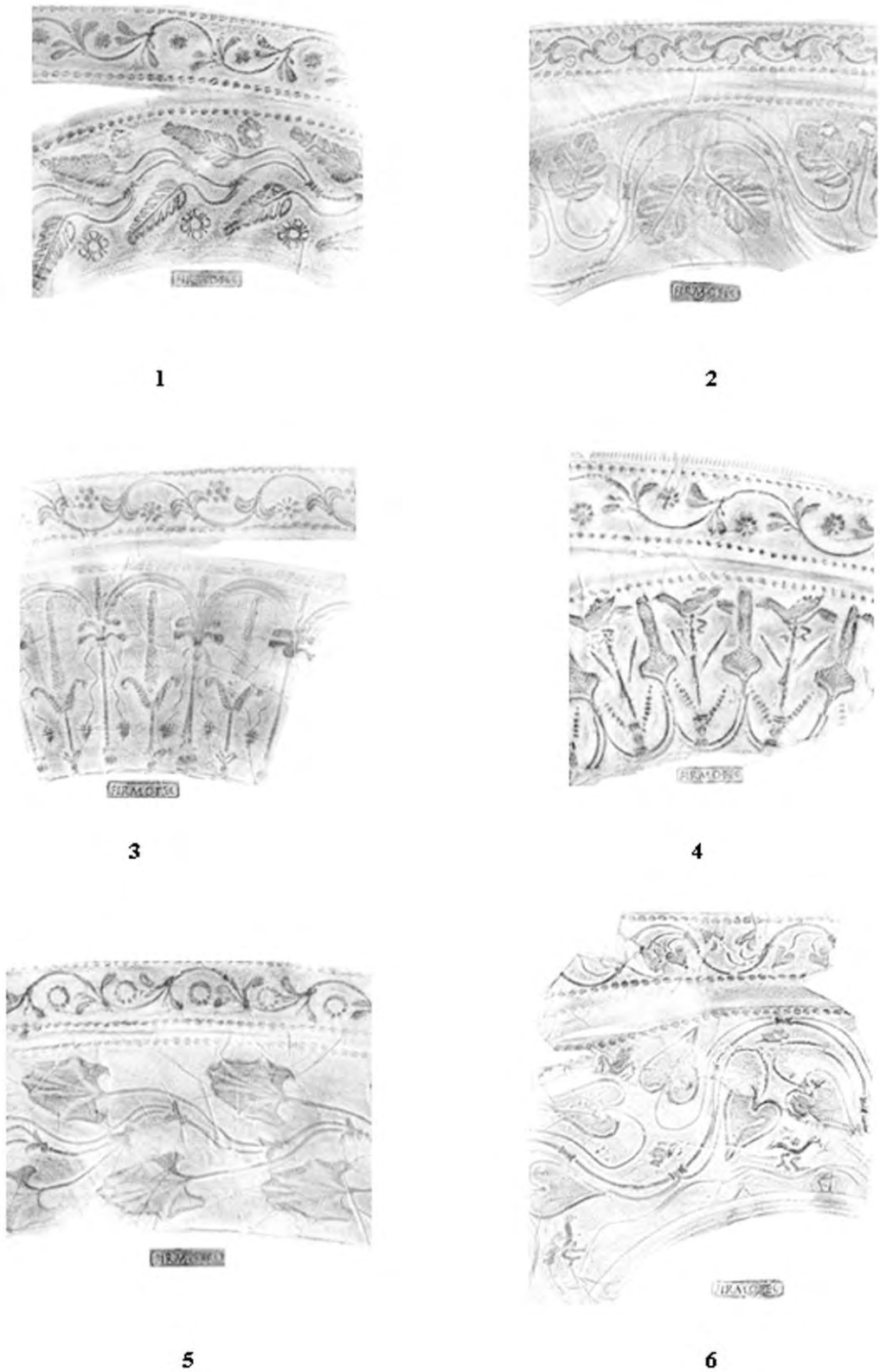



*Fig 2: Drag 29s from the 'Fosse Cirratus' stamped by Firmo i (IPS die 7a), (scale 1:2)*

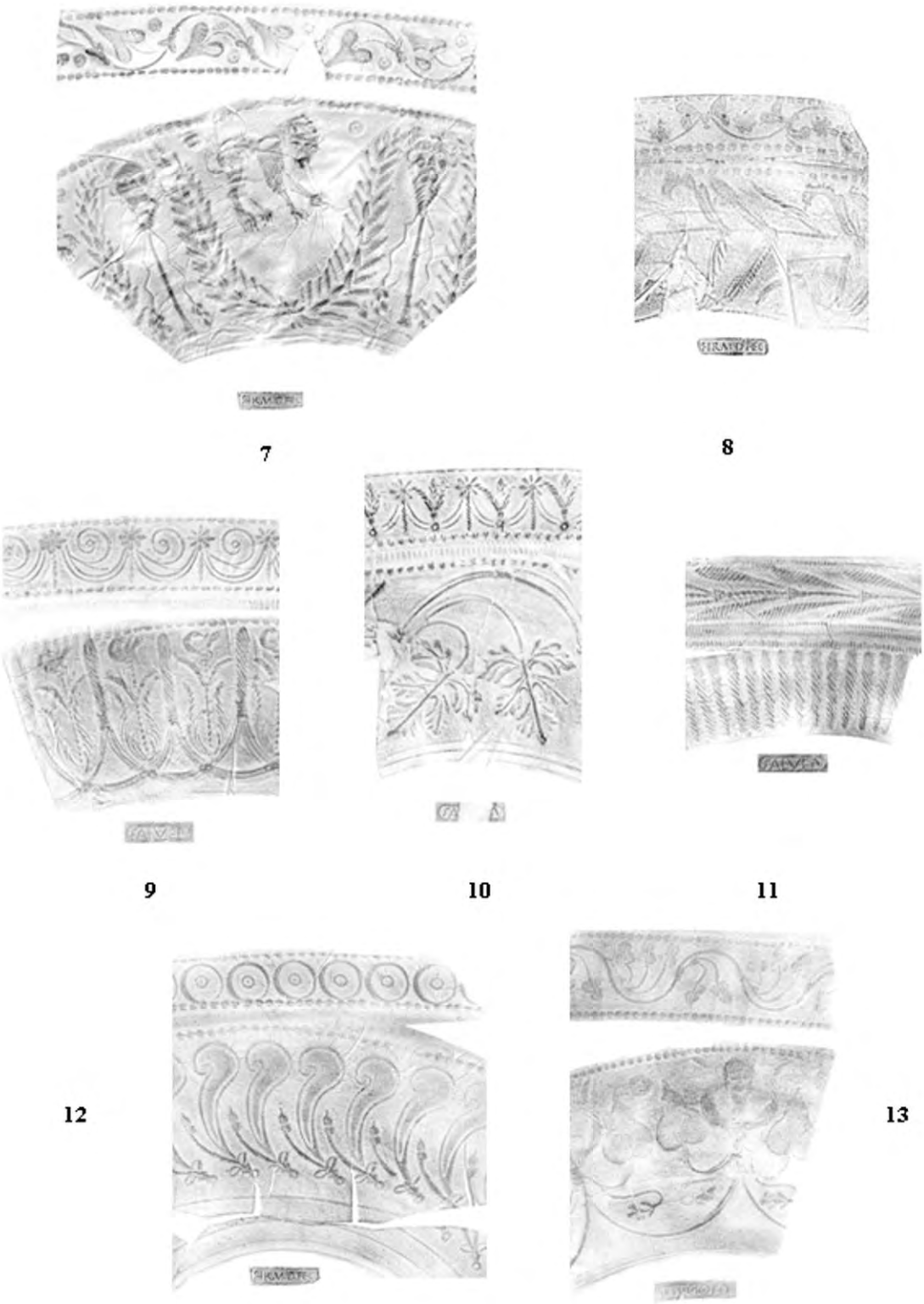



*Fig 3: Drag 29s from the 'Fosse Cirratus' stamped by Firmo i (IPS die 7a), nos 7, 8 and 12; stamped by Salvetus (IPS die 5b), nos 9–11, and an unrelated bowl, no 13 from La Graufesenque, stamped by Senicio (IPS die 2a), (scale 1:2)*

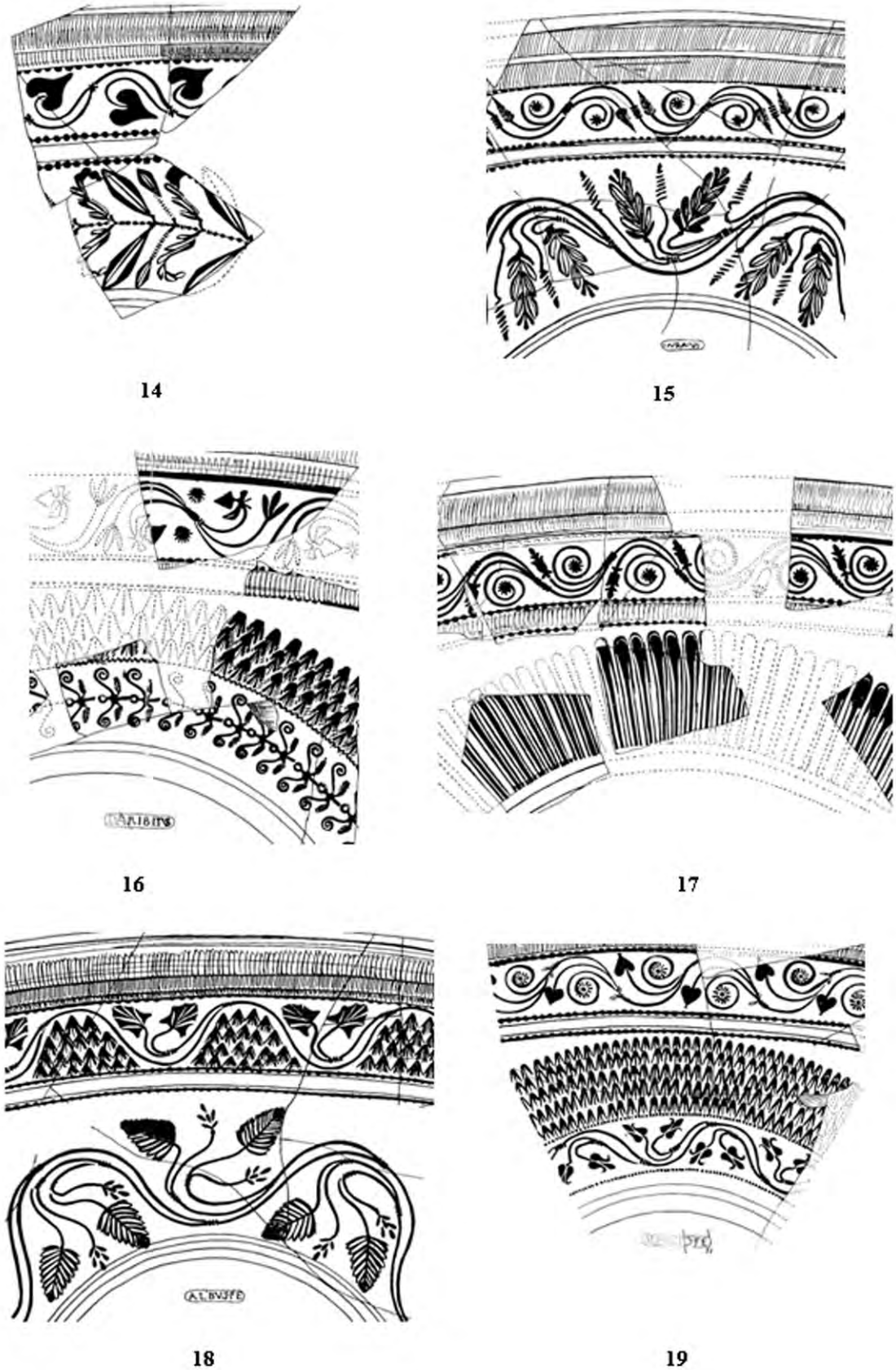



*Fig 4: Drag 29s from Valkenburg, nos 14–19, (scale 1:2)*

a combination of these factors that judgements about the date of unstamped decorative ware are made, and it cannot be denied that it is a subjective art rather than an objective science (Oswald and Pryce, 1920, 77).

A few typical examples of the decoration found in the Fosse Cirratus are shown on Figs 2–3. Many of the basic patterns were continued in the succeeding Claudian period.

In the upper zone the general layouts include:

Simple wreaths with bifid leaves (Fig 2, nos 1–5, and Fig 3, no 8)

Simple wreaths with large tendril ends (Fig 3, no 7)

Festoons (Fig 3, nos 9 and 10)

Straight wreaths (Fig 3, no 11)*

Symmetrical scrolls with pairs of terminals (Fig 2, no 6 and Fig 3, no 13)#

Repeated motifs (Fig 3, no 12)

Additional features in the lower zone:

'doubled-scrolls' with motifs on either side of the stem (Fig 2, nos 1, 5 and 6)

arcades (Fig 2, no 3)

reversed arcades (Fig 2, no 4 and Fig 3, no 9)

plain and decorated gadroons (Fig 3, no 11)

nautilus motifs (Fig 3, no 12)

*Comparisons can be made with the work of other potters whose stamps on plain forms occur there: Bilicatus (Knorr 1919, tafs 14 and 15); Cantus (*ibid*, taf 18); Catlus (Knorr 1952, taf 14); Libnus (*ibid*, taf 61); Scottius i (Knorr 1919, tafs 70–72); Senicio (*ibid*, tafs 76b, 77j and k); and Senomantus (Knorr 1952, taf 56l).

#Note that nos 5,6, 10 and 12 from the second pottery shop at Colchester all retain the trait (Hull 1958, fig 102). It must represent its last gasp.

The example illustrated (Fig 3, no 13) from La Graufesenque is stamped by Senicio (IPS die 2a); the whole design has very close connections with the Fosse Cirratus material (*cf* Fig 2, nos 6 and 7). It suggests that the origin of IPS die 2a must be in the Tiberian period and thus cannot be used as a post invasion indicator. Since other dies of Senicio's stamps (IPS dies 5c, 5d and 11a) appear in the Fosse Cirratus material on plain wares, his origin as a Tiberian bowl-maker is certain.

The next comparative group of vessels is taken from Valkenburg, a site now thought to have begun in the reign of Gaius. I am deeply indebted to Rien Polak for providing some current insight into the dating of the fortress. The dendrochronological date for the felling of timbers used in the construction of the eastward road is re-confirmed as the winter of AD 39/40 (Hessing 1999, 149–56). This mirrors de Weerd's (1977) analysis of the coins, in which he postulates a date of *c* AD 39 for the construction of the fort. The stratification of the samian is not however entirely certain, so the published material is taken as a whole (*cf ibid*, 272 and note 18) but one can discern a number of traits.

Fig 4, no 14 with its simple scroll in the upper zone, large poinçons on a straight wreath in the lower zone, and large beads clearly has stylistic connections with Fig 3, nos 7 and 8. Fig 4, no 15 stamped by Senicio (IPS die 2a) shows a different form of scroll with alternating curves and the typical 'packing' of the Claudian period: the lower zone has recognisable Tiberian antecedents, while the introduction of striated rods is a later development. Fig 4, no 16 stamped Daribitus (IPS die 1a, *c* AD 30–55) shows a rather mixed style. The upper zone has two different tendril terminals, and the lower zone is divided with a zone of infilling and a straight wreath below. There are no divided lower zones in the Fosse Cirratus material. Fig 4, no 17 is included to show a typical mainstream Claudian bowl which has little to distinguish it, but note the rouletted central moulding, hanging on as an archaic feature. Fig 4, no 18 is stamped by Albus (IPS die 9a, *c* AD 45–60). The open scroll of the lower zone refers to Tiberian–Claudian models, but the upper zone has another device, the infilled scroll, which has its origins in the Claudian period and ran on into the Neronian and Flavian periods. Finally Fig 4, no 19 is another bowl stamped by Senicio (*cf* Fig 4, no 15 above). This follows the style of the Daribitus layout and the two bowls must be of approximately the same date, in the *c* AD 40–55 range (thus narrowing down the date of the Daribitus bowl).

With these groups as useful references we can turn to the British sites being considered.

## *Richborough*

Fig 5, no 20 shows features which are clearly derived from Tiberian models, but also has some of the newer Claudian devices, like the crossed leaves in the upper spaces of the festoons. The large leaves in the lower zone look back to earlier models, but note how they are opposed as in Fig 4, no 15. It is a Tiberian to Claudian piece dating perhaps to *c* AD 35–55. Fig 5; no 21 is probably of a similar date; the roulettes are a Claudian development. Fig 5, no 22 has clear connections to the style of the Fosse Cirratus material in the lower zone (*cf* Fig 2, no 3). The cordate stipuled leaves of the upper zone first became popular in the Claudian period.

Fig 5, nos 23 and 24 have allusions to the Fosse Cirratus vessel Fig 3, no 9 in their upper zones, but no 23 has a 'packed' Claudian scroll in its lower zone. Fig 5, no 25 shows opposed tendril ends in the upper zone typical of the Tiberian period, but with a Claudian variation, two different motifs, and this fits with the closer-packed scroll of the lower zone. A date *c* AD 40–55 is appropriate.

In Fig 6, nos 26 and 27 we meet Senicio (IPS die 2a) again. These two bowls being the subject of Manley's (2002) observations already referred to above. It is worth noting how close the scroll in the upper zone of no 26 is to that in the lower zone of Fig 2, no 5. The lower zone scroll, although a little packed, also runs to the left, and contains a small trifid leaf which started life with the decorators of the Fosse Cirratus moulds (often found there on Drag form 30 bowls) and is Tiberian–Claudian

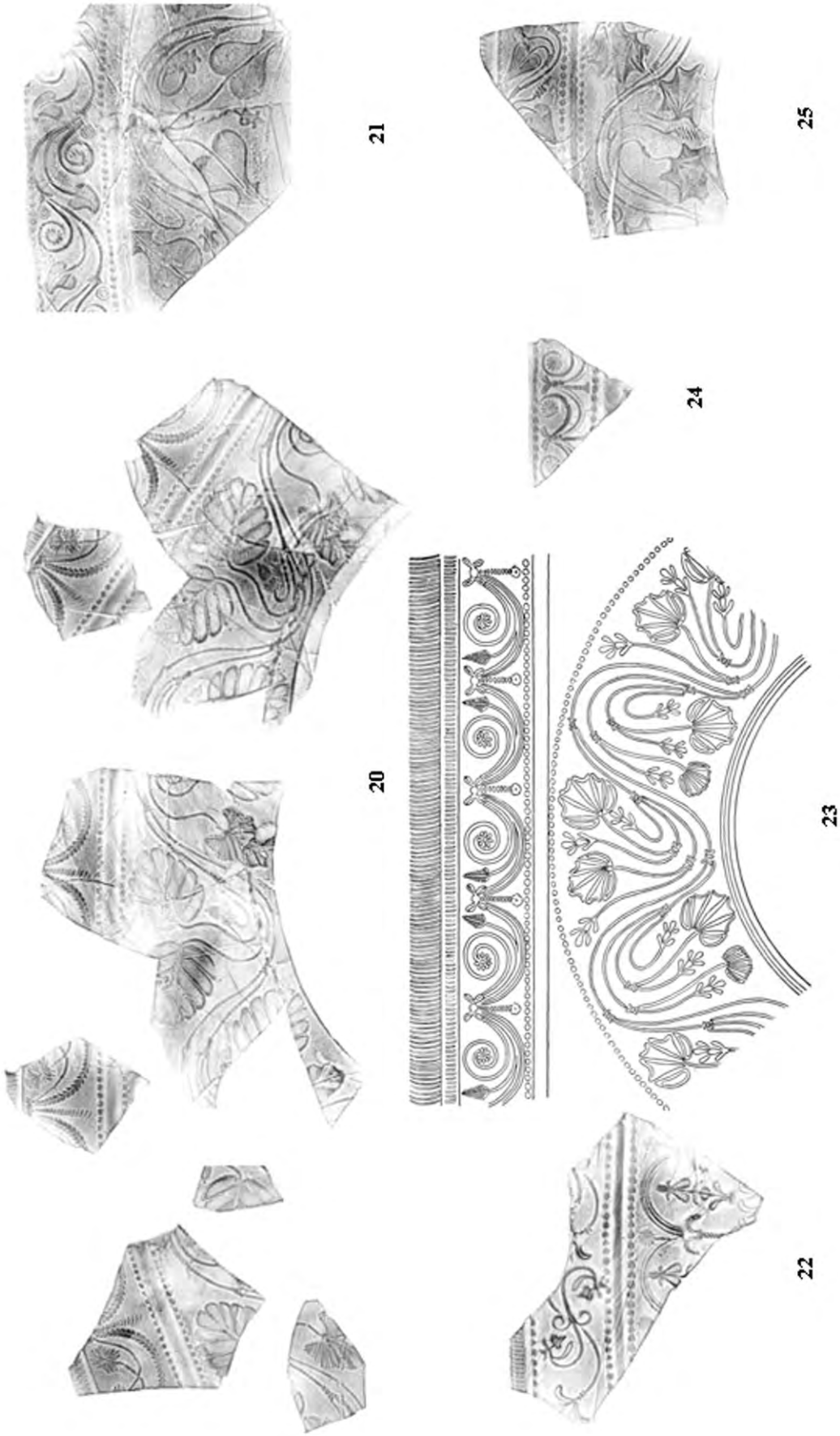



*Fig 5: Drag 29s from Richborough, nos 20–25, (scale 1:2)*

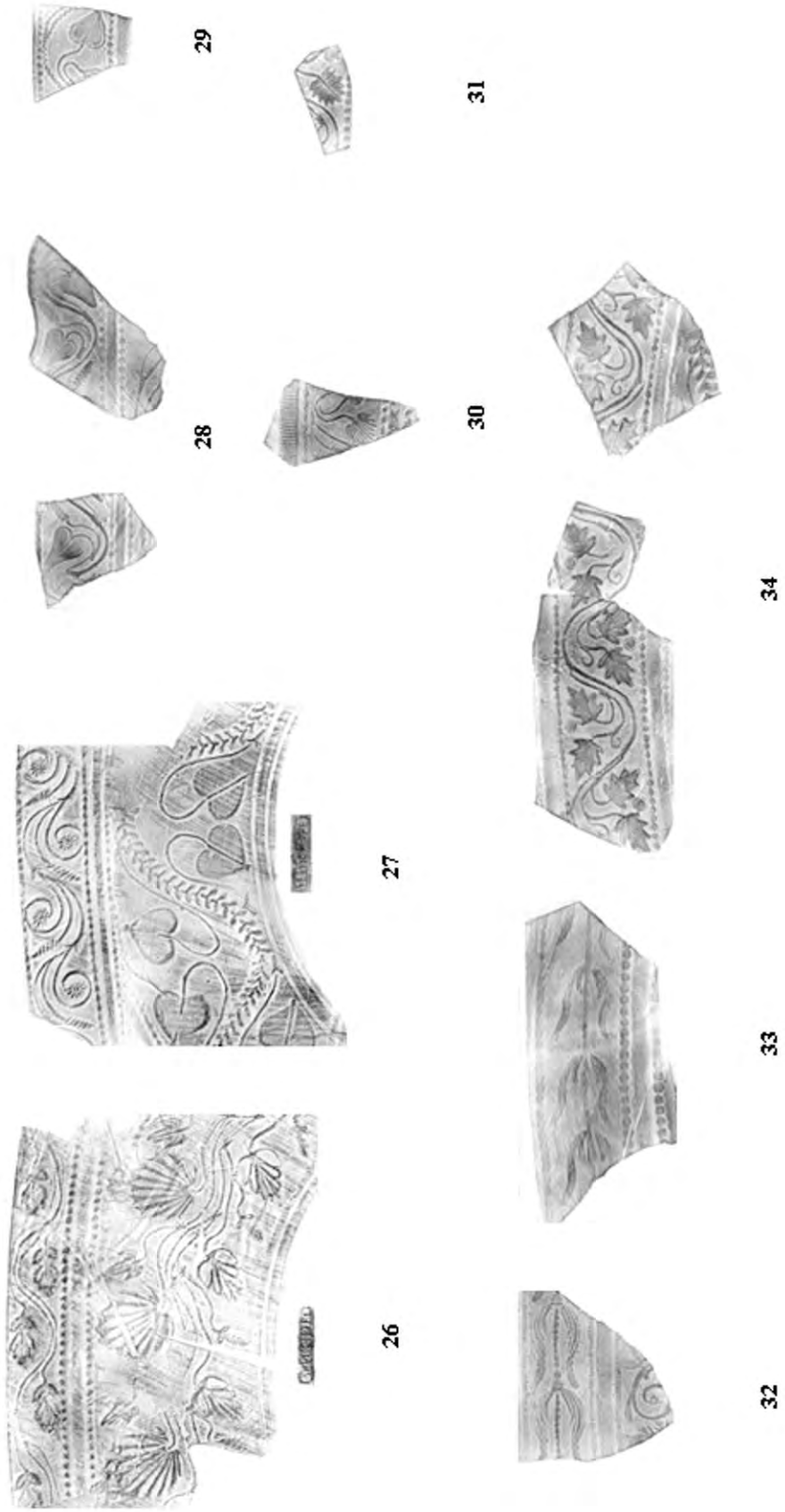



*Fig 6: Drag 29s from Richborough, nos 26–34, (scale 1:2)*

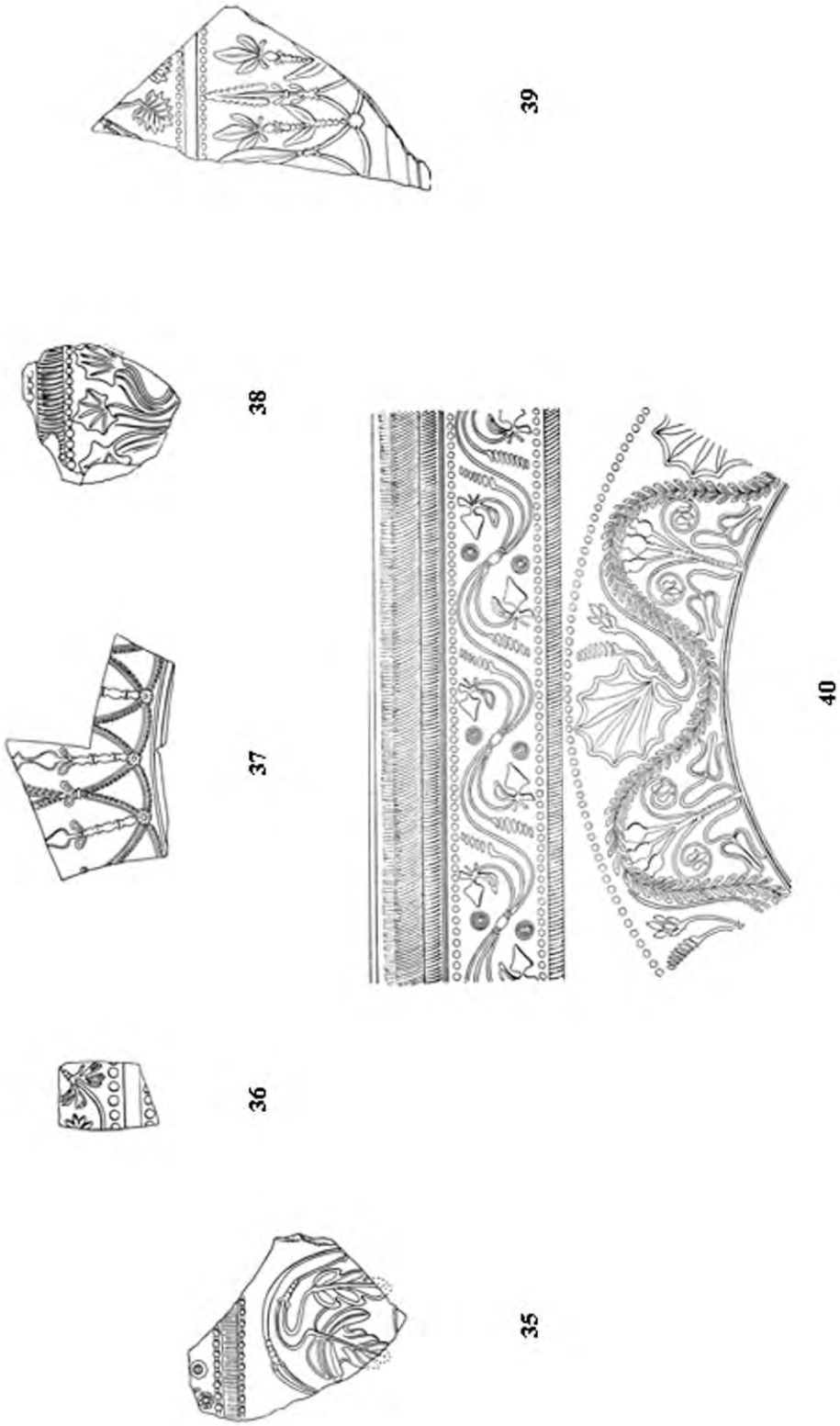



*Fig 7: Drag 29s from Richborough, nos 35–40, (scale 1:2)*

in date. Fig 6, no 27 seems a bit later in the Claudian period of *c* AD 40/45–55, again note the opposed leaves of the lower zone.

The fragments Fig 6, nos 28–33 are included for completeness. They are all fairly early examples of Claudian upper zones, Fig 6, nos 32 and 33 have straight 'rams-horn' wreaths in their upper zones. These wreaths, whilst deriving from the straight wreaths of earlier periods, went on being used into the late Neronian period. For example they occur in the Fosse Malaval material on bowls stamped internally by Gallicanus (IPS die 2a) *c* AD 50–65 (*cf* a bowl now marked as M14 in the Depôtoire des Fouilles at La Graufesenque). The straight wreath cannot be taken of itself to be diagnostic of an early Claudian date. Given the size of the poinçons, the two wreaths on Fig 6, nos 32 and 33 are probably as no 34 of *c* AD 40–60.

Some of the drawn pieces of which rubbings are not available are of extreme interest (Dr Peter Webster took a team of enthusiasts to obtain rubbings from the pottery at Dover Castle, but before the task could be completed the ceiling of the room in which they were working collapsed, neither they nor this author have returned since). Davies Pryce makes clear that Fig 7, no 35 is a Drag 29a (Pryce 1949, 162). His date of 'Claudian' is based on the fact that Richborough is taken to have only post-invasion deposits. Thus the assumed date of arrival on the site is given rather than the likely span of manufacture and other external dating (see also his comments on the Drag 11, here Fig 7, no 39). Fig 7, no 36 has the simple scroll which is on so many of the Fosse Cirratus bowls; it has large beads. Fig 7, no 37 again has Tiberian connections (see Fig 3, no 9) as does Fig 7, no 39 (another Drag 29a?). All of these bowls would fit the period *c* AD 30–50. Fig 7, no 38 with rouletted central moulding has a scroll closer in style to Fig 5, no 23, and is probably rather later. Fig 7, no 40 shows the developments of style during the Claudian period, notwithstanding the rouletted central moulding. If it is a Drag 29a as implied it is an unusually late one. The candelabrum ornament in the lower zone went on being used well into the Flavian period. Both Fig 7, nos 38 and 40 are to be dated to *c* AD 40/45–60.

Fig 8, nos 41 and 42 are of Drag form 11, usually taken as Augustan–Tiberian, however Drag 11 was made in the Neronian period (see Cluzel 15, Haalebos *et al* 1991, Abb 2, 1 and 2). There are even sporadic Flavian examples but they are rare. Fig 8, no 41 is very similar in style to pieces known from Bregenz (Knorr 1919, taf 2d, E and K). It is likely to be pre-Claudian in manufacture. There are connections to the Fosse Cirratus in the Drag 29s from Bregenz (*cf* Knorr 1919, taf 4). Fig 8, no 42 seems rather later, a Claudian piece (see Cluzel 15, Haalebos, Mees, and Polak, 1991, Abb 2, 1 and 2), its ovolo cannot be identified from the drawing.

Fig 8, no 43 has all the elements of later Claudian work. The upper zone has the opposed leaves seen before, while the lower zone, divided as in Fig 4, nos 16 and 19, has a festoon design in a style that lasts down to about *c* AD 65. Fig 8, no 44 has large nautilus motifs, with thick upper spirals, but it is the stylised astralgali used as a bead row, an architectural feature, which is of greatest interest. It is Augustan in inspiration, and the piece can hardly be later than Tiberian.

## *Chichester*

The earliest decorated pieces are shown on Fig 9. They are very small, which may have contextual archaeological significance and therefore little to indicate comprehensive stylistic traits, only indications and the occasional poinçons. That said, certain features are clear;

Fig 9, nos 45 and 46 have small wreathed medallions characteristic of Tiberian bowls. Fig 9, nos 47 and 48 have straight wreaths similar to Fosse Cirratus models. The motif on Fig 9, no 48 also appears on Drag 29a at La Graufesenque and is thus likely to be pre-conquest in date. The bowl also has the slightly purplish cast of vessels made shortly after *c* AD 20. The terminal ends of Fig 9, nos 49–51 are likely to be post conquest.

Fig 10, nos 56–58 are all pieces made after *c* AD 40, nos 56 and 57 both have opposed pairs of leaves in the lower zone: the upper zone of no 56 is similar in style to Richborough Fig 5, no 23; no 57 has opposed but different motifs in the upper zone. The lower zone is very similar to a stamped Drag 29 by Senicio (IPS die 2a) from Sheepen (Colchester & Essex Museum, Dannell 2003-4, 942) and should be dated *c* AD 40/45–60. No 58 has an open scroll of stipuled cordate buds and a divided lower zone comparable to vessels from Valkenburg here illustrated as Fig 4, nos 16 and 19.

## *Fishbourne*

Additional early material has been recovered since the first excavations (*cf* Cunliffe 1971). Fig 9, no 53 is the earliest piece stylistically, and belongs to the Fosse Cirratus series. It stands out on its own but cannot easily be dated. Fig 9, no 54 has opposed different terminals in the upper zone and should be dated *c* AD 40–55 while the upper zone of Fig 9, no 55 is similar to Fig 4, no 17.

At the same time the improvements in dating since the first Fishbourne report was published some 30 years ago (*ibid*) mean that some of the Drag 29s there dated to *c* AD 40–60 need to be moved forward by five years or so. It is opportune to reassess the relevant sherds.

Fig 11, no 59 was identified as being the work of Murranus who was one of the few potters to use both his stamp and signature in his moulds, as well as putting his stamp in the bases of bowls made from them. His firm was prolific, and seems to have supplied others with moulds (Celadus and Fedotus are the most obvious (cf Knorr 1952, taf 15 C, and a bowl in the style of Fedotus from the Lunt, Hartley 1969, fig 5.1). Murranus, according to the dates gathered in the IPS, seems to have

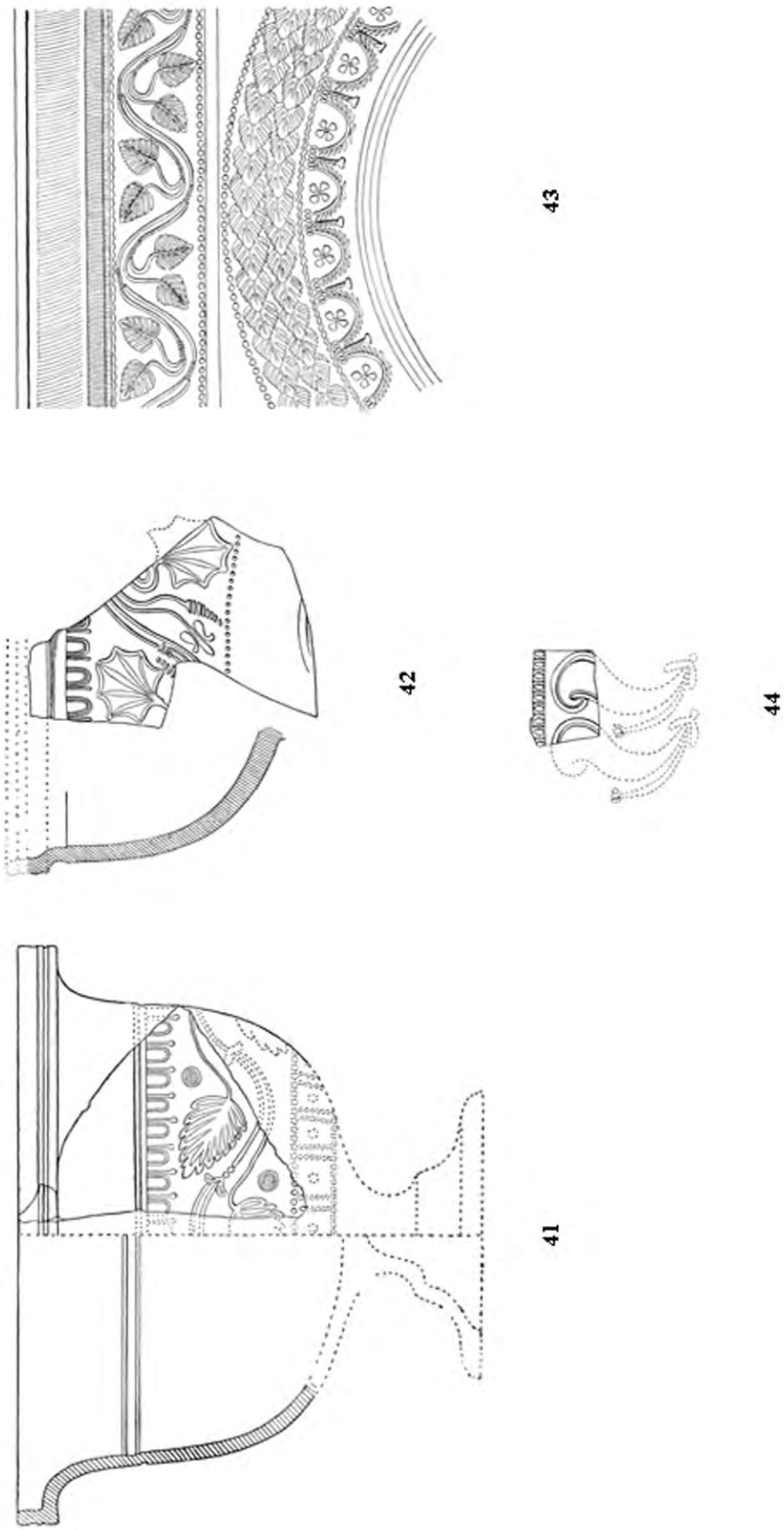



*Fig 8: Drag 11s and Drag 29s from Richborough, nos 41–44, (scale 1:2)*

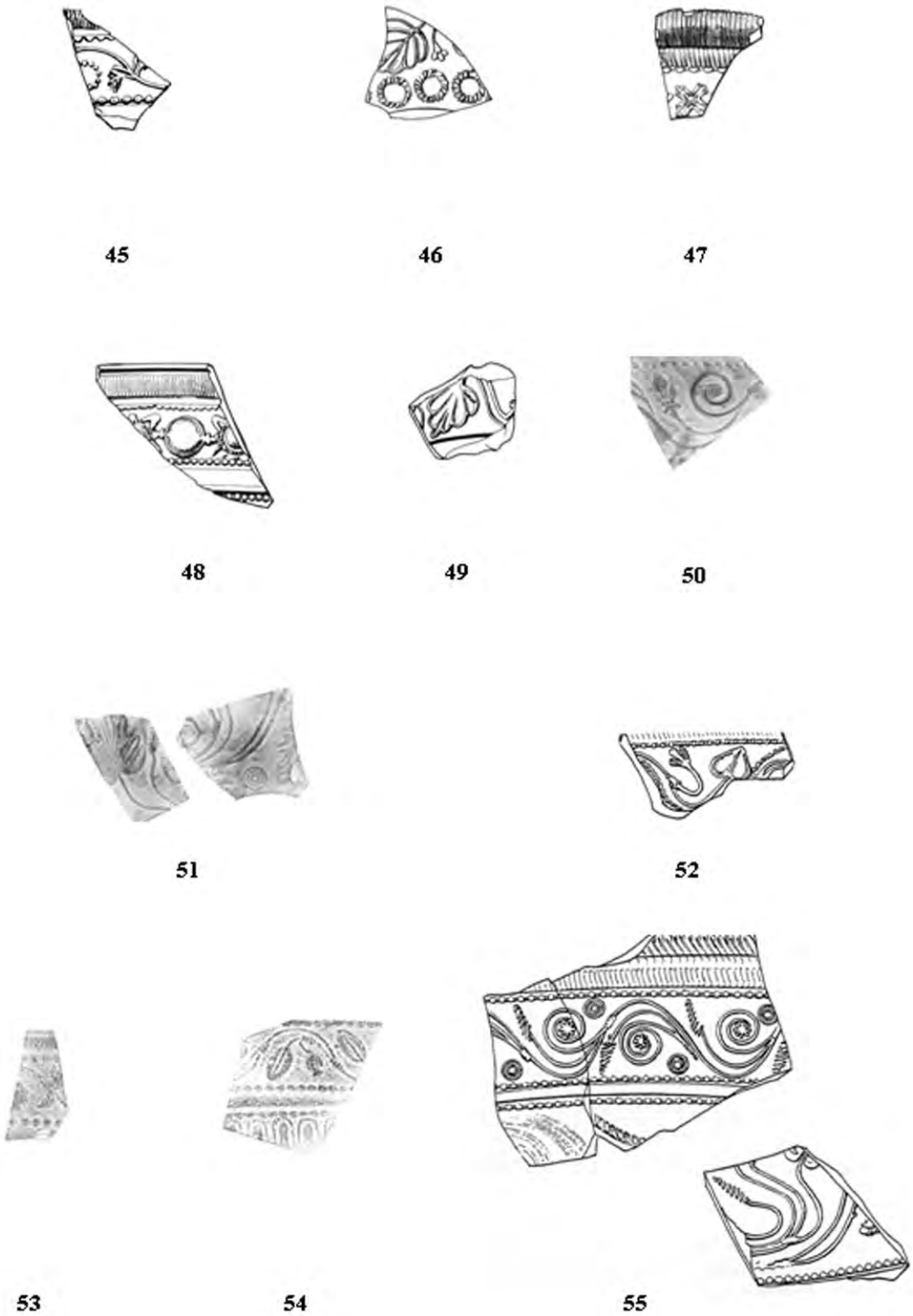



*Fig 9: Drag 29s from Chichester, nos 45–51, and from Fishbourne, nos 52–55, (scale 1:2)*

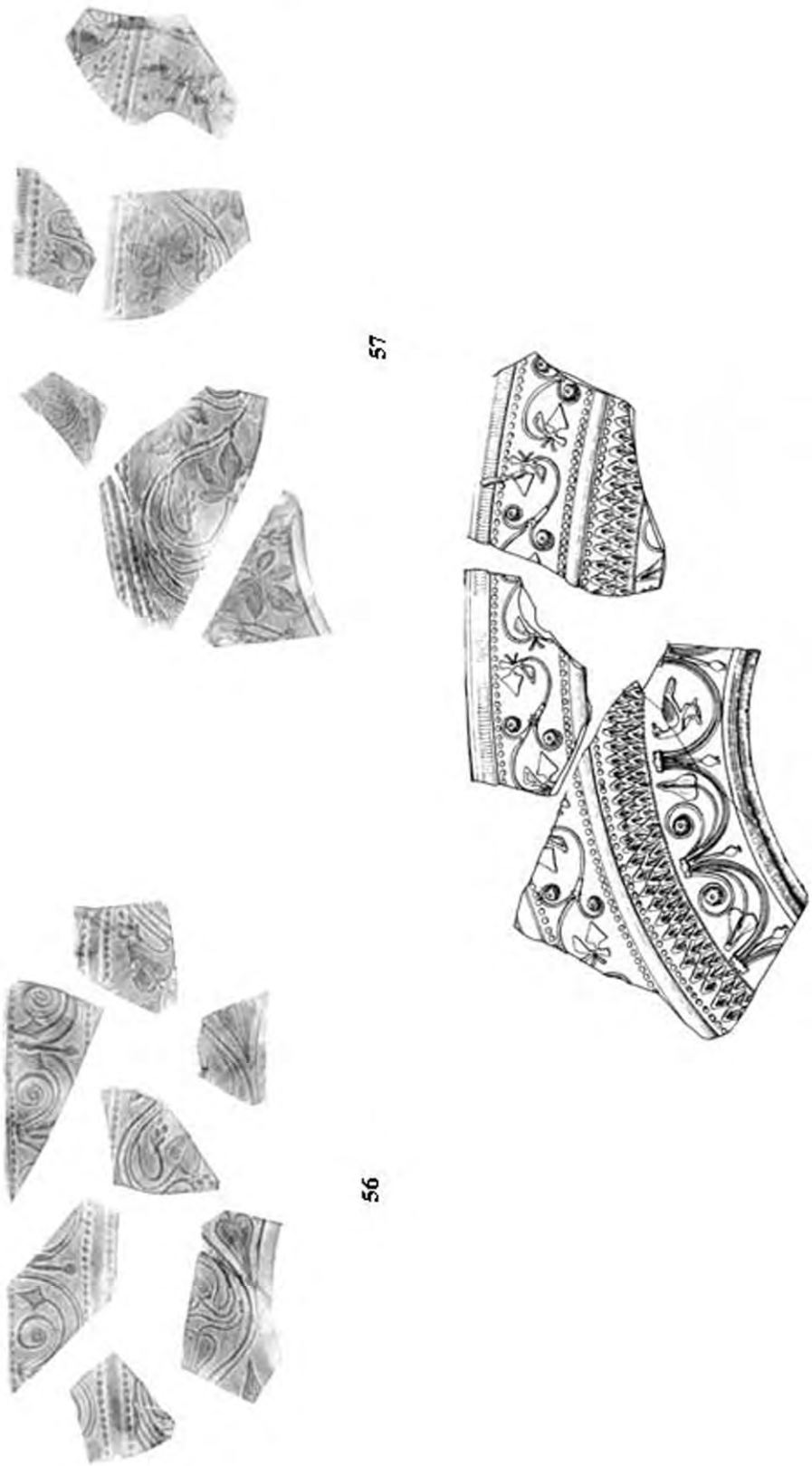



*Fig 10: Drag 29s from Chichester, nos 56–58, (scale 1:2)*

worked between *c* AD 45/50–70. Other bowls using the cordate leaf pair are from London (Museum of London accession no S443G, stamped with IPS die 8a), one from Valkenburg, (Glasbergen, 1940-44, afb 57.3), Aachen (Knorr 1952, taf 44 A) and *Verulamium* (VCP B11, 20a, unpub). The IPS date would accord with the large number of bowls in the same style found in the Cluzel 15 group (Haalebos 1979) stamped there by Celadus.

The large ivy leaves on Fig 11, no 60 are very similar to those known on a bowl from the Fosse Malaval stamped by Gallicanus ii (IPS die 10a, repacked in the Depôtoire des Fouilles at La Graufesenque as M115). The date is therefore likely to be after *c* AD 50.

Fig 11, no 61 was simply dated a little too early, even on the evidence known at the time; some time after *c* AD 45 would be more appropriate. Fig 11, no 62 and no 64 are both Claudian and likely, given the divided zones to be after *c* AD 45, as they are both well carinated. Fig 11, no 63 uses the St Andrew's cross motif, not a feature often found in the Claudian period and the pieces should be re-dated to after *c* AD 45/50. Fig 11, no 65 employs a nautilus motif which is more fully discussed by this author in a recent paper elsewhere (Dannell 2003). The likely date of manufacture is *c* AD 50–65.

## *Lake Farm and Hamworthy*

Four sherds are included from these sites which must date from *c* AD 43/44, and be associated with Vespasian's sortie down the coast. Fig 12, no 65 stamped by Aquitanus (IPS die 2a) shows a typically divided lower zone and is very comparable with much of the Fosse Malaval material and should be dated *c* AD 45/50–65. Fig 12, no 67 is comparable with Fig 5, no 25 and Fig 6, 28 and should be dated to *c* AD 40–60. The large leaf on Fig 12, no 68 looks like an early poinçon, but single motifs are notoriously difficult to assign. Fig 12, no 69 stamped by Sulinus (IPS die 1a) certainly dates to *c* AD 40–65 if not a little earlier.

## *Hod Hill*

The South Gaulish samian is interesting because of its contexts (see Simpson 1968, 104–6, fig 51, but the comments need to be revised in the light of later evidence). Two sherds are clearly similar in design to those of the Fosse Cirratus (Fig 12, nos 70 and 72) and to Fig 7, no 36 from Richborough and Fig 9, nos 45, 47 and 53 from Chichester. It is possible that these are 'invasion' pieces but here are even more likely to be civilian imports incorporated into later buildings. Fig 12, no 71 is close in style to Fig 7, no 37 from Richborough. Fig 12, no 73 has an upper zone similar to Fig 7, no 40 from Richborough and to Fig 9, no 55 from Fishbourne.

## *Summary*

The dates of the stamps must carry greater weight than the more subjective attributions of decorative style. Given that both stamp dies and moulds survived in use over long periods of time the dating 'brackets' can only be used as general indicators, the balance of probability lying in the accumulative dates given to each class of material from a site. The results of careful analysis are reasonably clear:

> Richborough and Chichester both have stamps of potters who could have been operating from *c* AD 25–35. Richborough, which is taken by archaeologists as being a purely post-conquest site has more material than Chichester in the date range up to *c* AD 35–40. Fishbourne is not represented at all. The stamp with the earliest theoretical *terminus post quem* however is one of the potter Anextlatus from Chichester, whose vessels appear in the Fosse Cirratus (see above). This pattern continues into the period *c* AD 40–45, when Fishbourne makes its first appearance but it is striking that for the whole period up to *c* AD 50–55 it is the least productive site (see Table 1) and this is not reversed until post Boudiccan times. The decorated ware shows a greater overlap, but the preponderance of earlier material lies with Richborough and Chichester rather than with Fishbourne.
>
> From the excavated material the balance of probability is that the supply of pottery to Richborough and Chichester was rather earlier than it was to Fishbourne. Against that, the Sulinus bowl from Hamworthy shows the conspectus of material still current after *c* AD 43.
>
> Thus it must be conceded that all of the stamps and decorated ware from *c* AD 25–45 could ***theoretically*** have been supplied in the one year of *c* AD 43. The stamps in question all span the whole period. In other words it would mean that those vessels carrying the stamps and decoration with the earliest potential dates were impressed at the end of the use of the particular die or mould and vice versa for the later ones.

For the present, a working hypothesis would be that Richborough received some samian accumulated by the army elsewhere during the previous decade. Polak's opinion (personal comments above) stand in contrast to those scholars who dismiss the episode of Gaius to inflated fantasy or propaganda. Chichester might or might not be in the same case, but it is more likely that its pre-Claudian samian was for civilian use. Fishbourne, and probably Lake Farm and Hamworthy were freshly supplied with mostly contemporary pottery. The evidence from Hod Hill is somewhat equivocal. It is however more likely to equate with Chichester. The Claudian material indicates a very rapid push by Vespasian to the west carrying samian indistinguishable from that of the fresh supplies to Fishbourne, Lake Farm and Hamworthy.

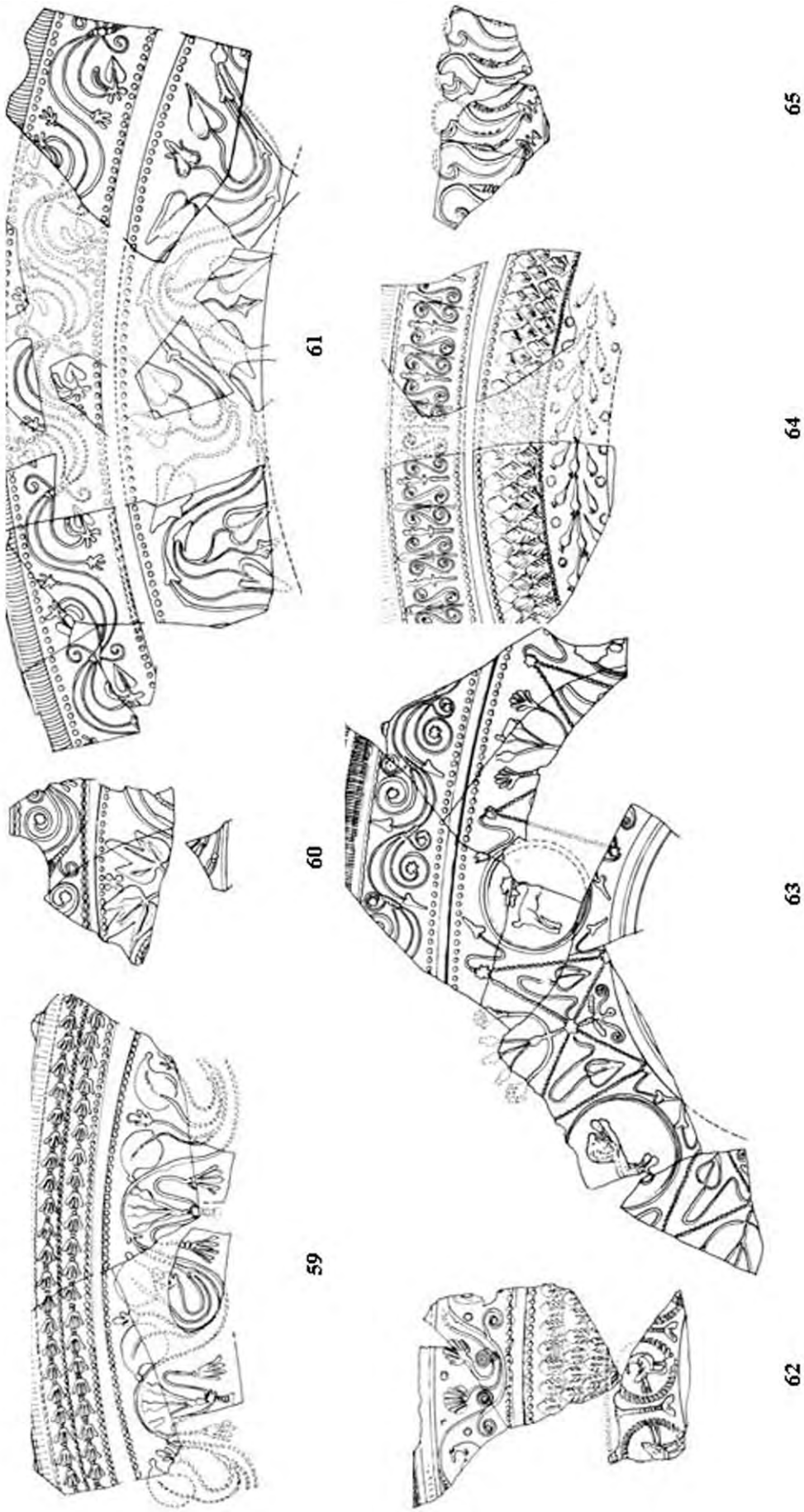



*Fig 11: Drag 29s from Fishbourne, nos 59–65, (scale 1:2)*

## *Table 2: Sources for published decorated samian referred to in the text*

| *Site* | *Publication reference* | *Catalogue no here* | |
|---|---|---|---|
| la Graufesenque | Dannell 2003–4, no 0517 | 1 | Fig 2 |
| la Graufesenque | Dannell 2003–4, no 3388 | 2 | |
| la Graufesenque | Dannell 2003–4, no 0516 | 3 | |
| la Graufesenque | Dannell 2003–4, no 3392* | 4 | |
| la Graufesenque | Dannell 2003–4, no 3393 | 5 | |
| la Graufesenque | Dannell 2003–4, no 3291 | 6 | |
| la Graufesenque | Unpublished no 3411* | 7 | Fig 3 |
| la Graufesenque | Dannell 2003–4, no 3296 | 8 | |
| la Graufesenque | Dannell 2003–4, 52 no 3410 | 9 | |
| la Graufesenque | Dannell 2003–4, 52 no 2923 | 10 | |
| la Graufesenque | Dannell 2003–4, 52 no 3399 | 11 | |
| la Graufesenque | Dannell 2003–4, no 3289 | 12 | |
| la Graufesenque | Unpublished (LG G90 100.2) | 13 | |
| Valkenburg | Glasbergen 1940–44, afb 55.7 | 14 | Fig 4 |
| Valkenburg | Glasbergen 1940–44, afb 57.1 | 15 | |
| Valkenburg | Glasbergen 1940–44, afb 55.1 | 16 | |
| Valkenburg | Glasbergen 1940–44, afb 55.2 | 17 | |
| Valkenburg | Glasbergen 1940–44, afb 57.2 | 18 | |
| Valkenburg | Glasbergen 1940–44, afb 56.2 | 19 | |
| Richborough | Bushe-Fox 1926, pl 17.3 and Davies Pryce 1932, pl 23.5 | 20 | Fig 5 |
| Richborough | Davies Pryce 1932, pl 23.2 | 21 | |
| Richborough | Davies Pryce 1932, pl 24.1 | 22 | |
| Richborough | Davies Pryce 1932, pl 23.4 and Davies Pryce 1949, pl 24.4 | 23 | |
| Richborough | Simpson 1968b, pl 80.11 | 24 | |
| Richborough | Dover Castle, AML 78304977 | 25 | |
| Richborough | Davies Pryce 1932, pl 22.1 | 26 | Fig 6 |
| Richborough | Davies Pryce 1932, pl 22.2 | 27 | |
| Richborough | Dover Castle, AML 78304980 | 28 | |
| Richborough | Dover Castle, AML 78304980 | 29 | |
| Richborough | Dover Castle, AML 78304980 | 30 | |
| Richborough | Dover Castle, AML 78304980 | 31 | |
| Richborough | Davies Pryce 1949, pl 75.12 | 32 | |
| Richborough | Dover Castle, AML 78304980 | 33 | |
| Richborough | Dover Castle, AML 78304931 | 34 | |
| Richborough | Davies Pryce 1949, pl 74.5 | 35 | Fig 7 |
| Richborough | Davies Pryce 1949, pl 74.6 | 36 | |
| Richborough | Davies Pryce 1949, pl 74.7 | 37 | |
| Richborough | Davies Pryce 1949, pl 74.9 | 38 | |
| Richborough | Davies Pryce 1949, pl 74.8 | 39 | |
| Richborough | Davies Pryce 1949, pl 74.3 | 40 | |
| Richborough | Davies Pryce 1949, pl 73.1 | 41 | Fig 8 |
| Richborough | Davies Pryce 1949, pl. 73.2 | 42 | |
| Richborough | Simpson 1968b, pl 79.2 | 43 | |
| Richborough | Simpson 1968b, pl 79.1 | 44 | |
| Chichester | Dannell 1978, fig 10.10.1 | 45 | Fig 9 |
| Chichester | Dannell 1974, fig 7.7.14 | 46 | |
| Chichester | Dannell 1981, fig11.2.45 | 47 | |
| Chichester | Dannell 1981, fig 11.2.46 | 48 | |
| Chichester | Dannell 1981, fig 11.2.48 | 49 | |
| Chichester | Dannell 1989, fig 14.1.19 | 50 | |
| Chichester | Dannell 1989, fig 14.1.20 | 51 | |
| Fishbourne | Dannell 1996, fig 6.4.54 | 52 | |
| Fishbourne | Dannell 1996, fig 6.1.17 | 53 | |
| Fishbourne | Dannell 1996, fig 6.1.13 | 54 | |
| Fishbourne | Dannell 1996, fig 6.1.21 | 55 | |
| Chichester | Dannell 1989, fig 14.14.126 | 56 | Fig 10 |
| Chichester | Dannell 1989, fig 14.2.42 | 57 | |
| Chichester | Dannell 1989, fig 14.3.68 | 58 | |
| Fishbourne | Dannell 1971, fig 126.1 | 59 | Fig 11 |
| Fishbourne | Dannell 1971, fig 126.2 | 60 | |
| Fishbourne | Dannell 1971, fig 126.3 | 61 | |
| Fishbourne | Dannell 1971, fig 126.4 | 62 | |
| Fishbourne | Dannell 1971, fig. 126.5 | 63 | |
| Fishbourne | Dannell 1971, fig 127.7 | 64 | |
| Fishbourne | Dannell 1971, fig 127.7 | 65 | |
| Lake Farm | Unpublished PM 20/3 68 | 66 | Fig 12 |
| Lake Farm | Unpublished PM 14 HPS | 67 | |
| Lake Farm | Unpublished PM 14 HPS | 68 | |
| Hamworthy | Unpublished (No ref) | 69 | |
| Hod Hill | Simpson 1968a, fig 51.2a | 70 | |
| Hod Hill | Simpson 1968a, fig 51. 2b | 71 | |
| Hod Hill | Simpson 1968a, fig 51.1 | 72 | |
| Hod Hill | Hod Hill 2, fig 51. 3 | 73 | |

**To be published in addenda to Dannell 2003–4*

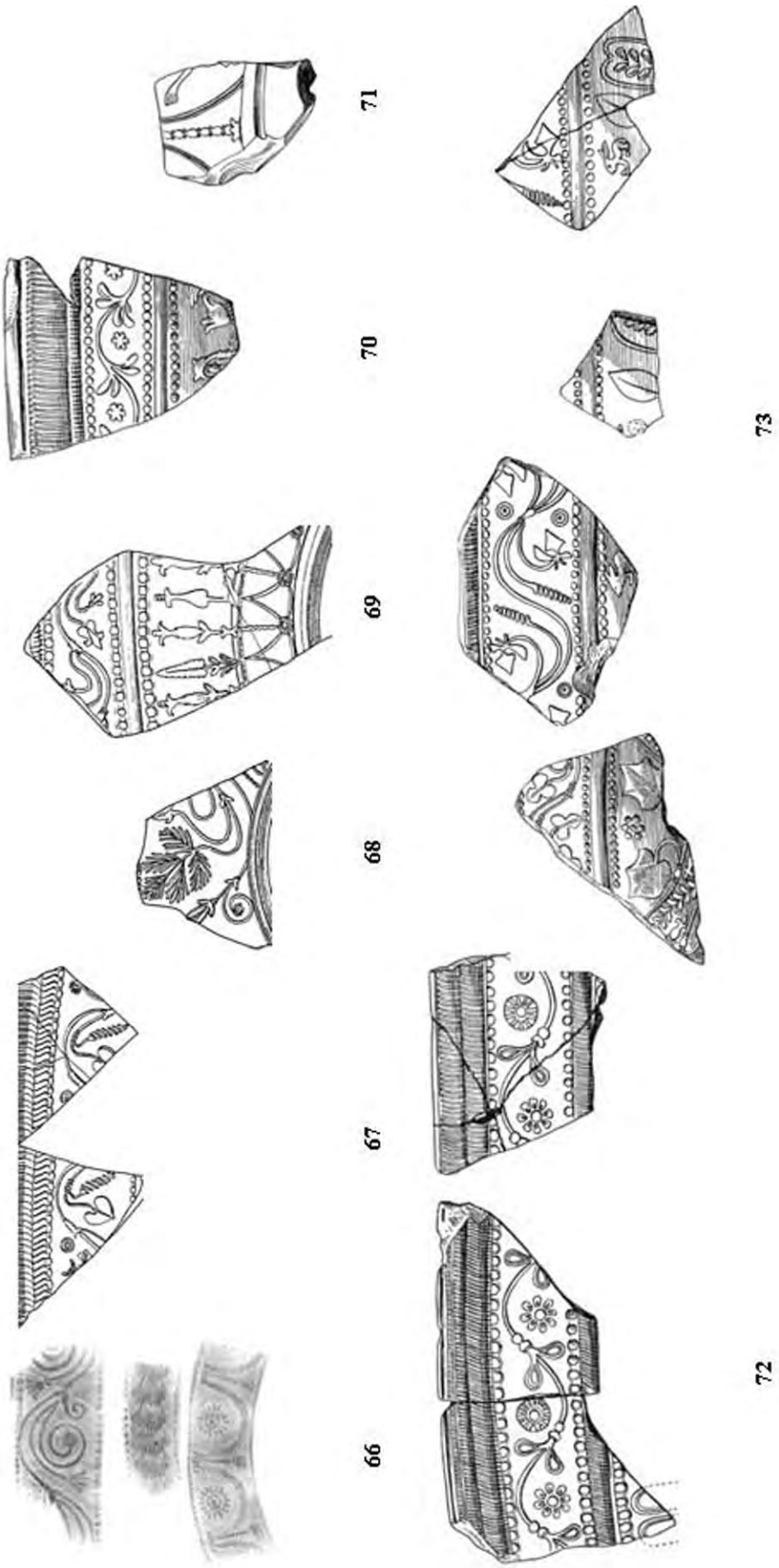



*Fig 12: Drag 29s from Lake Farm, nos 66–68, Hamworthy, no 69, and Hod Hill, nos 70–73, (scale 1:2)*

**Acknowledgements for help**

Thanks to Brenda Dickinson and Brian Hartley for trawling their IPS for the relevant stamps (Table 1). To Keith Jarvis, Poole Museum Service, for access to the Lake Farm and Hamworthy material, and to Rien Polak for information about Caius's activities in the Netherlands

**Acknowledgements for copyright**

To English Heritage (as successors in title) for the use of unpublished material from Richborough. To the Trustees of the British Museum for permission to use the illustrations from Hod Hill. To Chichester District Council for permission to use illustrations from the various volumes published by the Chichester Excavation Committee and to the Society of Antiquaries of London for permission to use illustrations from the publications relating to Fishbourne and Richborough.

## Bibliography

Bushe-Fox, JP, 1926, *First Report on the Excavation of the Roman Fort at Richborough, Kent*, Res Rep Soc Antiq London **6,** 49–54

Dannell, GB, 1971, Samian pottery, in Cunliffe, BW, *Excavations at Fishbourne*, Res Rep Soc Antiq London **26**, 160–83

Dannell, GB, 1974, The Samian Pottery, in Down, A, *Chichester Excavations*, **2**, Chichester, 119–23

Dannell, GB, 1978, The Samian Pottery, in Down, A, *Chichester Excavations*, **3**, Chichester, 225–33

Dannell, GB, 1981, The Samian Ware, in Down, A, *Chichester Excavations,* **5**, Chichester, 263–69

Dannell, GB, 1989, The Figured Samian from the Sites, in Down, A, *Chichester Excavations, 6*, Chichester, 89–104

Dannell, GB, 1996, Samian Ware, in Cunliffe, BW, Down, A, and Rudkin, D, *Chichester Excavations 9: Excavations at Fishbourne 1969–88*, Chichester, 102–11

Dannell, GB, 2003, Early decorated samian from London reassessed, in Wilson P (ed), *The archaeology of Roman Towns*, Oxford, 53–8

Dannell, GB, Dickinson, BM, Hartley, BR, Mees, AW, Polak, M, Vernhet, A, and Webster PV, 2003–4, *Gestempelte Südgallisches Reliefsigillata (Drag 29) aus den Werkstätten von La Graufesenque,* Römische-Germanisches Zentralmuseum Forschunginstitut für vor-und Frühgeschichte, Mainz

Davies Pryce, T, 1932, The decorated Samian, in Bushe-Fox, JP, *Third Report on the Excavations of the Roman Fort at Richborough, Kent*, Res Rep Soc Antiq London **10,** 94–123

Davies Pryce, T, 1949, Decorated Samian, in Bushe-Fox, JP, *Fourth Report on the Excavations of the Roman Fort at Richborough, Kent*, Res Rep Soc Antiq London **16,** 160–83

Dieulafait, C, and Dieulafait, F, 1983, *Applications de l'informatique à l'étude des styles de potiers Gallo-romains*, Toulouse

Genin, M, Hoffman, B, and Vernhet, A, 2002, Les productions Anciennes de la Graufesenque, in Genin, M, and Vernhet, A (eds), *Céramiques de la Graufesenque et autre productions d'époque romaine: nouvelles recherches*, Montagnac

Glasbergen, W, 1940–44, Claudische-Neronische terra sigillata van Valkenburg ZH, in Giffen, AE (ed), De Romeinische castella in den dorpsheuvel te Valkenburg aan den Rijn (ZH). *Jaarverslag van de Vereeniging vor Terpenonderzoek 1944*

Glasbergen, W, and Groenman-van Wateringe, W, 1974, The pre-Flavian garrisons of Valkenburg ZH: fabriculae and bipartite barracks, *Cingula* 2, 37 and pl 2

Haalebos, J-K, 1979, Primus, Celadus and Senecio, *Rei Cretariae Romanae Fautorum Acta,* **19/20***,* 121–35

Haalebos, J-K, Mees, AW, Polak, M, 1991, Über Töpfer und Verzierter Terra Sigillata des Ersten Jarhunderts, *Arch Korrespondezblatt* **21, Pt 1,** 79–91

Hartley, BR, and Dickinson B, forthcoming, *Index of Potters Stamps*

Hartley, BR, 1969, Samian, in Hobley, B, A Neronian–Vespasianic military site 'The Lunt', Baginton, Warwickshire, *Trans Birmingham Arch Soc* **83,** 65–129

Hessing, WAM, 1999, Building programmes for the Lower Rhine, in Sarfatij, H, Verwers, WJH, and Woltering, PJ, (eds), The impact of the visits of Trajan and Hadrian to the Lower Rhine, in, *In discussion with the past: archaeological studies presented to WA van Es*, Amersfoort

Hulde-Zetsche, I, 1972, *Trierer Reliefsigillata. Werkstatt 1*, Bonn

Hull, R, *Roman Colchester*, Res Rep Soc Antiq London, **20**

Knorr, R, 1919, *Töpfer und fabriken verzierter Terra-Sigillata des ersten Jarhunderts*, Stuttgart

Knorr, R, 1952, *Terra-Sigillata-Gefässe des ersten Jarhunderts mif Töpfernamen,* Stuttgart

Manley, J, 2002, *The Roman Invasion of Britain a reassessment*, Stroud

Mees, AW, 1995, Modelsignierte Decorationen auf südgallische Terra Sigillata*, Forschungen und Berichte zur Vor-und Frügeschichte in Baden-Wirttemburg*, **54**, Stuttgart

Oswald, F, and Pryce, TD, 1920, *Terra Sigillata*, London

Pryce, TD, 1949, Decorated samian, in Bushe-Foxe, JP, Fourth report on the excavations of the Roman fort at Richborough, Kent, Res Rep Soc Antiq London **15**, 160–183

Ricken, H and Fischer, C, 1963, *Die Bilderschüsseln der römischen. Töpfer von Rheinzabern*, Bonn

Simpson, G, 1968a, The Samian Pottery, in Richmond, IA, *Hod Hill: excavations carried out between 1951–58*, London, 103–11

Simpson, G, 1968, The samian pottery, in Cunliffe, BW, *Fifth Report on the Excavations of the Roman Fort at Richborough, Kent*, Res Rep Soc Antiq London **23,** 148–62

Stanfield JA, and Simpson G, 1958, *Central Gaulish Potters*, Oxford

de Weerd, MD, 1977, The date of Valkenburg I reconsidered, in van Beek, BL, and Groenman-van Wateringe, W (eds), Ex horreo, *Cingula* **4**, 255–89

Wynia, S, 1999, Caius was here: the emperor Caius' preparations for the invasion of Britain: new epigraphic evidence, in Sarfatij, H, Verwers, WJH, and Woltering, PJ (eds), *In discussion with the past: archaeological studies presented to WA van Es*, Amersfoort,145–8

# Brough-on-Humber fine wares production

*Margaret J Darling*

This paper is concerned with pottery from an evaluation by the Humberside Archaeological Unit in 1991, followed by an excavation by the York Archaeological Trust to the east of the defended area of Brough-on-Humber in 1994 (Fig 1). The results have been published in *Internet Archaeology* (Hunter-Mann *et al* 2000), but due to the national importance of this pottery production waste and the comparative inaccessibility of its electronic publication, particularly for pottery specialists, more conventional publication is desirable. This has also provided an opportunity to re-assess the material, and update the original conclusions. The apparent association of unusual mortaria with fine and coarse wares seems a transitory episode in time and place with endless scope for multiple interpretations, which I hope Kay will enjoy.

## *Brough-on-Humber*

Brough-on-Humber is a particularly enigmatic site, usually considered to be the *civitas* of the Parisi, on the basis of an inscription found within the defended area, dated to *c* AD 140–44 and referring to the dedication by an *aedilis* of the *vicus Petuariensis* of a stage-building (RIB 707). To quote John Wacher 'his view of Brough on Humber [as a *civitas*] has not proved entirely acceptable and indeed has attracted open criticism' (Wacher 1995, 394). The site has features uncharacteristic of a *civitas* capital, and excavations have shown an almost exclusively military chronology and structure for the sequence of defensive circuits, starting with a fort founded in the Flavian advance *c* AD 71–2, and culminating in a defensive circuit which could be viewed as associated with the early coastal forts, which later became part of the Saxon Shore (Darling with Gurney 1993, 241). The interpretation of Brough remains controversial. As noted by Rivet and Smith (1979, 438), the fragmentary evidence of the inscription leaves an uncertainty that Brough was ever the capital of the Parisi, *Petuaria Parisorum*. While Wacher notes the possibility that the navy, probably a small detachment, was quartered within the *civitas*, he equally highlights the absence of any trace of the normal public buildings. Alternatively the *civitas*, probably constituted in the second century, may have been outside the enclosure (Wacher 1995, 399). Examination of the published pottery evidence, however, leaves some uncertainty about the precise chronology of the phases, beyond the compass of this paper.

The site excavated in 1994, by York Archaeological Trust (Hunter-Mann *et al* 2000) in advance of housing development, lay some 100m to the east of the defended circuit where various other excavations had indicated a sizeable area of occupation (Fig 1).

## *Site: Location, type, chronology*

There is little evidence of any activity associated with the earlier forts. A road from the east gate appears to have been constructed in the later-second-century, leading to intense settlement activity. Fragmentary traces of buildings, one fairly substantial, were recovered. Most of the pottery (over 14000 sherds, 214kg) came from dumps and ditches with much re-cutting, and although there was an admixture of earlier second-century material, the bulk was firmly third-century in date, with virtually no certainly fourth-century material, except for oddments in the plough soil, not necessarily related to occupation on this site. Samian represented only 4.6% sherds of the total assemblage, most occurring residually in dumps and plough-soil. Over 75% came from Central Gaul, with 15% from East Gaul, and 9% South Gaulish wares. The samian dating profile differed substantially from that relating to the samian from the 1958–61 excavations in the intramural area, largely due to the small quantity of South Gaulish sherds, and declined after peaking at *c* AD160.

Five areas were excavated, two of which, trenches 3 and 4, were closer to the walled area and produced the evidence for pottery production (Fig 1). The bulk of the production waste came from the 1991 evaluation (trench I, by Humberside Archaeology Unit), with further sherds from the adjacent small later excavation trenches. It was particularly unfortunate that changes to building plans lead to little excavation in these particular areas. The evidence therefore is largely production waste from backfilled ditches, without kiln structures. There is a small quantity of reduced-fabric pottery, one of which

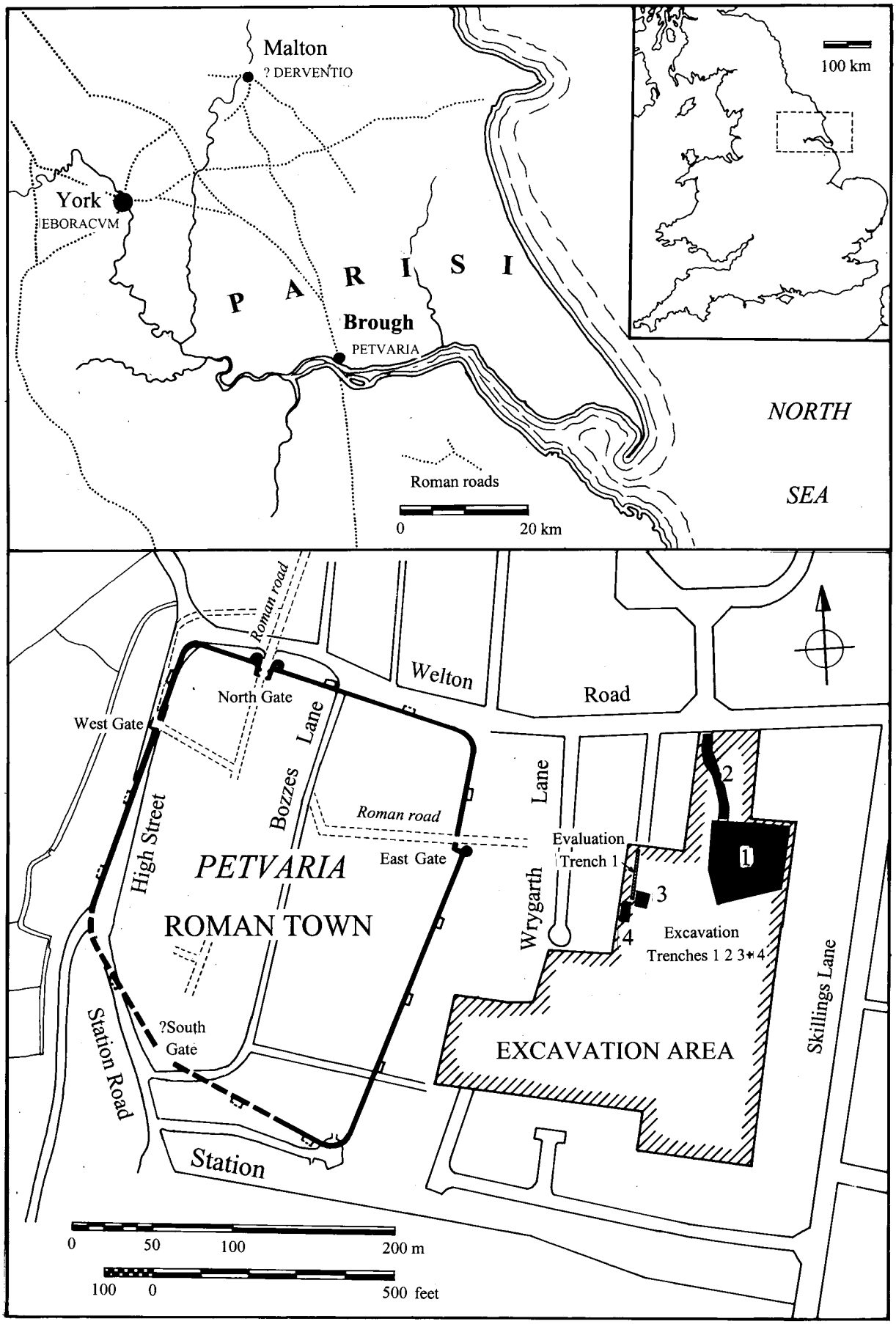



*Fig 1: Brough (Petuaria) location map*

was certainly a 'waster' of a bowl of Gillam (1957) form 301. Due to the difficulty of positive identification of such locally produced grey wares, these are excluded from the table of vessel types, Table 1. Locally produced mortaria were also found, although not directly related to the waste deposits, only one coming from trench 3 and all residual in later deposits.

## *The pottery*

Most of the sherds appeared to be under-fired, although a number had blisters indicative of over-firing. Three fabrics were distinguished, all variants on a single oxidized fabric, BRCC with colour-coating, BRWS with white slip and unslipped BROX. Due to the poor condition of this production waste, the presence or absence of surface-coating cannot be relied upon. The colour-coated BRCC was the dominant fabric, accounting for 79% by weight, and 90% as sherds, while unslipped BROX took up 19% by weight, and 10% as sherds, with white slipped BRWS only 1.5% by weight and 0.5% as sherds. The basic fabric colour varies from light red 10R 6/8 and 2.5YR 6/6 to reddish-yellow 5YR 7/6, some lighter near 5YR 7/4 (Munsell 1975). The slip colour varies widely, the intended colour probably a darker red, near 2.5YR 5/6 (Munsell 1975). Many sherds have a dark-grey core. The fabric is normally very fine, slightly laminar and its most obvious inclusions are dark-red iron-ore particles, and occasional small quartz grains; some have a higher proportion of inclusions, and there is the occasional calcareous inclusion. It is not a distinctive fabric, and would be hard to differentiate from similar fine oxidized fabrics. The forms appearing in the three fabrics are detailed in Table 1.

**Colour-coated fabric BRCC**

95% of the BRCC colour-coated fabric sherds were from beakers. Cornice rims were the dominant rim type for the beakers; at least 130 individual beakers are represented by rims, as against probably 14 beakers with curved rims (as Fig 3, nos 24–7), and only three with plain rims (as Fig 3, no 28). Folded beakers (Fig 2, nos 22 and 23, Fig 3, nos 24 and 25) mostly have curved rim types although two folded beakers have cornice rims (Fig no 2, no 22–3). Many of the beakers were probably originally rough-cast with clay particles, but few survived with any quantity in position. There are numerous rough-cast beakers from the earlier excavations, but without re-examination, it is impossible to identify with certainty if any of these were local products.

Barbotine decoration was only noted with cornice rim beakers, while rouletted decoration occurred on both cornice rims and folded beakers. The barbotine occurred mainly as fragmentary body sherds, probably representing 26 vessels, four with the barbotine definitely combined with zones of rouletting. Ten vessels have barbotine 'hairpin' decoration, usually combined with 'tear-drops' or 'wish-bones' (Fig 2, nos 2–4; no 3 comprising sherds from more than one vessel), while a single vessel, Fig 2, no 5, had a barbotine foliage decoration. Two beakers appear to have fragments of an animal suggesting a hunt cup type of decoration (Fig 2, nos 6 and 7), while a single body sherd had an enigmatic fragment of barbotine, probably the end of an animal's tail (Fig 2, no 8). The diagonal barbotine on the beaker Fig 2, no 1 could be viewed as atypical 'hairpins', but more probably represents a different type.

These beakers include types which became common in the repertoires of potters working on the continent in the second century, rough-cast beakers starting in the first century, and best known in Britain as Lyon, Central Gaulish and Cologne colour-coated wares. The cornice-rimmed beakers, folded types with both cornice- and curved-rims, plain-rimmed beakers and zones of rouletting are all types with a wide geographical spread while that for the so-called Hunt cups is more confined, best known at Cologne. The unusual vessels are the beakers decorated with barbotine 'hairpins' and 'wish-bones' or 'tear-drops' (Fig 2, nos 2–4) and vegetal decoration (Fig 2, no 5), both combined with rouletted zones.

Beakers decorated with 'hairpins' and 'teardrops' are well known in Central Gaulish colour-coated ware (Greene 1979, 45; Symonds 1992, 7), produced during the pre-Flavian-Trajanic period. Such beakers were produced in other areas, including East Gaul where crossed 'hairpins' occur, and similar 'hairpin' beakers, are known from a kiln site at Brive in Central Gaul in the first to early-second-century (Tilhard *et al* 1991, fig 13, nos 3–14) which also produced bowls decorated with 'hairpins' (*ibid*, fig 14, nos 1–5). One of the beakers, a folded form with 'wish-bones' between the folds, also has a basal rouletted zone. The sharply everted rims on these Gallic beakers are, however, distinctly different from these Brough examples.

Given the presence of a raetian mortarium from the site, attention may be focused on the pottery from Raetia, specifically the fine wares, known as raetian ware, where the combination of barbotine diagonal lines and rouletting is extensively used, together with crescent-like motifs (Szonyi 1973, taf 16; Walke 1965, taf 48). This is, however, a 'red herring' since the diagonal lines are not 'hairpins', and no motifs like the 'wishbone' or 'teardrop' occur, while 'hairpin' beakers in Switzerland (as at Augst, Ettlinger 1949, taf 22, nos 10, 13) and further east (as *Cambodunum*, Fischer 1957, taf 15, nos 15–17) are all likely to be imports from Gaul. The origin of this style of decoration is difficult to isolate, but given the use of 'hairpins' and 'teardrops' on pre-Flavian and later Central Gaulish colour-coated vessels, an origin in that area seems probable. While the barbotine foliage motif on Fig 2, no 5 resembles the Gallic style of Central Gaulish black-slipped ware (Tyers

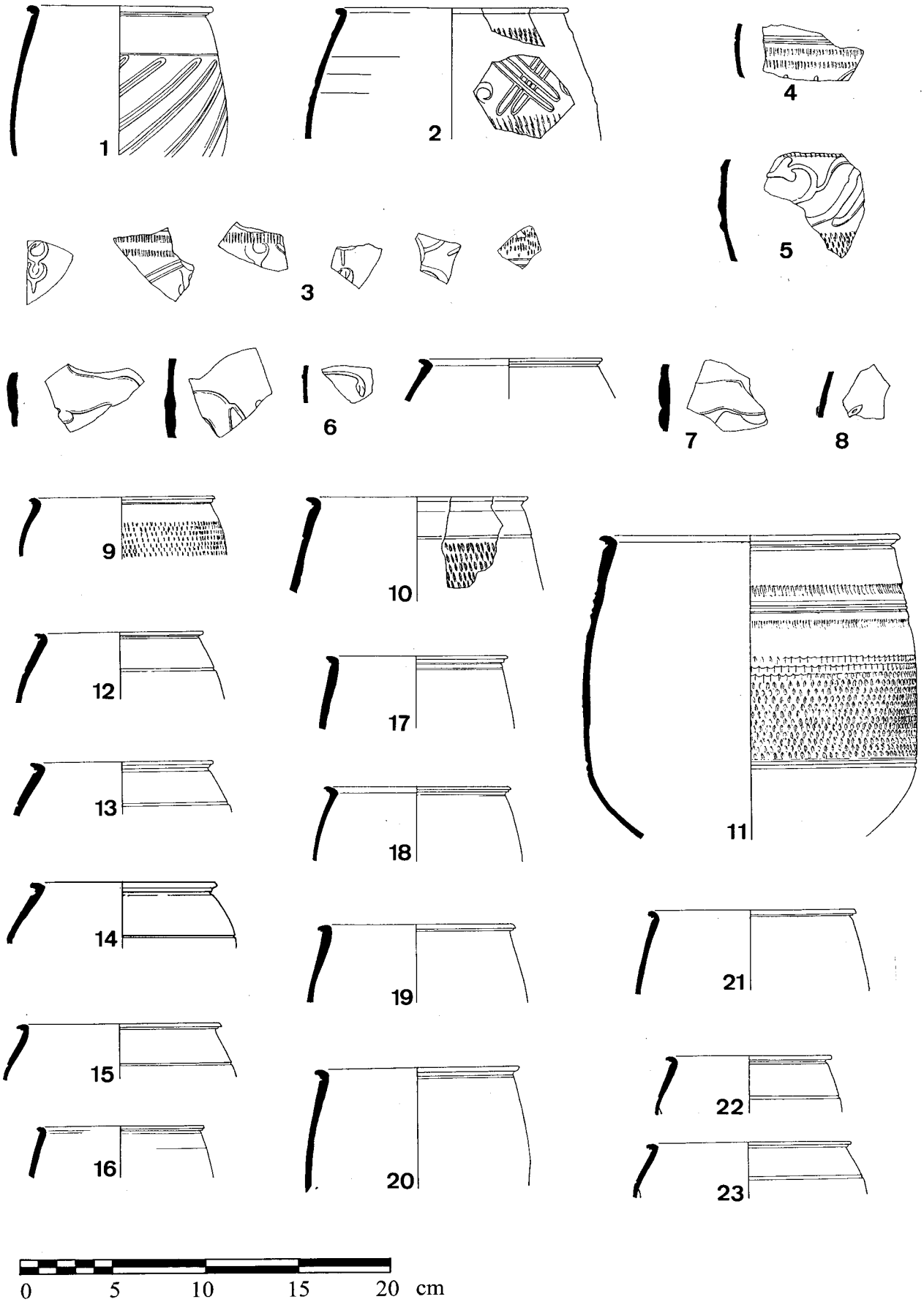



*Fig 2: Fine ware vessels nos 1-23 (scale 1:3)*

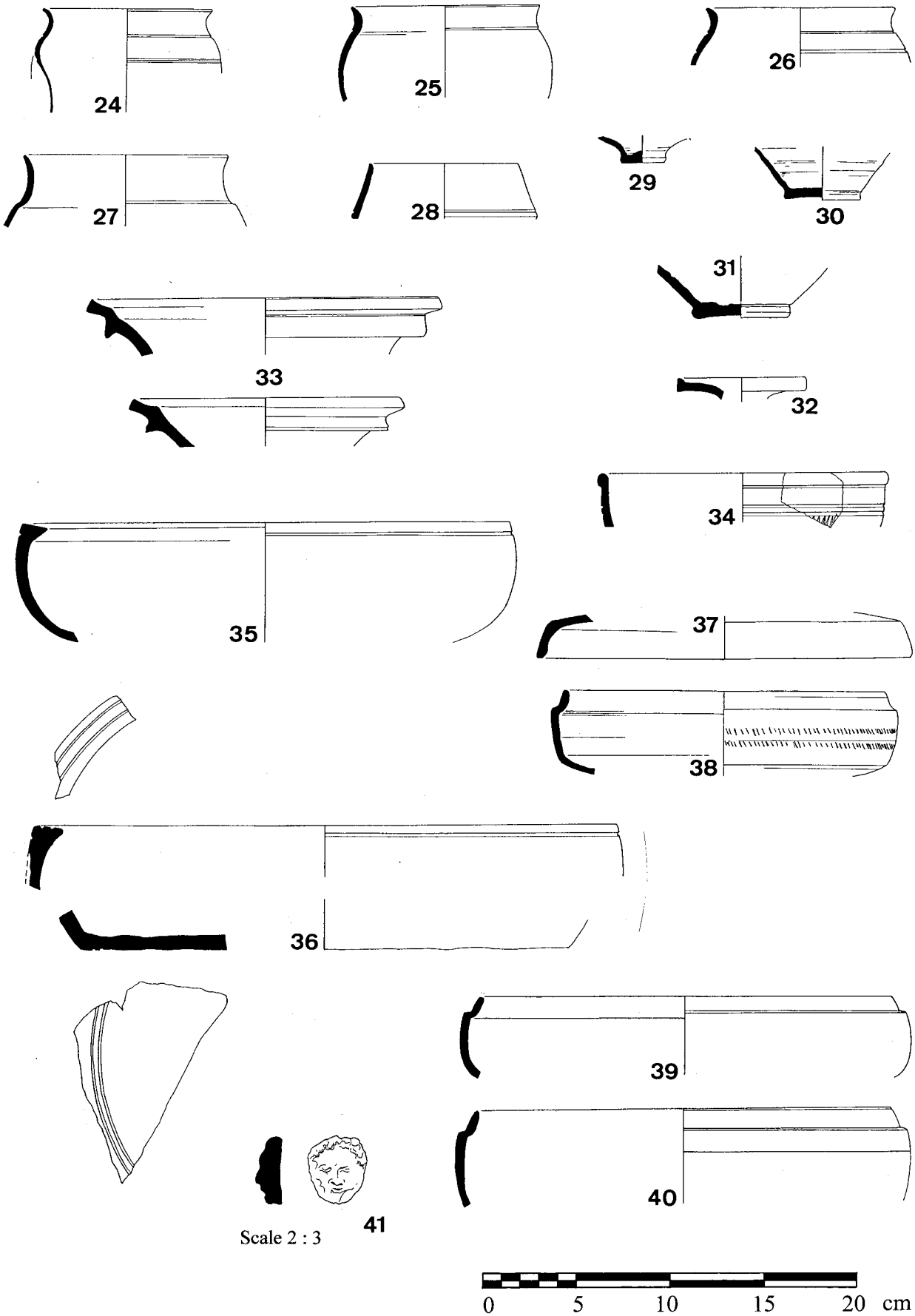



*Fig 3: Fine ware vessels nos 24-41(scale 1:3)*

1996, fig 146, no 5 with rouletted zones), running tendrils also occur on an earlier Lower Rhineland cup (Greene 1979, fig 24, no 8 from Mainz), although the foliage decoration on Cologne colour-coated ware is distinctly different.

Other forms include a fragment from a folded jug, a flagon rim (Fig 3, no 32) that may be from a jug such as the Colchester type 383 (Hull 1963), and fragments of other flagon or jug handles also occurred. Open forms include single vessels, as the hemispherical rouletted bowl Fig 3, no 34. The more surprising vessels are the tazze, Fig 3, no 33, the shallow bowls/dishes, Fig 3, nos 35 and 36**,** and the face mask, Fig 3, no 41, the latter in exceptionally poor condition, but with traces of colour-coating. The only feasible parallels for Fig 3, no 33 (illustrated as two vessels, but could be simply a variation in the profile) particularly as fragments probably from the same vessel include part of a pedestal base, are with tazze, not all of which are notched or frilled. This example is similar to one from the Raetian site *Cambodunum* (Fischer 1957, taf 27, no 6). The closest parallels traced for the in-turned bowls or dishes with their flat-topped rims, (Fig 3, nos 35–6), are at a fort, Öhringen-West, in the Odenwald-Neckar-*Limes*, adjacent to the start of the Raetian *limes* (Schönberger, 1973, abb 12, nos 85b and c). This second-century site also has a raetian mortarium and raetian fine wares.

There is evidence for probably 7 boxes (Fig 3,nos 38–40) and box lids (Fig 3, no 37, another one and a fragment of a different type of lid with a beaded rim), and these relatively rare vessels are important chronologically. The derivation of the box form seems as uncertain as its use, and it is possible that this combination derives from a Mediterranean, probably ultimately Hellenistic, tradition as with many other forms in common use. It is interesting that there are vessels made Rhone valley in the fine '*sigillées claires* B', for example, a possible box lid with rouletted lines from Vienne (Godard 1995, fig 12, no 28), which is of Desbat's type 5 (Desbat 1988, fig 1, no 5), while his type 7 is almost box-like. These fit into the Roman red slip wares, termed '*terra sigillata chiara*' by Lamboglia (1958), his 'B' series being Gallic rather than North African. It is also interesting to note a rare samian form made at Lezoux which resembles the base part of a box (Bet *et al* 1989, fig 5, no 93), tentatively dated to the mid-second–mid-third-century, especially as there is also a samian mortarium of a type similar to raetian mortaria (Bet *et al* 1989, fig 6, no 96), produced in the later-second to early-third-century. However, the rarity of the Lezoux form, the limited distribution of the '*sigillées claires* B' (Desbat 1988, 93) and the extreme rarity of any form resembling the box in Gaul suggests the derivation of the British examples lies elsewhere.

The box resembles Gose types 497 (Gose 1984) and perhaps the lid Gose 562, both in a white clay, Niederbieber forms 105 and 120b (Oelmann 1914; dated to the later-second and first half of the third century). These Gose types also occur at the second to early-third-century kilns at Soller (Haupt 1984, tafs 190, 193), south-east of Cologne, and there are similar bowls at Mainz (Baatz 1962, taf 13, no 6), and at Altenstadt (Schonberger and Simon 1983, taf 47, no 206; and a lid, taf 56, no 673) in the Upper Rhine. This may indicate a separate avenue from the eastern Mediterranean, based on the Hellenistic influence in the Danubian provinces (Greene 1977, 115). The production of boxes and both rough-cast and folded beakers occurred at the Great Casterton kiln (Corder 1961, 50–53), where they were associated with a copy of a samian Drag form 37, the kiln dated to AD 180–230, a similar range to that suggested by Hull for Colchester form 308 (Hull 1963, 105–7); few published examples are well-dated. Over half of a box lid was found in a pit group containing some 50 complete or near complete vessels at Baldock associated with 5 samian stamps, suggesting a deposition of *c* AD 170–80 (Rigby 1986, 341, fig 142, no 523). There were some later, probably intrusive, sherds in the pit, but the bulk of the pottery is mid to late-second-century in date. Copies are rare, although one occurs at York (Monaghan 1997, fig 407, no 4100) in the finer Ebor 3 fabric, the context indicating a late second to early-third-century date.

The face-mask Fig 3, no 41 was probably applied to a closed form, perhaps a flagon or jug or a beaker, and appliqué faces occur on the samian beaker Drag form 72. Such applied masks are known on beakers from Lezoux (Greene 1979, 46). Applied masks are also relatively common in 'Wetterauer ware' in Upper Germany (Rupp 1988, taf 7, no A26.2 taf 9, no B2.1; taf 13, no B13c.1; taf 28, no H1.8) on a variety of forms, both closed and open. Small masks are common on the handles of metal vessels, often imitated as at Caerleon (Webster and Webster 1998, 250, fig 1, no 8). There are a number of small beakers with applied face masks in Swindon Museum, presumably from Wanborough, which may prove to be of similar type (see also Swan 1977).

**Unslipped fabric BROX**

The bulk of the BROX sherds of unslipped fabric were probably from flagons, Fig 4, nos 42 and 43, or other closed vessels (most of the sherds recorded as 'closed' were likely to come from flagons), although 17% of the sherds were from beakers apparently without the red slip. A single sherd from a box also had no slip, perhaps due to the condition of the waste, the slip may have been lost. Open forms were confined to the bowl or dish Fig 4, no 44, the in-turned bowl or dish Fig 4, no 45 and the platter form Fig 4, no 46, similar to the Pompeian red-ware type (widely copied and also made at the Colchester kilns (Hull 1963, fig 57, nos 19–21). The in-turned bowl or dish Fig 4, no 45 is another late La Tène

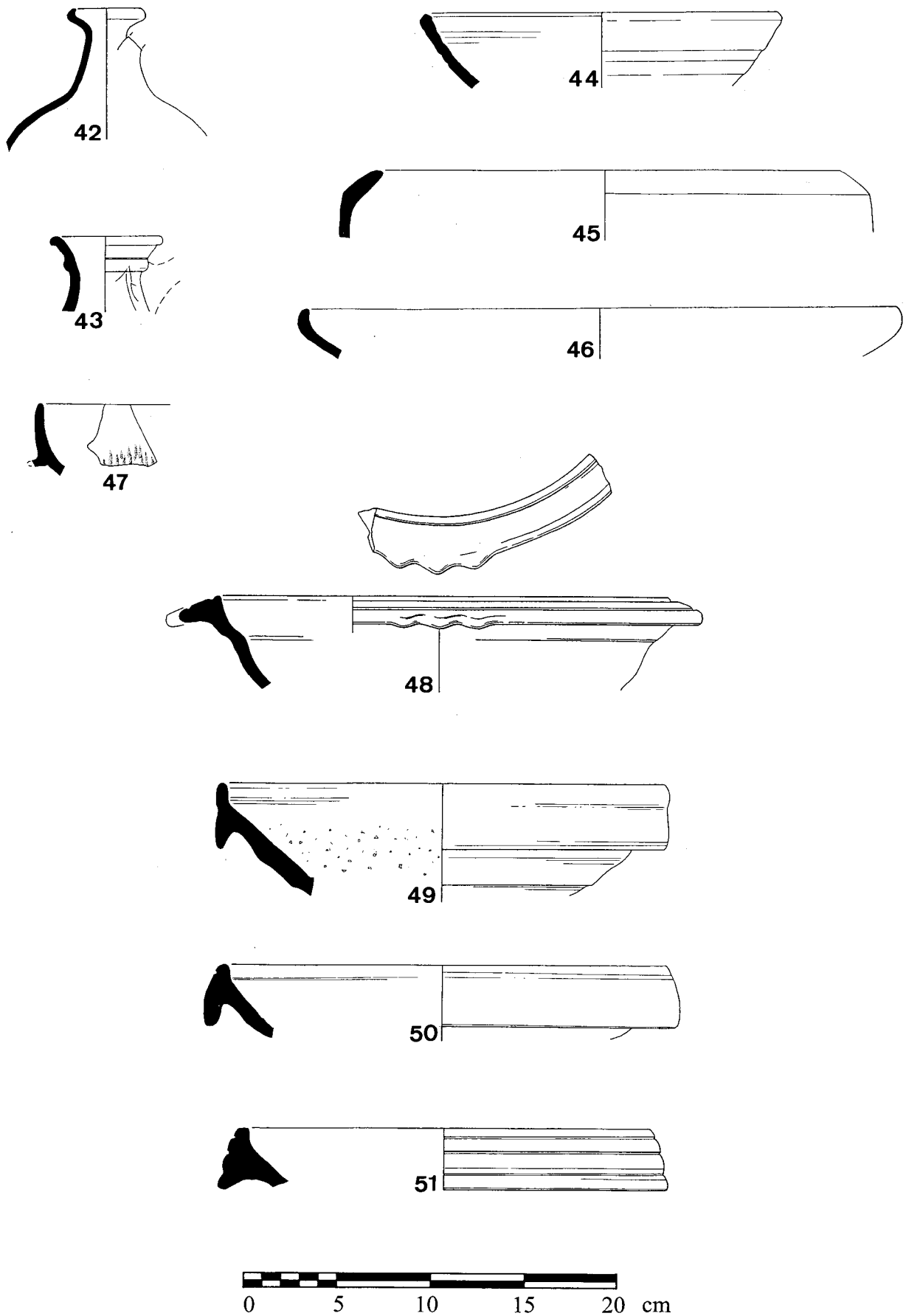



*Fig 4: Fine ware vessels nos 41-51(scale 1:3)*

type, more common in the Upper Rhine and the provinces to the east, paralleled at the second-century Öhringen-West fort (Schönberger, 1973, abb 11, no 83b), at Mainz (Baatz 1962, taf 12, nos 11 and 15), but also at Augst (Ettlinger 1949, taf 9, nos 1–3).

**White slipped fabric BRWS**

The sherds of BRWS all came from flagons, and it is possible that some of those classified as BROX may have originally had a white exterior slip.

**Less certain products**

An added complication to establishing the repertoire is Fig 4, no 47, a small fragment of a plain-rimmed bowl with a flange, in a fabric and slip very close indeed to the colour-coated BRCC, with indications of painted vertical stripes internally. The basic oxidized fabric is not distinctive and varies between vessel types, quite apart from the difficulty of judging the range from kiln 'waste'. Comparison with sherds of York painted-ware left attribution of this single sherd to that ware in doubt. If the form is a copy of a samian Drag form 38, these are rare at York (Monaghan 1997, 878) and the plain rim does not resemble the two published examples (Perrin 1981, no 368; 1990, no 1203), or the example close to the samian Drag form 24 (Monaghan 1993, no 2855). Neither is it similar in fabric to a hemispherical York painted bowl from these excavations (Darling *et al* 2000, no 20) or examples published from earlier excavations (Wacher 1969, fig 62, nos 225, 242 and fig 78, no 683; Corder and Romans 1938, fig 15, no 25). It is possible therefore, that this is also a local product, particularly as it came from a deposit in Trench I with quantities of 'waste'. As with the Wilderspool painted vessels, an origin for this tradition of painting vessels may lie in the eastern provinces (Hartley 1981).

Marbled and painted wares have been discussed in relation to pottery in Pannonia (Krekovic 1997), which shows vessels closely similar to the range known from York, mostly to be dated to the first half of the second century (as *ibid*., fig 2, nos 2, 6,7, although the classic Ebor hemispherical bowl differs). The term 'marbled' is a misnomer for many of these, where the decoration is more often short brush-painted lines. His conclusion is that the decorative technique was probably spread by military as well as civilian potters: in Pannonia production is evident on civilian settlements, while marbled pottery at Nijmegen has been found more frequently on civilian sites. Apart from Pannonia, the ware is also well known in Raetia.

There are other sherds which may be associated with the local production, such as a rouletted hemispherical bowl (Darling *et al* 2000, no 82) which can be paralleled at *Cambodunum* (Fischer 1957, taf 12, no 8), and another bowl in a slightly coarser fabrics but with traces of red colour-coat on the interior (Darling *et al,* 2000, no 87).

**Local mortaria MOLO**

I am indebted to Kay for her comments and dating on the mortaria. The mortaria, particularly the raetian type, Fig 4, no 48, and the collared types Fig 4, nos 49–51 all came from Area l, not directly associated with the kiln 'waste' deposits, and Fig 4, nos 48 and 50 are worn. The earliest stratified is Fig 4, no 50 from the same period as much of the 'waste', while the others occurred residually in much later deposits. The fabric of Fig 4, no 48 appears to be identical to other sherds from the production 'waste', and is of Hartley's type Aii (Hartley in prep), close to an example probably made at Wilderspool from Lancaster (Hartley in prep, fig 4, Aii). This is a form certainly made by a potter from a continental workshop. These mortaria are distributed throughout the Rhine frontier, Raetia, Noricum and Pannonia, and clearly made in numerous potteries, including at Augst in Upper Germany (Furger 1990, fig 8, no 10, ten examples) in a kiln dated to the mid to late-second to third-century. The distribution in Britain is concentrated in the West Midlands and west coast, extending north to Bearsden and Ardoch. Fig 4, no 48 belongs in Hartley's Category I, types alien to the Romano-British tradition, some of which must have been introduced by potters from the continent, and her type A is the only one which can be paralleled fairly well on the Continent. Examples are known from Holt, Wilderspool, Wroxeter, Chester and one from York (Hartley in prep; York: Perrin 1975, fig 20, no 402).

Fig 4, no 49 is an undoubted 'waster', both over fired and under-fired, and its fabric is identical to that of the raetian vessel Fig 4, no 48. It has a white slip and traces of possible diagonal painted lines on the rim, probably with a painted band at the bottom edge of the rim, which would suggest it is possibly not earlier than the mid-third-century. But this is an unusual type, and can be paralleled by one from Lorenzberg in Raetia (Ulbert 1965, taf 21, no 9) that has the same fairly wide groove/depression on the wall. A more local example is a mortarium from Malton (Mitchelson 1964, 248, fig 14, no 161), the description, a pink fabric, grey in fracture, with a cream slip, suggests this may be the same fabric as the Brough mortarium. Fig 4, no 51 has definite traces of white slip, and the red-brown fabric is within the range of the other BROX vessels; it also appears to be under-fired, and may be dated to *c* AD 180–230. The fabric of Fig 4, no 50 appears to differ, having more quartz inclusions (dated to *c* AD 150–230) and, together with another fragmentary flanged example probably of third-century date, may not to be associated with the production 'waste'.

There is a wide range in the dates applied to the local mortaria, with the raetian Fig 4, no 48 possibly pre-dating AD 140, and the other two fairly certainly local vessels, Fig 4, nos 49 and 51 ranging from the late-second to the mid-third-century. This poses a problem so far as the raetian vessel Fig 4, no 48 is concerned. The

*Table 1. Range of forms by fabric*

| | | | BRCC | | BROX | | BRWS | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|
| *Form* | *Type* | *Code* | *Sherds* | *Weight* | *Sherds* | *Weight* | *Sherds* | *Weight* | *Sherds* | *Weight* |
| *Bowl* | Untyped | B | 2 | 62 | 0 | 0 | 0 | 0 | **2** | **62** |
| | Dr31 type | B31 | 0 | 0 | 2 | 23 | 0 | 0 | **2** | **23** |
| | Dr37 type | B37 | 2 | 8 | 0 | 0 | 0 | 0 | **2** | **8** |
| | in-turned rim | BIR | 1 | 29 | 0 | 0 | 0 | 0 | **1** | **29** |
| Tazza | everted flange | TZ | 4 | 52 | 0 | 0 | 0 | 0 | **4** | **52** |
| Beaker | body/base | *BK* | 1358 | 3631 | 0 | 0 | 0 | 0 | **1358** | **3631** |
| | Barbotine | *BKBARB* | 32 | 87 | 0 | 0 | 0 | 0 | **32** | **87** |
| | cornice rim | BKCOR | 266 | 1222 | 36 | 73 | 0 | 0 | **302** | **1295** |
| | curved rim | BKCR | 21 | 58 | 1 | 5 | 0 | 0 | **22** | **63** |
| | folded | *BKFO* | 277 | 730 | 1 | 1 | 0 | 0 | **278** | **731** |
| | folded curved rim | BKFOC | 13 | 61 | 0 | 0 | 0 | 0 | **13** | **61** |
| | folded cornice rim | BKFOCOR | 7 | 41 | 0 | 0 | 0 | 0 | **7** | **41** |
| | folded scaled | *BKFOS* | 1 | 4 | 0 | 0 | 0 | 0 | **1** | **4** |
| | plain rim | BKPR | 3 | 12 | 0 | 0 | 0 | 0 | **3** | **12** |
| | rough-cast | *BKRC* | 19 | 51 | 1 | 7 | 0 | 0 | **20** | **58** |
| Box | Castor box | BX | 9 | 102 | 1 | 4 | 0 | 0 | **10** | **106** |
| Closed | | *CLSD* | 44 | 223 | 55 | 503 | 0 | 0 | **99** | **726** |
| Dish | in-turned rim | DIR | 2 | 50 | 0 | 0 | 0 | 0 | **2** | **50** |
| Platter | | P | 3 | 36 | 11 | 215 | 0 | 0 | **14** | **251** |
| Open | | *OPEN* | 2 | 14 | 1 | 2 | 0 | 0 | **3** | **16** |
| Flagon | untyped | *F* | 3 | 24 | 55 | 368 | 12 | 132 | **70** | **524** |
| | cup-mouth | FC | 0 | 0 | 7 | 49 | 0 | 0 | **7** | **49** |
| | cordoned | FCOR | 0 | 0 | 1 | 18 | 0 | 0 | **1** | **18** |
| | folded jug | JUG | 1 | 13 | 5 | 37 | 0 | 0 | **6** | **50** |
| Lid | untyped | L | 1 | 2 | 0 | 0 | 0 | 0 | **1** | **2** |
| | Box lid | LBX | 3 | 26 | 0 | 0 | 0 | 0 | **3** | **26** |
| Untyped | bodysherds | - | 31 | 126 | 56 | 340 | 0 | 0 | **87** | **466** |
| **Total** | | | **2105** | **6664** | **233** | **1645** | **12** | **132** | **2350** | **8441** |

*Codes in italics: forms identified from body sherds only*

'waste' of beakers, flagons, boxes and other vessels give no reason to believe the dumps covered an extended period of production, and while roughcast beakers could start earlier, it is difficult to see how a starting date other than mid-second-century at the earliest can be applied to the group as a whole. The presence of the boxes and the plain-rimmed beakers suggests a later-second-century date. This is, however, just one dump of 'waste', and potters making mortaria may have been working elsewhere and at differing dates. The raetian mortarium suggests the arrival of at least one continental potter in the early to mid-second-century.

**Reduced wares**

The local fabric is not sufficiently distinctive to enable the positive identification of local grey wares which may have been associated with the fine ware production, and many of the grey vessels will have been locally made, using similar clays, but at different periods. Very few reduced sherds were found with the fine ware 'waste' deposits, but there was a 'waster' shallow bowl of Gillam (1957) form 301 (Darling *et al* 2000, no 167). While bowls of this type may derive from continental, and ultimately Hellenistic, traditions (Greene 1977, 123, fig 8.3, nos 7, 9–12), this 'waster' is of interest because of its common appearance in Lincolnshire and South Yorkshire. It is already known from Brough (Corder and Romans 1937, pit II, fig 12, nos 62–64, almost certainly the back-filled ditch of the early fort; 1938, fig 15, no 26; Wacher 1969, fig 64, no 289). It also appears at the Roxby kilns of Antonine date (Rigby and Stead 1976, fig 68, nos 60–2), while there are over 60 examples from Lincoln (including a 'waster'), several from Dragonby (Gregory 1996, fig 20.14, no 1023; fig 20.25, no 1310; fig 20.33, no 1442 from Kiln 5, Hadrianic–early Antonine), York, and Malton (Monaghan 1997, fig 401, no 4010–1; Bidwell and Croom 1997, fig 26, no 129; fig 29, no 231). One example from Lincoln has part of a stamp (Darling and Precious forthcoming, no 1173), which appears to associate the form with the platter Gillam (1957) form 337, of which a stamped example occurred in these recent Brough excavations (Darling *et al* 2000, no 226), discussed by Rigby (1998, 192, fig 1). Two of the bowls from Lincoln are in a fabric suggesting a first-century date, while the grey examples appear in Hadrianic deposits, but are commonest later. A curiosity of the distribution of this bowl type is its appearance in Carlisle (Taylor 1991, fig 312, 87 fig 314, 127) and *Vindolanda* (Hird 1977, nos 18, 55, 88 and 453). The possible presence of the Lincolnshire mortarium potter

Biso working in the area of Chester in the second century (*see below*) is interesting in view of these examples from the northern frontier, and indicates how specific vessel types could become widely distributed.

## *Discussion*

The questions posed by this evidence of the local production of fine and other wares include the origin of the potters, their relationship with other immigrant potters, why they came to Brough and when. The earliest datable vessel is the raetian mortarium, Fig 4, no 48, possibly pre AD 140, while the combination of rough-cast beakers, and hunt-cups suggests a range in the mid to late-second-century. A further factor is the presence of boxes and plain-rimmed beakers, which may extend the dating to the late-second to third-century. There are the many problems related to the understanding of the military/civilian associations and the chronology of the site of Brough, based upon the scattered trenches of the relatively old excavations of the 1930s and 1958–61. Examination of the published pottery evidence suggests it would be a suitable candidate for re-evaluation, particularly bearing in mind that the military metalwork found in both earlier and recent excavations may be dated to the later-second or third-century, and cannot be related to the Flavian to early-Hadrianic military occupation (Cool 2000, 5.4). While such equipment can occur on civilian sites, the presence of soldiers seems implicit at Brough at this period when the walls were being built in the later-second, possibly into the third century. The vital inscription (RIB 707) that provides the basis, however debatable, for the identification of Brough as the *civitas* capital is dated AD 144. The alternatives have been expounded by Wacher (1995, 394–401), and his suggestion that it was a failed town is persuasive, the military and naval considerations of the location being more important. There were clearly both a local market and opportunities for trading to the north. The published pottery certainly gives the impression of a quantity of later-second-century material, but there are inevitably alternative interpretations for the evidence available.

It seems certain that the potters included some from the continent, but where from, and how did they arrive? Three sites appear particularly relevant to this question: Colchester due to the range of pottery produced there in the latter part of the second century, Wilderspool where similar influences from Raetia occur, and the South Carlton kilns in Lincolnshire, an important supplier to the Humber area in the second century. A further factor is the nature and origins of the coarse pottery found at Brough-on-Humber, and its close connections with pottery in Lincolnshire.

Potters came to Britain from the continent from the conquest period onwards. Apart from potters accompanying the army in the first century, the earliest recognized industry is that at Colchester, production possibly starting *c* AD120. The kilns producing colour-coated vessels of the type considered here are conventionally dated to the latter part of the second to early-third-century, as is the case with the Great Casterton kiln, the earliest evidence from the Nene Valley (Corder 1961, 50–3). The origins of the Colchester potter lie in East Gaul, shown most strongly in the production of Colchester samian (Hull 1963; BR Hartley 1977), and the close connection between samian, colour-coated wares and mortaria is shown by the appearance of a stamp of the samian potter Acceptus ii on a beaker of form 391 with barbotine decoration (Hull 1963, 191, fig 50, no 1), and Cunopectus (Hartley 1999, 209). Most of the vessels produced at Brough can be paralleled at Colchester in the pottery from the 1933 and 1959 kilns (Hull 1963, figs 57–9), but the 'hairpin' style of decoration, various other vessels and the raetian mortarium do not appear there. There are, however, indications of influences at Colchester more likely to have come from the south Upper Rhine to the Raetia area, such as the bowls of the same type as raetian mortaria, with scalloped 'handle' projections, internal concavity, and the wider flange, not normally seen on British-made types (*ibid*, fig 73, nos 16 and 17). The use of roller-stamping is also common in the eastern provinces (*ibid*, fig 58, nos 16 and 18 on beakers; fig 71, nos 6 and 7 on pedestal led vessels), and colour-coated barrel-beakers (*ibid*, 82 and fig 79, nos 1 and 2 from grave 302, both in local colour-coated ware, *cf* fig 47, 11–16 in samian) occur in the same area (Szönyi, 1973, 93, abb 6, form B), alongside raetian fine wares. The bowl with in-turned rim (Hull 1963, fig 73, no 19) appears to be from the same tradition as the Brough bowls, Fig 3, nos 35–6, of the range Gose (1984) 484–87, derived from one of the commonest La Tène forms in the Upper Rhine area. These all appear to be rarities at Colchester, and may therefore be the products of a single potter.

Wilderspool, where the suggested date-range is between the early and the mid to late-second-century (Hartley and Webster, 1973, 103), has a specific bearing on the kiln 'waste' from Brough due to the production there of the same type of cornice-rimmed beakers, roughcast and rouletted, and also raetian style mortaria (Hartley in prep). Further evidence of influence from Raetia lies in the painted fine wares and roller-stamping (Hartley 1981), with parallels at Straubing (Walke 1965, tafs 54–5 and 82–3) and *Cambodunum* (Fischer 1957, taf 13, nos 6 and 7; taf 14, nos 2 and 3), both sites with raetian mortaria and raetian fine-wares. The site, however, unlike Brough, lies in an area without existing strong local pottery production, necessitating different solutions to the problems of supply to local garrisons, the apparent market for these potters. Influences from Holt and Wroxeter suggest the potters were a secondary movement within the province (Hartley and Webster, 1973, 85, 103).

In the Antonine period, potters similarly came to

South Carlton in Lincolnshire (Webster 1944), where a range of rough-cast beakers, flagons, painted vessels and mortaria were made. South Carlton is particularly relevant to Brough. Mortaria from there were probably transhipped on the Humber for transport to the North. Evidence of this trade is that fifty percent of the second-century mortaria found at Old Winteringham and Winterton were from South Carlton and other Lincolnshire potters (Hartley 1976, 117, 121). A stamp of Crico came from these excavations at Brough, while a stamp of another Lincolnshire potter, Aesico, came from the excavations of 1937 (Corder and Romans 1938, fig 15, no 21). Other mortarium potters trading to the north also worked in Lincoln (Technical College kiln, Baker 1937). Much of the rest of the coarse pottery from Brough-on-Humber has strong affinities with the repertoire current in Lincolnshire in the second century, and the military market is an important factor in the movement of potters. The assemblage contains common parallels with vessels known from Lincoln and other sites in north Lincolnshire, suggesting that most of the potters came from that area.

In examining the possible origin of potters from the continent in the first century AD, broad stylistic zones could be identified, and are discussed with great clarity by Greene (1993, 45–9). By the later-second-century the diffusion of styles have blurred these zones, but some differences still occur between the Lower Rhine and the southern part of the Upper Rhine, the Wetterau and provinces to the east, Raetia, Noricum and Pannonia. Although the appearance of a raetian mortarium and uncommon barbotine 'hairpin' and other vessels at Brough may suggest that it is to this latter area that attention should be directed in the search for the origins of the potters, the ease of movement of potters to and from East and Central Gaul is an important factor, illustrated by the wide geographical spread of the parallels noted. Moreover by the second century, many of the characteristics of such pottery were relatively widespread in Britain.

Two alternative interpretations relating to these potters at Brough may be proposed: that they could have been brought in from the continent by the army, or, that equally they could have been assembled from craftsmen already in Britain. The known migration of potters in the second century (Hartley 1999, 209–11), and the availability of such craftsmen at other centres such as Colchester is sound evidence for such movements, and the migration of Durotrigan potters to the Rossington kilns is also relevant (Buckland *et al* 2001, 86–7). Moreover, it is pertinent to note that mortaria stamped by the potter Biso, who worked in the Hadrianic–Antonine period in Lincolnshire, have been found at Carlisle, but more importantly a Biso stamp from Chester in a different fabric may indicate the probability of a second workshop for this potter in the Chester area (Hartley 1990, 260, fig 195, nos 8–9). The noted curious occurrence of fairly rare coarse-ware types, well known in Lincoln and area (including Gillam (1957) form 301), at Carlisle and *Vindolanda* also suggests the movement of potters in the second century, after the departure of the army from Lincolnshire.

Military involvement at Brough seems clear, whether army or naval, or both (Tomlin 1969), but with the availability of skilled potters in the immediate area, it seems unlikely that potters would have been brought directly from the continent.

## *Conclusions*

The affinities of the pottery indicate that the potters producing the fine wares and mortaria were continental, drawing on traditions likely to be prevalent in the southern part of the Upper Rhine, where ceramic influences from Gaul and the Danubian area intermingled, but such styles were also widely disseminated by the second century. Other styles seem better rooted in the Lower Rhine. No single continental source is identifiable. They may be related to similar potters coming to Colchester, South Carlton, Wilderspool, and other areas but are likely to have been a secondary movement, as demonstrated by the migration within the province of mortarium and other coarse ware potters.

Early recognition of the value of Brough as a base and trans-shipment point lead to a stores-base there in the Flavian period, and whatever the fortunes of the civilian settlement, the continuing value of this coastal site to the army is clear. The military market was probably the impetus for the presence of these potters at Brough, but this needs to be viewed in the context that the garrison would have been comparatively small, and located adjacent to strong local pottery supplies. Coarse ware types common in Lincolnshire may indicate the arrival of other potters from that area from the first century onwards. Whether the products of these fine-ware potters were traded will be difficult to establish, but close examination of rough-cast beakers on Yorkshire and other northern sites would be worthwhile. The mortarium at Malton (Mitchelson 1964, fig 14, no 161) is a possible product, and trade between Brough and Malton is quite likely. This appears to be a small, short-lived enterprise, perhaps involving no more than a couple of potters. Their demise may be due to the ready availability of fine wares coming in with the coastal trade to the northern frontier.

It is a privilege to offer Kay this diversion, possibly believable, hopefully enjoyable, based on debris from a kiln or kilns, about which nothing else, number, structure, type, or length of use, is known from a particularly enigmatic site.

## Catalogue

| *No* | *Form code* | *Details: site context/s (in brackets)* |
|---|---|---|
| Fig 2 | | **Brough colour-coated fabric: BRCC** |
| 1 | BKCOR | Beaker. Double barbotine diagonal lines (3012) |
| 2 | BKCOR | Beaker. Barbotine hairpins and 'tear-drops' and rouletted zones. (148;150) |
| 3 | BKBARB | Sherds not from a single beaker. Barbotine hairpins; tear-drops and rouletting. (71;150) |
| 4 | BKBARB | Beaker. Traces of barbotine hairpin and rouletted zone. (150) |
| 5 | BKBARB | Beaker. Barbotine foliage and rouletted zone. (148) |
| 6 | BKCOR | Rims and sherds. Barbotine animal. (71;150) |
| 7 | BKBARB | Beaker. Barbotine animal. (71) |
| 8 | BKBARB | Beaker. Barbotine tail. (150) |
| 9 | BKCOR | Beaker with rouletted zone. (148) |
| 10 | BKCOR | Beaker with rouletted zone. (72;94) |
| 11 | BKCOR | Beaker with rouletted zone. (3012) |
| 12 | BKCOR | Beaker. (71) |
| 13 | BKCOR | Beaker. (3012) |
| 14 | BKCOR | Beaker. (71) |
| 15 | BKCOR | Beaker. (71) |
| 16 | BKCOR | Beaker. (1029) |
| 17 | BKCOR | Beaker. (3012) |
| 18 | BKCOR | Beaker. (148) |
| 19 | BKCOR | Beaker. Spalled over-fired waster. (3012) |
| 20 | BKCOR | Beaker. (71) |
| 21 | BKCOR | Beaker. (150) |
| 22 | BKFOCOR | Beaker, folded form. (3012) |
| 23 | BKFOCOR | Beaker, folded form. (71) |
| Fig 3 | | |
| 24 | BKFOC | Beaker, folded form. (3012) |
| 25 | BKFOC | Beaker, folded form, edge of fold only. (71) |
| 26 | BKCR | Beaker. (150) |
| 27 | BKCR | Beaker. (3012) |
| 28 | BKPR | Beaker. (4002) |
| 29 | BK | Beaker. Base (150) |
| 30 | BK | Beaker. Base (3012) |
| 31 | BK | Beaker. Base (150) |
| 32 | F | Flagon rim. (148) |
| 33 | TZ | Tazza. Traces probable colour-coating on interior; non-joining basal sherd probably from same vessel suggests a pedestal form. Differing profiles from rim sherds.(72) |
| 34 | B37 | Hemispherical bowl. Abraded; rouletted zone. (1008;1019) |
| 35 | DIR | Dish. (150) |
| 36 | BIR | Bowl. Non-joining rim and base sherds. Grooved rim top and underside base. (71) |
| 37 | LBX | Lid. (71) |
| 38 | BX | Box. Rouletted. (128) |
| 39 | BX | Box. (71) |
| 40 | BX | Box. (148) |
| 41 | - | Detached appliqué face with traces dark colour-coat on both surfaces; very poor abraded condition. (148) |
| Fig 4 | | **Brough oxidized fabric: BROX** |
| 42 | FC | Flagon cupped rim. (94) |
| 43 | FCOR | Flagon cordoned. Grey-cored light red-brown; probably local. (3019) |
| 44 | B | Bowl. Dark grey fabric; red-brown surfaces; abraded. (1205;1207) |
| 45 | B? | Bowl? (128/132) |
| 46 | P | Platter. Micaceous. (3001) |
| 47 | B38? | Copy samian form 38? Lacking flange; painted streaks internally. ?Local copy red-painted ware. Fabric finer than Ebor painted sherds. (71) |
| | | **Local mortaria: MOLO** |
| 48 | MFL | Mortarium. Grey fabric; sparse-moderate sub-angular small quartz; thin red-brown cortex; slip darker red-brown top rim and upper interior and burnished; two large quartz trituration grits. (2015) |
| 49 | MCO | Mortarium. Over-fired flaked waster. Light red-brown fabric (part grey with red-brown surfaces); fairly common tiny quartz; occasional iron ore; soft red. Traces red painted stripes on rim and band lower edge of rim. (3000;3001) |
| 50 | MCO | Mortarium. Light red-brown; ill-sorted mostly small quartz; occasional iron ore; red and soft white inclusions; exterior rim encrusted quartz particles; worn; no surviving trituration grit. Not certainly local. (1001) |
| 51 | MCO | Mortarium. Red-brown fabric; thin white slip; fine quartz with scatter larger grains; red earthy inclusions; fairly micaceous; trituration unclear. (1021) |

## Bibliography


Baatz, D, 1962, *Mogontiacum Neue undersuchugen am Römischen Legionslager in Mainz*, Limesforschungen Band **4**, Berlin

Baker, FT, 1937, Roman pottery kiln at Lincoln, *Lincolnshire Mag* no **3.7**, 187–90

Bet, P, Fenet, A, and Montineri, D, 1989,La typologie de la sigillée lisse de Lezoux, *Société Française d'Étude de la Céramique Antique en Gaule, Actes du Congrès de Lezoux, 4–7 Mai 1989*, 37–54

Bidwell, PT, and Croom, AT, 1997, The coarse wares, in Wenham LP, and Heywood, B, *The 1968 to 1970 excavations in the vicus at Malton, North Yorkshire*, Yorkshire Archaeol Rep **3**, 61–103, Yorkshire Archaeol Soc, Leeds

Buckland, PC, Hartley, KF, and Rigby, V, 2001, The Roman Pottery Kilns at Rossington Bridge Excavations 1956–61, *J Roman Pottery Stud* **9**

Cool, HEM, 2000, The small finds, in Hunter-Mann, K, Darling, MJ, and Cool, HEM, Excavations on a Roman extra-mural site at Brough-on-Humber, East Riding of Yorkshire, UK, *Internet Archaeol* **9**, 5.0

Corder, P, 1961, *The Roman Town and Villa at Great Casterton, Rutland*, University of Nottingham

Corder, P, and Romans, T, 1937,Excavations at the Roman town at Brough, E Yorkshire 1936, *Tran East Riding Antiq Soc* **28**, 85–152

Corder, P, and Romans, T, 1938,Excavations at the Roman town at Brough-Petuaria 1937, *Trans East Riding Antiq Soc* **28**, 173–234

Darling, MJ, 1984, Roman Pottery from the Upper Defences, *Archaeology of Lincoln* **16/2**

Darling, MJ, with Gurney, D, 1993, *Caister-on-Sea: Excavations by Charles Green, 1951–55* East Anglian Archaeol Rep **60**, Fld Archaeol Division, Norfolk Mus Service, Dereham

Darling, MJ, with Hartley, KF, and Dickinson, B, 2000, The Roman pottery, in Hunter-Mann, K, Darling, MJ, and Cool, HEM, Excavations on a Roman Extra-Mural site at Brough-on-Humber, East Riding of Yorkshire, UK, *Internet Archaeol* **9**, 4.0

Darling, MJ, and Precious, BJ, forthcoming *A corpus of Roman pottery from Lincoln,* Lincoln Archaeol Stud

Desbat, A, 1988, La sigillée claire B: Etat de la question, *Société Française d'Étude de la Céramique Antique en Gaule, Actes du Congrès d'Orange 12–15 Mai 1988,* 91–99

Dore J, and Greene K, (eds) 1977, *Roman Pottery Studies in Britain and Beyond,* British Archaeol Rep supp ser **30,** Oxford

Ettlinger, E, 1949, *Die Keramik der Augster Thermen, Ausgrabungen 1937–8*, Basel

Fischer, U, 1957, *Keramik aus den Holzhäusern Zwischen der 1 und 2 Querstrasse*, Cambodunumforschungen **11**

Furger, AR, 1990, Les Ateliers de poterie de la ville d'Augusta Rauricorum (Augst et Kaiseraugst, Suisse), *SFECAG Actes du Congrès de Mandeure-Mathay*, 107–24

Gillam, JP, 1957,Types of Roman coarse pottery vessels in Northern Britain, *Archaeol Aeliana* ser 4**, 35**, 180–251

Godard, C, 1995, Quartre niveaux d'abandon de la ville de Vienne (Isère): Éléments pour la chronologie des céramiques de la fin du Iie siècle et du IIIe siècle après J-C, *Société Française d'Étude de la Céramique Antique en Gaule, Actes du Congrès de Rouen 25–28 Mai 1995,* 285–322

Gose, E 1984,*Gefässtypen der römischen Keramik im Rheinland*. Bonn: Rheinisches Landesmuseum, Bonner Jahrbücher, Beiheft I

Greene, KT, 1977, Legionary Pottery, and the significance of Holt, in Dore and Greene 1977, 113–32

Greene, KT, 1979, *Report on the Excavations at Usk, 1965–76. The Pre-Flavian Fine Wares*, Cardiff.

Greene, KT, 1993, The Fortress Coarse Ware, in Manning, WH, (ed), *Report on the Excavations at Usk 1965–76: The Roman Pottery*, Cardiff

Gregory, AK, 1996,Romano-British pottery, in May, J, *Dragonby, Report on Excavations at an Iron Age and Romano-British Settlement in North Lincolnshire*, Oxbow Mono **61**, 513–65, Oxford

Hartley, BR, 1977, Some wandering potters, in Dore and Greene 1977, 251–59

Hartley, KF, 1976, Mortaria, in Stead, IM, *Excavations at Winterton Roman Villa and other Roman sites in North Lincolnshire, 1958–67,* Dept Environment Archaeol Rep **9**, 116–26 London

Hartley, KF, 1981, Painted fine wares made in the Raetian workshops near Wilderspool, Cheshire, in Anderson, AC, and AS, (eds), *Roman Pottery Research in Britain and North-West Europe*, British Archaeol Rep Internat Ser **123**, 471–79, Oxford

Hartley, KF, 1990, The Mortaria, in McCarthy, MR, *A Roman, Anglian and Medieval site at Blackfriars Street, Carlisle,* Cumberland and Westmorland Antiq and Archaeol Soc. Res Ser **4**, 237–63

Hartley, KF, 1999,The stamped mortaria, in Symonds, RP, and Wade, S, *Roman pottery from excavations in Colchester, 1971–86*, Colchester Archaeol Rep **10**, 195–211

Hartley, K.F, in prep, 'Raetian' mortaria in Britain, *J Roman Pottery Stud*

Hartley, KF and Webster, PV, 1973, Romano-British pottery kilns at Wilderspool, *Archaeol J* **130**, 77–103

Haupt, D, 1984,Römische Töpfereibezirk bei Soller, Kreis Düren. *Beiträge zur Archäologie des Römischen Rheinlands 4*, Rheinische Ausgrabungen **23**, 391–497

Hird, L, 1977, *Vindolanda V The pre-Hadrianic pottery*, Barcombe Pubs, Haltwhistle, Vindolanda Trust

Hull, MR, 1963, *The Roman Potters' Kilns at Colchester*, Res Rep Soc Antiq London **21**

Hunter-Mann, K, Darling, MJ, and Cool, HEM, 2000, Excavations on a Roman Extra-Mural site at Brough-on-Humber, East Riding of Yorkshire, UK, *Internet Archaeol* **9**

Krekovic, E, 1997, Marbled ware, in Pannonia and the Roman army, *Rei Cretariae Romanae Favtorvm* Acta **35**, 41–44

Lamboglia, N, 1958, Nuove osservazioni sulla terra sigillata chiara (tipi A e B), *Revue d'Études Ligures* **24**, 257–330

Mitchelson, N, 1964,Roman Malton: The civilian settlement. Excavations in Orchard Field, 1949–52, *Yorks Archaeol J* **41**, 209–61

Monaghan, J, 1993, Roman Pottery from the Fortress, *Archaeology of York*, **16/7**, CBA London.

Monaghan, J, 1997, Roman Pottery from York, *Archaeology of York* **16/8**, CBA London

Munsell 1975, *Munsell soil color charts* (Baltimore: Md.: Munsell Color Company)

Oelmann, F, 1914, *Die Keramik des Kastells Niederbieber*, Materialen römisch-germanischen Keramik 1, Frankfurt am Main

Perrin, JR, 1975, *A Study of the Roman Pottery from an excavation of the Roman Civil Baths, York, in 1939 (Air Raid Control Shelter Site),* unpublished M Litt thesis, University of Newcastle on Tyne

Perrin, JR, 1981, Roman pottery from the Colonia: Skeldergate and Bishophill, *The Archaeology of York*, **16/2**, CBA London

Perrin, JR, 1990, Roman pottery from the Colonia, 2: General Accident and Rougier Street, *The Archaeology of York*, **16/4**, CBA London

RIB, Collingwood, RG, and Wright, RP (eds), 1965, *Roman Inscriptions of Britain*. vol 1, Oxford

Rigby, V, 1986, The stratified groups of Iron Age and Roman Pottery, in Stead, IM, and Rigby, V, *Baldock: The excavations of a Roman and Pre-Roman settlement, 1968–72*, Britannia Mono **7**, 257–379

Rigby, V, 1998, Where did Cen, Reditas and Sace produce pots? A summary of the range and distribution of Romano-British stamped wares, in Bird, J (ed), *Form and Fabric: Studies in Rome's material past in honour of BR Hartley*, Oxbow Mono **80**, 191–97, Oxford

Rigby, V, and Stead, IM, 1976, Coarse pottery, in Stead, IM, *Excavations at Winterton Roman Villa and other Roman sites in North Lincolnshire, 1958–67,* Dept Environment Archaeol Rep **9**, 136–90, London

Rivet, ALF, and Smith, C, 1979, *The Place-names of Roman Britain*, London

Rupp, V, 1988, *Wetterauer Ware Eine römische Keramik im Rhein-Gebiet*. Bonn, Schriften des Frankfurter Museums Für Vor-und Frühgeschichte Archäologisches Museum

Schönberger, H, 1973, Das Römerkastell Öhringen-West (Bürgkastell), *Bericht der Römisch-Germanischen Kommission* **53**, 233–96, Berlin

Schönberger, H and Simon, H-G, 1983, *Die Kastelle in Altenstadt*, Limesforschungen Band **22**, Berlin

Swan, VG, 1977, Relief-decorated imitation samian cups from Wanborough, Wiltshire, in Dore and Greene (eds) 1977, 263–68

Symonds, RP, 1992, *Rhenish Wares: Fine Dark Coloured Pottery from*

*Gaul and Germany*, Oxford University Cttee for Archaeol, Mono **23**
Symonds, RP, and Wade, S, 1999, *Roman pottery from excavations in Colchester, 1971–86*, Colchester Archaeol Rep **10**
Szönyi, ET, 1973, Zur verbreitung und herstellung der sog. Rätischen keramik in Pannonien, *Acta Archaeologica*, Academiae Scientiarum Hungaricae **25**, 87–198
Taylor, J, 1991, *The Roman pottery from Castle Street, Carlisle.* Cumberland and Westmorland Antiq and Archaeol Soc Res Ser **5**
Tilhard, J-L, Moser, F, and Picon, M, 1991, De Brive à Espalion: Bilan des recherches sur un nouvel atelier de sigillée et sur les productions céramiques de Brive (Corrèze), *SFECAG, Actes du Congrès de Cognac 1991,* 229–58
Tomlin, RSO, 1969, *Numerus Supervenientium Petueriensium*, in Wacher, 1969, 74–5
Tyers, P, 1996, *Roman Pottery in Britain,* London
Ulbert, G, 1965, *Der Lorenzberg bei Epfach*, (Veröff Komm. Archäol Erforsch Spatröm Raetien 3, Epfach III). Munich
Wacher, JS, 1969, *Excavations at Brough-on-Humber, 1958–61*, Rep Res Cttee, Soc Antiq London, **25** (Leeds)
Wacher, JS, 1995, *The Towns of Roman Britain*, 2nd edition, London
Walke, N, 1965, *Das romische Donaukastell Straubing-Sorviodurum.* Limesforschungen 3, Berlin 1965
Webster, G, 1944, The Roman pottery at South Carlton, Lincs, *Antiq J* **24**, 129–43
Webster, J and P, 1998, Second-century pottery from Caerleon derived from metal and samian prototypes, in Bird J (ed), *Form and fabric Studies in Rome's material past in honour of BR Hartley*, Oxbow Mono **80** (Oxford), 249–62

# P-14 unmasked, and what happened next

*Brenda Dickinson*

I have known Kay for more years than either of us cares to remember. She is undoubtedly the doyenne of mortarium studies and knows much more about my own subject than I do about hers. Our first joint foray was to the Auvergne in 1964, where Kay opened up a new site at Lezoux that produced a wealth of important first-century samian. Every morning, an ancient lady would come along to the site, peer down a trench and enquire, with ill-concealed relish 'encore rien, hein?' Little did she know! Some years later, on a joint mortarium-samian tour of French museums, we were both suffering from a stomach bug on a day when we were due to move on. Almost at the point when we had to leave, we were still lying in our beds, testing each other on French vocabulary, to take our minds off our woes. More happily, for the past 25 years we have been members of a team working on South Gaulish samian every summer at La Graufesenque.

Most importantly, we are friends. We have a shared interest in opera, the cinema and the north of England and happily allow ourselves to be bullied by a succession of Kay's characterful cats; long may it continue. Kay of all people will understand the pleasure of being able to put a name to an old friend known for a long time only by recurring details, as in the following paper.

## *Introduction*

The indispensable works on Central Gaulish decorated samian, Stanfield and Simpson's *Central Gaulish Potters* (1958, updated in French 1990) and Rogers's *Poteries sigillées de la Gaule centrale* (1999, 2 vols) form the basis of our ongoing studies of the products of Les Martres-de-Veyre and, in particular, Lezoux. These are the books to which all specialists turn when attempting to identify styles of individual mould-makers or workshops.

Inevitably there were recognisable styles to which no names could be attached, and for these Stanfield created a series of X–Potters, while Rogers added his own P–series. Occasionally one of these potters is identified; for example, X–3 has become Drusus i, and X–4 is now known to be the mould-stamper, Igocatus.

This paper deals with the identification of the mould-maker, P–14, and, by extension, with bowls with the same signature, but with different schemes of decoration. A plausible link with another unnamed style appears as a postscript.

Throughout, Drag forms are from Oswald and Pryce 1920; D = figure-type in Déchelette 1904; O = figure-type in Oswald 1936–7; Rogers = motif in Rogers 1974; R = additional motif in Rogers 1999, II, 503–5.

The example chosen by Rogers to define the P–14 style was a bowl of Drag Form 37 from Cardurnock (Fig 1, cat no 1). The published illustration (Birley 1948, fig 6, 5) shows two juxtaposed sherds, but in fact there are two joining body sherds and a separate rim and ovolo, all from the same context (Tullie House Museum, Carlisle, catalogue no 25-1946 C.5.43). The head on the rim sherd belongs to the same figure–type as the foot and staff on one of the body sherds (a slave carrying a basket, O.595 = D.321). Unfortunately, there is a slight difference in the fabrics of the non-joining pieces, which suggests caution in assigning them to the same bowl, but the rim and body sherds are in the right relative position. They have therefore been taken here with slight reservation as probably from the same bowl and, if not, from moulds by the same potter. The ovolo tongue is sharper than on any other P–14 bowls and is certainly corded. The tip is probably beaded, but on most bowls it is too blurred for the structure to show.

The ovolo (Rogers B49), eight–petalled rosette (Rogers C60) and the bifid motif on the rim sherd (Rogers G176) all seem to be exclusive to P–14. The bifid motif in the basal wreath (Rogers G282) was used by a number of potters, but as a complete or broken wreath it is usually found on bowls with ovolo B49.

Excavations at Sandy, Bedfordshire, in 1990 produced a decorated sherd with part of the same basal wreath as the Cardurnock bowl. More importantly, it also had an incomplete mould-signature inscribed upside down below the decoration, giving Pugni[ retrograde on the bowl (Fig 1, cat no 2). This signature is clearly by the same hand as two complete ones giving Pugnim retrograde, on bowls from Carlisle, one from Blackfriars Street (Fig 3, cat no 13), the other from Laws Lane/Keay's Lane (Fig 4, cat no 14). Both the Carlisle bowls have a different ovolo from the one used by P–14 and the style of

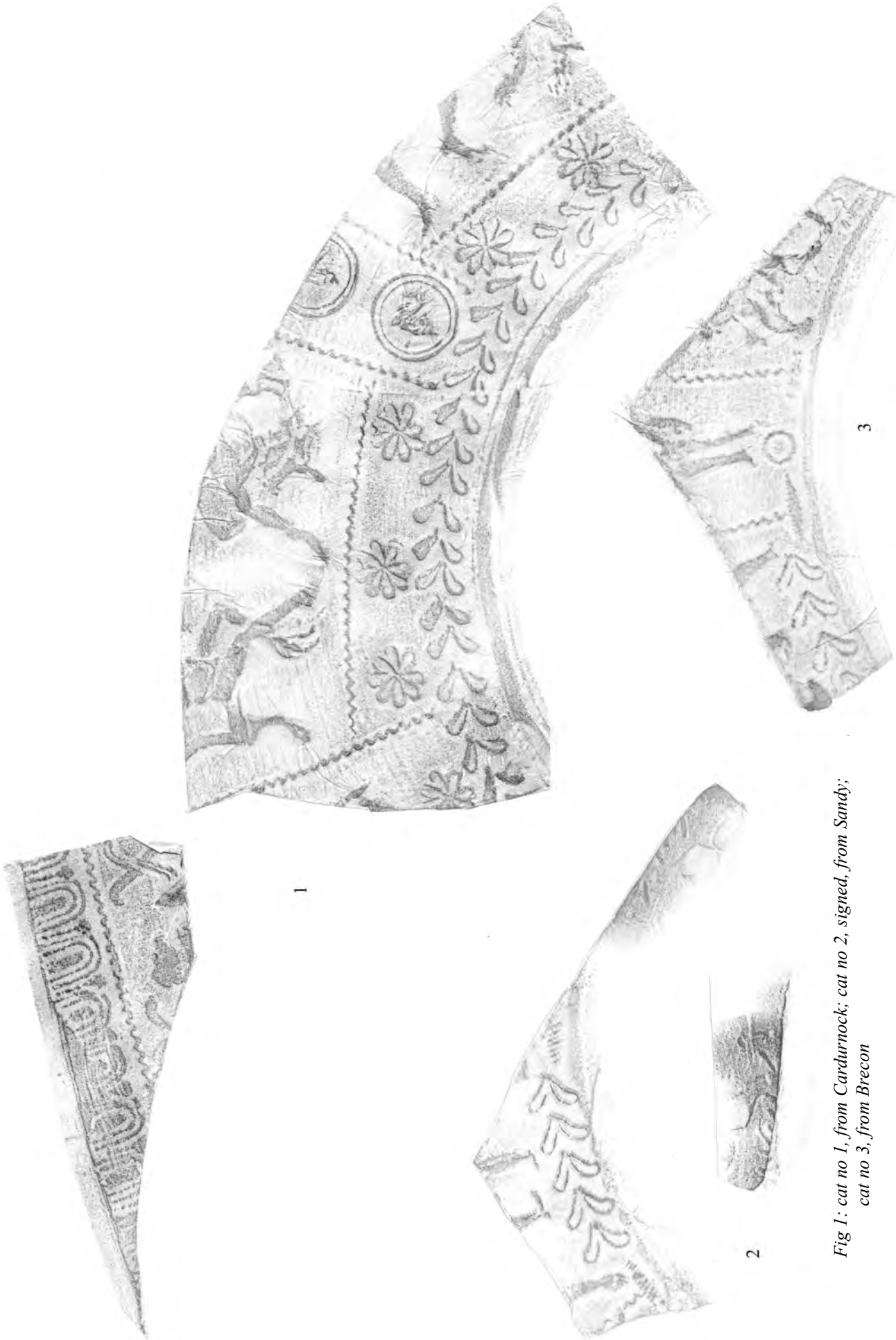



*Fig 1: cat no 1, from Cardurnock; cat no 2, signed, from Sandy; cat no 3, from Brecon*

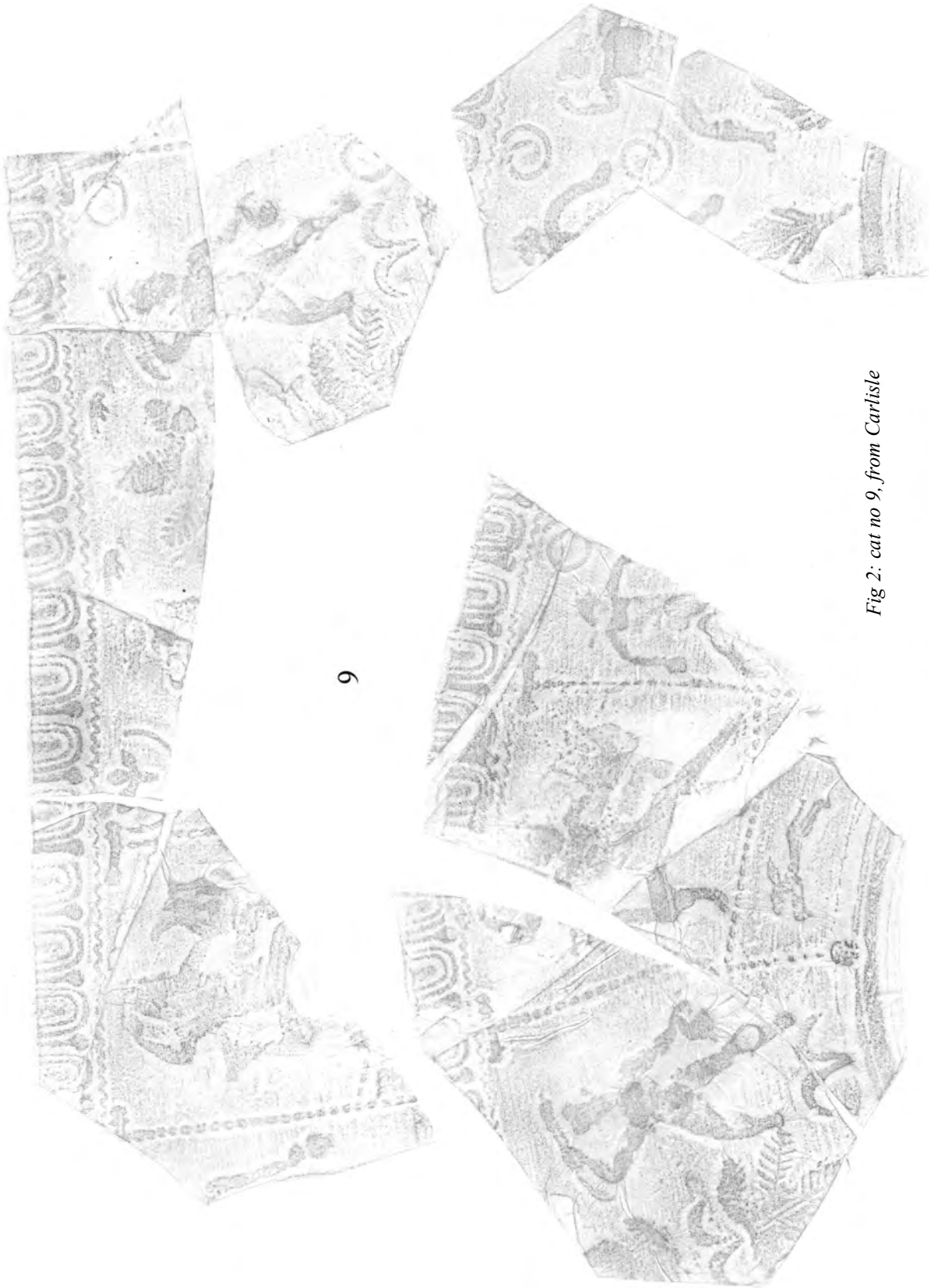



*Fig 2: cat no 9, from Carlisle*


*Fig 3: cat no 12, from Saalburg; cat no 13, from Carlisle*


*Fig 4: cat no 14, from Carlisle*

decoration is also different. That style is discussed below.

The broken wreath of the Sandy bowl and the striated spindle are matched on a bowl from *Segontium* (Fig 1, cat no 3, after Pryce and Oswald 1926, fig 78, S136). Interestingly, on his original drawing of the sherd, Oswald noted '?Pugnus'.

The accumulated evidence for the potter in question, Pugnus ii of Lezoux, suggests a long and varied career, too complex to be dealt with fully here. This paper will therefore deal only with the decorative styles associated with the Pugnim signatures, which represent part of his earlier career, and with links with a third, anonymous, style through the use of certain distinctive features.

The position of mould-makers in the samian industry is not easy to determine. At La Graufesenque, in South Gaul, in the first century AD there is clear evidence that bowls of Drag form 29 were made in the same moulds by different potters, who stamped them internally after moulding (Hermet 1934, pl 106, 12–18). This suggests the existence of freelance mould-makers who supplied moulds to bowl-makers on an *ad hoc* basis. However, the accumulated evidence for Lezoux implies that mould-makers tended to be associated with a limited number of potters, or were attached to a single workshop.

Pugnus ii's name appears on both plain and decorated ware, usually in the form Pugnima(nu) or Pugnim(anu). When interpreting mould-signatures or stamps we are inclined to trust the intention of the potter if the Latin is grammatically correct. Thus, Pugnim should mean that a mould or pot was made by Pugnus's own hand, but this is rather implausible, given the scale of his production and the length of his career. A more likely explanation is that Pugnus started work as a maker of plainware and then concentated more on mould-making, handing his name-stamps over to his workmen to use on plain forms.

Unfortunately, mould signatures below the decorated zones of pots often survive only as a series of meaningless isolated strokes, when a signature was partly obliterated during the finishing of the bowl. This is particularly common in South Gaul. There are a number of clearly legible signatures surviving on bowls made at Lezoux, but many complete bowls show no traces of either a signature or stamp. This is perhaps because during the period when Pugnus ii was active, signatures were sometimes hidden when footrings were added to the bowls; we know of at least one instance of the revelation of a signature when the footring became detached (Dickinson 1990, fig 178, 34).

The implication is that mould-makers sometimes used signatures as *aides memoire* if they were hiring out moulds, and that they were not necessarily meant to appear on the finished pots. A potter making moulds for his own use might not necessarily sign them, but would presumably do so if he were making them for one or more *patronus.* In that case he might have used his own repertoire of figures and motifs, that of the *patronus* or sometimes a mixture of both. This might explain the distinctive PVGNIM signatures on moulds in different styles.

All the examples in the catalogue are bowls of Drag form 37, except for cat no 11, which is a mould for the same form. For convenience, they are discussed under the headings P–14 style and B233 style (ie with ovolo Rogers B233). The figure-types and motifs are also presented in Tables 1 and 2 below.

## *Catalogue*

### I. P–14 (style associated with ovolo Rogers B49)

Fig 1 (illustrated vessels marked*)

**1*** Wavy-line border (Rogers A24), without junction-masks, ovolo (Rogers B49), eight-petalled rosette (Rogers C60), bifid motifs, below ovolo (Rogers G280) and in basal wreath (Rogers G282); seated Apollo (O. 83 = D.52, with right foot complete and left foot in double impression), seated Bacchus (O.571 = O.534), slave with basket (O.595 = D.321), Hercules with lion (O.796 = D.624). Cardurnock (after Birley 1948, fig 6, 5).

**2*** Signature PVGNI[ retr upside down below the decoration. Wavy-line border (Rogers A24), bifid wreath (Rogers G282), striated spindle; a pair of gladiators (O.1001 var = D.581 and O.1002 var = D.582 var). Sandy (unpublished excavations 1990).

**3*** Wavy-line border (Rogers A24), bifid wreath (Rogers G282), striated spindle, a pair of gladiators (O.1001 var = D.581 and O.1002 var = D.582 var); nude man (O.633A), not the pot carrier shown by Oswald in his reconstruction of the figure, Diana and hind (O.106 = D.64). Brecon (*cf* Pryce and Oswald 1926, fig 78, S136).

4 Two non-joining sherds, both showing parts of two panels, both sherds having wavy-line border (Rogers A23 or 24), ovolo (Rogers B49) and eight-petalled rosette at the top of the vertical border (Rogers C60). One sherd shows an Apollo (O.92 = D.55) and a Neptune (O.13 = D.14) and the rosette, in adjacent panels. The other sherd has a Diana (O.106 = D.64) and a dancer (O. 361, but without the scarf), also in adjacent panels. Housesteads (Birley 1960, fig 6, 5).

5 Wavy-line border (Rogers A23 or 24), ovolo (Rogers B49), eight-petalled rosette at the top of the vertical borders (Rogers C60), and two surviving panels, one with the same dancer as cat no 4, above, the other with a seated Bacchus (O.571 = D.534). Small rings act as space-fillers in both panels. Corbridge (Birley 1960, fig 6).

6 The decoration includes, in the same order, all the details that appear on cat no 5, above, with the exception of the rings. Unusually, and inexplicably, the head and right hand of the Bacchus have broken off, or have been deliberately removed. Birdoswald (Detsicas 1962, pl 2, 5).

7 Wavy-line border (Rogers A24, without junction-masks), ovolo (Rogers B49), gladiator to left (O.1002 var = D.582 var, with double impression of left leg), bear to right, standing on hind legs, and tree, both otherwise unknown. Exeter (Dannell 1991, fig 18, 50).

8 Ovolo Rogers B49 and: slave with basket (O.595 = D.321), bird to right (O.2239 = D.1037), Jupiter (O.1 = D.1) and gladiator to right (O.1001 var = D.581). The last two are separated by a vertical wavy line with a trifid motif at the top (Rogers G176) and a ring at the bottom. An astragalus (Rogers R22) is impressed horizontally across the wavy line. The basal wreath consists of large chevrons (Rogers G325). The borders below the ovolo and between the figure are slightly crenellated and do not seem to appear in Rogers's A–series. Chester, Forest House, unpublished).

Fig 2

**9*** Ovolo Rogers B49 and: beaded border (Rogers A15), wavy-line border (Rogers A24), trifid motif (Rogers G118?), ram's-horn

motif (Rogers G367 or 368), large leaf (Rogers H73), small leaf (Rogers H105), astragalus (Rogers R22); Apollo (O.83 = D.52), Perseus with head of Medusa (O.237 = D.148), leaping men (O.651 = D.378 and O.676). Carlisle, Law's Lane/Keay's Lane (unpublished excavations 1981).

10 A bowl with panels divided by a vertical wavy line without a terminal; figure to right, in tunic, over zone of small rings in small double medallions; basal wreath of bifid motifs (Rogers G282). This bowl was attributed to X–6's Style A by Rogers, but seems likely to be from a P–14 mould, in view of the wavy-line border with unmasked end, the small medallions like the ones on Fig 1, cat no 1, above, and a ridged finish below the decoration, as on cat nos 1 and 9, above, probably made with a template. York (Rogers 1999, pl 134, 8)

## II. B233 style

11 Signature PVGNIM retrograde upside down below the decoration. Freestyle decoration, with ovolo (Rogers B233) and wavy-line border (Rogers A23 or 24), triton (O.25 = D.20), seated Apollo (O.83 = D.52), Amazon (O.241 = D.153), seated Bacchus (O.571 = D.534), harpy (O.863A), hare to left (O.2129A) and Cupid, athlete and mask to right, none certainly in Déchelette or Oswald. The space-fillers include small rings and two trifid motifs, impressed stem-to-stem. Lezoux, Cimitière Saints-Jean (unpublished excavation).

Fig 3

**12*** Ovolo Rogers B233, wavy-line border (Rogers A23 or 24) and adjacent panels, with: 1) Nude man to right (O.684A), lioness to left (O.1542 = D.795), dog (O.1980 var = D.924), hare to left and panther(?) to right, the last two not in Déchelette or Oswald, leaf-cross (Rogers U9), rings and 'clouds' (Rogers U111). 2) Hercules and lion (O.796 = D.624), festoon with spiral (Rogers F76), bifid motif (Rogers G282), rings and 'clouds'. The astragalus Rogers R63 limits the vertical borders. Saalburg (after Ricken 1939, Taf 28, 17).

**13*** Signature PVGNIM retrograde, upside down below the decoration: wavy-line border (Rogers A24), ovolo (Rogers B233), trifid motif (Rogers G176?), bifid motif (Rogers 280), small leaf (Rogers H105) and two different astragali (one Rogers R63). The figure-types are a Diana (O.103A = D.63a) and two nude figures (O.651 = D.437 and O.684A). Carlisle, Blackfriars Street (Dickinson 1990, fig 177, 31).

Fig 4

**14*** Signature PVGNIM retrograde, upside down below the decoration: wavy-line border (Rogers A24), ovolo (Rogers B233), fleur-de-lys (Rogers G88 var), trifid motif (Rogers G176?), bifid motif (Rogers G280), chevron motif (Rogers G328), leaf (Rogers H105) and two astragali (one Rogers R63); dancer (O.361, without the scarf), seated Bacchus (O.571 = D.534), dolphin to left (O.2394) and lion (Rogers 1999, 497, 4054). This bowl is more complete than one from the same mould from the Castleford 'pottery shop', destroyed by fire in the 140s (Dickinson and Hartley 2000, fig 24, 465), and supplies the missing signature. Carlisle, Law's Lane (unpublished excavations 1981).

15 A panelled bowl, with ovolo Rogers B233 with beads below, vertical wavy-line borders (Rogers A23 or 24) and basal wreath of bifid motifs (Rogers G282). The panels include; 1) Diana (O.103A = D.63a), tier of cups and freehand spirals. 2) Jupiter (O.1 = D.1), bear (O.1630), gladiator (?O.1061A = D.615) and a trifid motif (Rogers G32). 3) Victory (O.826 = D.484), tulip–shaped bud, spiral and horizontally-striated column). 4) =1. Köngen (Luik 1996, Taf 59, 5).

16 A freestyle bowl, almost certainly with ovolo Rogers B233 and bifid basal wreath (Rogers G282). The figure-types include an Amazon (O.241 = D.153), triton (O.25 = D.20), pygmy (O.703 = D.442), Hercules and lion (O.796 = O.624), bear (O.1630), standing lion (Rogers 1999, 497, 4054), running lion and hare to left. S-motifs act as space-fillers). Koenigshoffen (Stanfield and Simpson 1958, pl 76, 23).

*Table 1a: Oswald's figure-types. * denotes vessels with Pugnus signatures*

### Rogers P–14 style

| | *Cardurnock* | *Sandy** | *Brecon* | *Corbridge* | *Housesteads* | *Birdoswald* | *Exeter* | *Chester* | *Carlisle Lal* |
|---|---|---|---|---|---|---|---|---|---|
| A15 | – | – | – | – | – | – | – | – | X |
| *A23/24* | – | – | – | X | X | X | – | – | – |
| *A24* | X | X | X | – | – | – | X | – | X |
| *B49* | X | – | – | X | X | X | X | X | X |
| *C60* | – | – | – | X | X | X | – | X | – |
| *G118?* | – | – | – | – | – | – | – | – | X |
| *G176* | – | – | – | – | – | – | – | X | – |
| *G280* | X | – | – | – | – | – | – | – | – |
| *G282* | – | X | X | – | – | – | – | – | – |
| *G325* | – | – | – | – | – | – | – | X | – |
| *G367/368* | – | – | – | – | – | – | – | – | X |
| *H73* | – | – | – | – | – | – | – | – | X |
| *H105* | – | – | – | – | – | – | – | – | X |
| *R22* | – | – | – | – | – | – | – | X | X |

*Table 1b: Oswald's figure–types. * denotes vessels with Pugnus signatures*

**Rogers B233 style**

| | *Lezoux* | *Saalburg* | *Carlisle Bla*` | *Carlisle Lal** | *Kongen* | *Koenigshoffen* |
|---|---|---|---|---|---|---|
| A23/24 | X | X | – | – | X | – |
| A24 | – | – | X | X | – | – |
| B233 | X | X | X | X | X | ? |
| F76 | – | X | – | – | – | – |
| G32 | – | – | – | – | X | – |
| G88 var. | – | – | – | X | – | – |
| G176 | – | – | ? | ? | – | – |
| G280 | – | – | X | X | – | – |
| G282 | – | X | – | – | X | X |
| G328 | – | – | – | X | – | – |
| H105 | – | – | X | X | – | – |
| R63 | – | X | X | X | – | – |
| U9 | – | X | – | – | – | – |
| U111 | – | X | – | – | – | – |

*Table 2a: Oswald's figure–types. * denotes vessels with Pugnus signatures*

**Rogers P–14 style**

| | *Cardurnock* | *Sandy** | *Brecon* | *Corbridge* | *Housesteads* | *Birdoswald* | *Exeter* | *Chester* | *Carlisle Lal* |
|---|---|---|---|---|---|---|---|---|---|
| O.1 | – | – | – | – | – | – | – | X | – |
| *O.13* | – | – | – | X | – | – | – | – | – |
| *O.83* | X | – | – | – | – | – | – | – | X |
| *O.92* | – | – | – | X | – | – | – | – | – |
| *O.106* | – | – | X | X | – | – | – | – | – |
| *O.237* | – | – | – | – | – | – | – | – | X |
| *O.361 var* | – | – | – | X | X | X | – | – | – |
| *O.571* | X | – | – | – | X | X | – | – | – |
| *O.595* | X | – | – | – | – | – | – | X | – |
| *O.633A* | – | – | X | – | – | – | – | – | – |
| *O.651* | – | – | – | – | – | – | – | – | X |
| *O.676* | – | – | – | – | – | – | – | – | X |
| *O.796* | X | – | – | – | – | – | – | – | – |
| *O.1001 var* | – | X | X | – | – | – | – | X | – |
| *O.1002 var* | – | X | X | – | – | – | X | – | – |
| *O.2239* | – | – | – | – | – | – | – | X | – |

*Table 2b: Oswald's figure–types. * denotes vessels with Pugnus signatures*

**Rogers B233 style**

| | *Lezoux* | *Saalburg* | *Carlisle Bla*` | *Carlisle Lal** | *Kongen* | *Koenigshoffen* |
|---|---|---|---|---|---|---|
| *O.1* | – | – | – | – | X | – |
| *O.25* | X | – | – | – | – | X |
| *O.83* | X | – | – | – | – | – |
| *O.103A* | – | – | X | – | X | – |
| *O.241* | X | – | – | – | – | X |
| *O.361 var.* | – | – | – | X | – | – |
| *O.571* | X | – | – | X | – | – |
| *O.651* | – | – | X | – | – | – |
| *O.684A* | – | X | X | – | – | – |
| *O.796* | – | X | – | – | – | X |
| *O.826* | – | – | – | – | X | – |
| *O.863A* | X | – | – | – | – | – |
| *O.1061A* | – | – | – | – | X | – |
| *O.1542* | – | X | – | – | – | – |
| *O.1630* | – | – | – | – | X | X |
| *O.1980 var.* | – | X | – | – | – | – |
| *O.2129A* | X | – | – | – | – | – |
| *O.2394* | – | – | – | X | – | – |
| *R4054* | – | – | – | X | – | X |

## *Conclusions*

The two styles linked here by the shared signature PVGNIM cannot yet be separated chronologically, and they may indeed be contemporary. The signed bowl from Sandy in the P–14 style (cat no 2) offers no useful dating, but the one from Housesteads (cat no 4) will be Hadrianic, as will be the stylistically similar cat nos 5 and 6. One of the two signed bowls from Carlisle with ovolo Rogers B233 (cat no 14) is from the same mould as a bowl from the Castleford 'pottery shop', which burned down in the 140s, probably in the first half of the decade. Another burnt bowl (unpublished) from the same part of the Castleford *vicus*, though not certainly from the 'shop,' has the signature ]gnim, retrograde, in the distinctive Pugnus script. On this evidence a *terminus ante quem* of *c* A.D 145 can be deduced for the destruction of at least one of these bowls. One of the earlier stamps of Pugnus appears not only on the Hadrianic to early-Antonine plain forms 18/31, 18/31R and 27, all of which would have gone out of production by *c* AD 165 at the latest, but also, once, as a mould-stamp in the decoration of a Drag form 37 with ovolo B233, from Corbridge (Stanfield and Simpson 1958, pl 154, 13). In view of this evidence, the two styles discussed above will fall within the range *c* AD 135–65.

As a postscript, it should be noted that both the decoration of bowl cat no 9 (P–14) and of some of the bowls with ovolo Rogers B233 includes elements which are assigned by Rogers to various styles of the anonymous potter X–6 (1999, II, 321–2). The number of coincidences of motifs and figure-types with the PVGNIM series strongly suggests that some of the bowls previously assigned to X–6, particularly those in Style B, really came from Pugnus moulds. The strongest links are the trifid motif, Rogers G32, the distinctive astragalus, Rogers R22, and above all, the frequent use of what appears to have been a template for a series of closing ridges below the decoration, giving one pronounced central ridge between two weaker ones (cat nos 1, 9, 10 and Stanfield and Simpson pl 75, 15, for example).

Further exploration of the links with X–6, unfortunately, take us beyond the confines of this paper, but it is worth noting that there are certainly other styles which will eventually prove to be associated with the signature PVGNIM.

**Acknowledgements**

I should like to thank Mike McCarthy of the University of Bradford, for permission to use the Carlisle material, Tim Padley of Tullie House Museum, for allowing me access to the Cardurnock bowl and Albion Archaeology, Bedford, for the use of the Sandy bowl. I am also grateful to Robert Hopkins for his help in scanning the rubbings.

**Bibliography**

Birley, EB, 1948, The Samian Ware, in Simpson, FG, and Hodgson, KS, The coastal mile-fortlet at Cardurnock, *Trans Cumberland and Westmorland Antiqu Archaeol Soc* Ser 2, **47**, 98–108

Birley, RE, 1960, Housesteads civil settlement, in *Arch Aeliana* Ser 4, **39,** 301–19

Déchelette, J, 1904, *Les Vases céramiques ornés de la Gaule romaine*, Paris

Dannell, GB, 1991, Decorated samian, in Holbrook, N, and Bidwell, PT, *Roman finds from Exeter*, Exeter Archaeol Rep **4**, 55–71.

Detsicas, AP, 1962, Figured samian from Birdoswald, *Trans Cumberland and Westmorland Antiqu Archaeol Soc.* Ser 2, **62**, 31–55.

Dickinson, B, 1990, The samian ware, in McCarthy, MR, *A Roman, Anglian and Medieval site at Blackfriars Street, Carlisle*, Cumberland and Westmorland Antiqu and Archaeol Soc Res Ser **4**, 213–36

Dickinson, B, and Hartley, BR, 2000, The samian, in Philo, C, and Wrathmell, S (eds), *Roman Castleford: Vol III, The Pottery*, 5–88, West Yorks Archaeol Service.

Hermet, F, 1934 *La Graufesenque (Condatomago)*, Paris

Luik, M, 1996, *Köngen-Grinario 1,* Forschungen und Berichte zur Vor- und Frühgeschichte in Baden Württemberg **62,** Stuttgart

Oswald, F, and Pryce, TD, 1920, *Terra Sigillata*, London

Oswald, F, 1936–7, *Index of Figure-Types on Terra Sigillata ('Samian Ware')*, Liverpool

Pryce, TD, and Oswald, F, 1926, Terra sigillata, in Wheeler, REM, The Roman fort near Brecon, *Y Cymmrodor* **37,** 122–213

Ricken, H, 1939, Die Bilderschüsseln der Kastelle Saalburg und Zugmantel, II Teil, *Saalburg Jahrbuch* **9**, 87–96 and Taf 27–8

Rogers, GB, 1974, *Poteries sigillées de la Gaule centrale*, Gallia Supp **28,** Paris.

Rogers, GB, 1999, *Poteries sigillées de la Gaule centrale. II Les Potiers* (2 vol.), Premier Cahier du Centre Archéologique de Lezoux collection publiée sous la direction de Philippe Bet et de Richard Delage

Stanfield, JA, and Simpson, G, 1958, *Central Gaulish Potters*, London.

Stanfield, JA, and Simpson, G, 1990, *Les potiers de la Gaule centrale*, Revue Archéologique Sites, Hors–Série **37***, Gonfaron*

# Thomas May and Castor Beakers

*JP Gillam*

*John Gillam read this paper at a weekend conference of the Study Group for Roman pottery in the late 1970s, a time when the group and its meetings were significantly smaller than at present, and he was able to provide copies of his text and illustrations to most of the participants. He had written the paper as a stimulus for discussion, and he subsequently made it clear to his closest friends, that he had no plans for it to appear in print. He was mainly concerned that its publication could lead to its misuse, being all too well aware that his great 'Types of Roman Coarse Pottery Vessels in Northern Britain' (3*rd *ed 1970) was sometimes misused by those who failed to appreciate its underlying chronological and ceramic premises. In the case of his conference paper, he was apprehensive that the approaches (exemplified in the Tables of Standard Proportions) might be inappropriately applied to sequences or groups of other classes or types of pottery, which were not identical in every respect. Being a practitioner of meticulous methodology, he was mindful of the dangers and frequency of sloppy methodology.*

*This said, however, John Gillam had a particular affection for Kay Hartley, whom he had known since the days of the Great Casterton excavation summer schools (in the mid 1950s) and was a great admirer of her work. There is no doubt that had he lived (he died on December 31*st *1986), he would have been among the first to offer a contribution for Kay's festschrift. It was not unknown for John to return later to papers originally prepared by him for conferences and then set aside unpublished. For the present tribute to Kay, he might, indeed, have reconsidered the possibility of publishing his well-received seminar-paper on 'Thomas May and Castor Beakers', and it is in this spirit that the paper has been prepared for publication here.*

*Vivien G Swan*

Thomas May was one of the pioneers in the study of Roman pottery in Britain. His reputation does not now stand so high as that of some of his contemporaries; JP Bushe-Fox, FG Simpson and John Ward, but we nevertheless neglect him at our peril. His output was prolific; he was concerned not merely with styles and dates, but with the manufacturing techniques; not merely with sherds from a site, but with their place in the general British and European context. In addition to the publication of material from such sites as Templebrough (May 1922b) and Wilderspool, (May 1900; 1903/4; 1904; 1906 ), which he excavated himself, though not particularly well, May published material from other people's excavations, and pottery in museum collections. Other sites with which we associate with his name are Carlisle (May and Hope 1917), Colchester, (May 1930), Ospringe (Whiting, Hawley, and May 1931), Sandford, Oxon (May 1922a), Silchester (May 1916), Tiddington, Warwicks (Fieldhouse, May, and Wellstood 1931) and York (May 1909; 1910; 1911; 1912), – battle honours enough for anyone, and there are more besides. We also owe Thomas May a debt of gratitude for something over and above his publications, and that is his having introduced JP Bushe-Fox to the study of Roman pottery, and having encouraged him in his earlier efforts.

During the first decade of the present century, Thomas May published what he called tables of standard proportions in the journal of the Yorkshire Philosophical Society, in his catalogue of pottery in the Yorkshire Museum, York (May 1911, 23–5, 43–4; 1912, 17–21, 24, 35–7; all reprinted together at an unspecified date, probably in 1913), and ultimately in final form, in his catalogue of the pottery found at Silchester, (May 1916, 287–303). In these tables, May listed several hundred pottery vessels, each either complete or with a complete section, and belonging to nine different classes or type series. Specimens were drawn from Germany as well as from Britain. For each specimen in his tables he gave the date, that is of course the date already ascribed to the type and not necessarily acceptable at the present day, the provenance, reference, description and absolute height. He also gave the diameters, at the rim, at the maximum width of the body, and at the base, expressed as a percentage of the height, as well as other more detailed measurements. The tables were intended to demonstrate the changes in profile of vessels in a given class in the course of the Roman period.

Few people seem to have taken May's tables of standard

proportion at all seriously in the past half century; most students of Roman pottery make no reference to them at all. Nevertheless in 1950, Philip Corder told me that he thought that there might be something in May's theories, and that he was not alone in that belief. Not long afterwards evidence became available which made me think that both Thomas May and Philip Corder might be right. In the temple of Mithras at Carrawburgh fort *vicus* (Richmond and Gillam 1951), there were more distinct structural levels than are usually found on or near Hadrian's Wall in the third and fourth centuries. During its relatively short life, the temple had twice been completely rebuilt and several times refurbished. While only a minority of the levels were dated by inscriptions and coins, all could of course be approximately dated. In the temple were many small beakers or cups; they had evidently been used for ritual or ceremonial purposes. Some were imports from Lower Germany, but most, to judge from style and fabric, were from the Nene Valley. The British specimens were all undecorated; some had cornice rims and others plain rims. I was forcibly struck by the variation in the proportions of otherwise similar vessels. Mindful of Thomas May and Philip Corder, I worked out the proportions of the vessels, together with a similar vessel from one of Corder's excavations, which had held a hoard (Corder 1951, 70–71, fig 19, no 1). I did not use all three of May's proportions, but only the maximum diameter, expressed as a percentage of the height. These were then compared with the stratification. The correlation was not completely accurate, but there was an undoubted general correlation. The more bulbous vessels tended to come from earlier levels than the more slender. The result was barely surprising to anyone already interested in Roman pottery, but it nevertheless marked a step forward from May (1911; 1912; 1916), for it was based on observed successive levels in the ground, and not merely on some foreign scholar's guess at the date of a vessel in a grave group.

My short discussion of the point, in the Carrawburgh report (Richmond and Gillam 1951, 80–84), fell rather like a stone dropping down a well and making no splash. No comment was made, favourable or unfavourable, and there is no evidence that anyone, apart from Ian Richmond and Philip Corder, so much as read it! So I closed my copy of May and thought about other things. Then, a decade or more later, when I was drawing the pottery from the group

*Table 1: Castor beaker proportions*

| *No* | *Class* | *provenance* | *date in report* | *%* | *? Date* |
|---|---|---|---|---|---|
| Fig 1 | | | | | |
| 1 | **Plain-rim beaker** | Car Dyke 1949, fig 7.30 | ? | 73 | AD 178 |
| 2 | " | York 1968, no 186 (fig 31.11) | Early C3 | 69 | AD 194 |
| 3 | " | York 1968, no 190 (fig 31.15) | Late C2 – early C3 | 63 | AD 218 |
| 4 | " | Nene Valley 1960, fig 4.3 | Mid C3 | 61 | AD 226 |
| 5 | " | Housesteads, 1968, Type 80 | AD 200–270 | 58 | AD 238 |
| 6 | " | Edlington Wood 1951, fig 10.1 | AD 250 | 54 | AD 254 |
| 7 | " | Felixstowe 1948, fig 6.iv | ? | 51 | AD 266 |
| 8 | " | Carlisle, 1917, pl 9.116 | AD 260–300 | 48 | AD 278 |
| 9 | **'Hunt cup'** | *Verulamium* 1972, fig 122.791 | AD 150–155/160 | 87 | AD 150 |
| 10 | " | Newstead, 1911, pl 48.45 | AD 140–180 | 79 | AD 177 |
| 11 | " | Benwell, 1968, Type 84 | AD 170–220 | 73 | AD 196 |
| 12 | " | Nene Valley 1960, fig 4.1 | Late C2 – early C3 | 67 | AD 217 |
| 13 | " | Nene Valley 1999, fig 11.3 | *c* AD 230 | 63 | AD 230 |
| 14 | " | Corbridge 1968, Type 89 | AD 200–250 | 58 | AD 247 |
| Fig 2 | | | | | |
| 15 | **Indented beaker** | Ospringe 1931, pl 23.204 | ? | 71 | AD 191 |
| 16 | " | Colchester 1963, Type 406 | Late C2 – early C3 | 66 | AD 209 |
| 17 | " | Nene Valley 1999, fig 11.4 | *c* AD 230 | 60 | AD 230 |
| 18 | " | Corbridge 1970, Type 54 | AD 240–320 | 56 | AD 244 |
| 19 | " | *Verulamium* 1972, fig 131.1060 | AD 200–275 | 52 | AD 258 |
| 20 | " | Nene Valley 1960, fig 4.4 | Mid C3 | 47 | |
| 21 | " | Colchester, 1963, Type 407A | C3 – C4 | 43 | AD 289 |
| 22 | " | Nene Valley 1960, fig 4.5 | Late C3 | 41 | AD 296 |
| 23 | | York, 1911, pl 11.4 | ? | 39 | AD 303 |
| 24 | **Scale–pattern** | Brigstock 1963, fig 9.26 | C3 | 70 | AD 195 |
| 25 | " | Manchester 1909, pl 74.1 | ? | 63 | AD 219 |
| 26 | " | Castlesteads 1917, pl 9.110 | ? | 59 | AD 234 |
| 27 | " | Birdoswald, 1930, fig 14.30 | AD 300–367 | 41 | AD 296 |
| 28 | " | Caistor-by-Norwich 1937, T.5 | AD 180–230 | 34 | AD 321 |
| 29 | " | Colchester, 1963, Type 407B | C3 – C4 | 33 | AD 324 |

*Note: Sites are matched to their relevant publication by site name alphabetically in the bibliography*

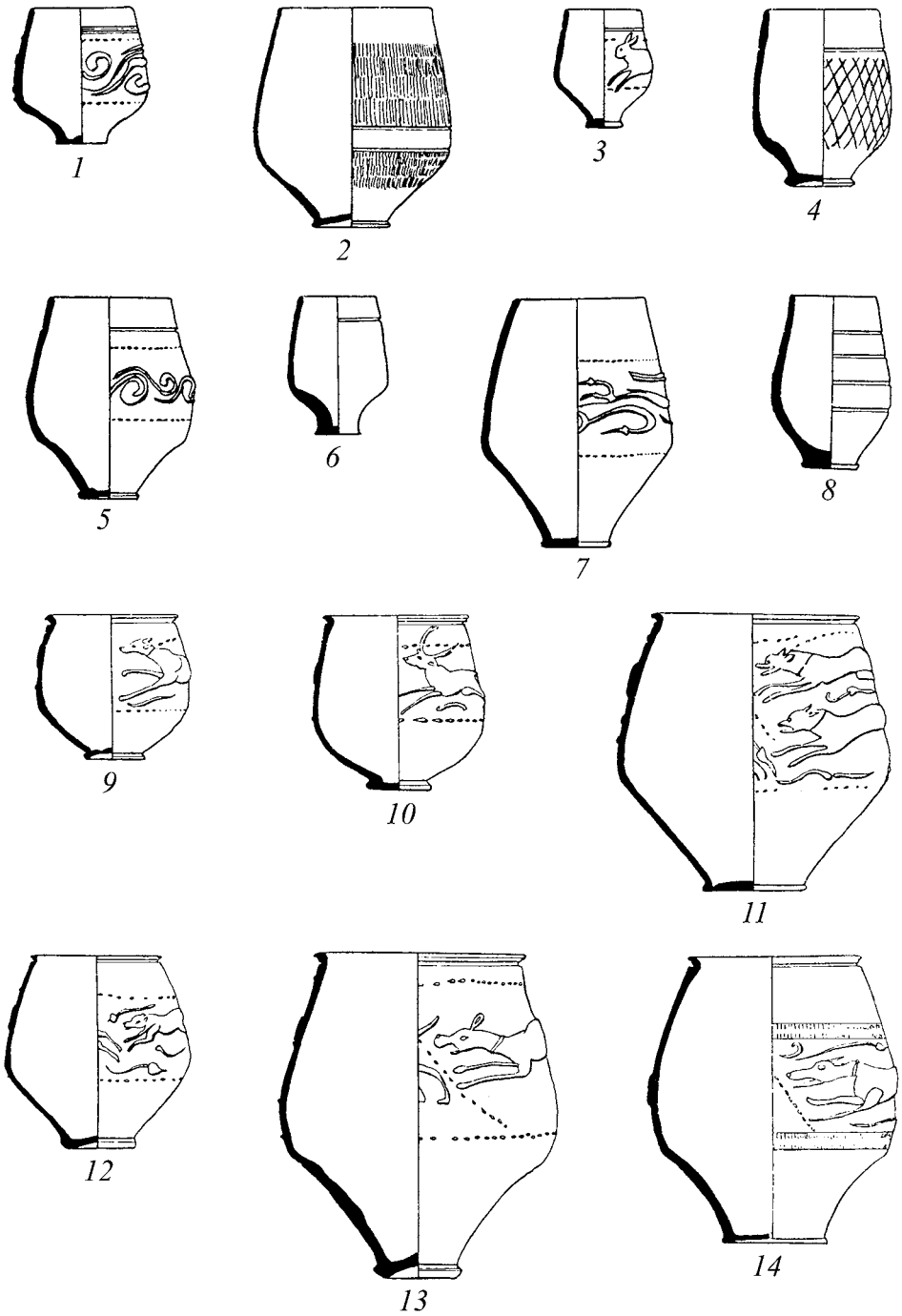



*Fig 1: nos 1–8 plain rim beakers; nos 9–14 Hunt cups, see Table 1 for sources (scale 1:4)*

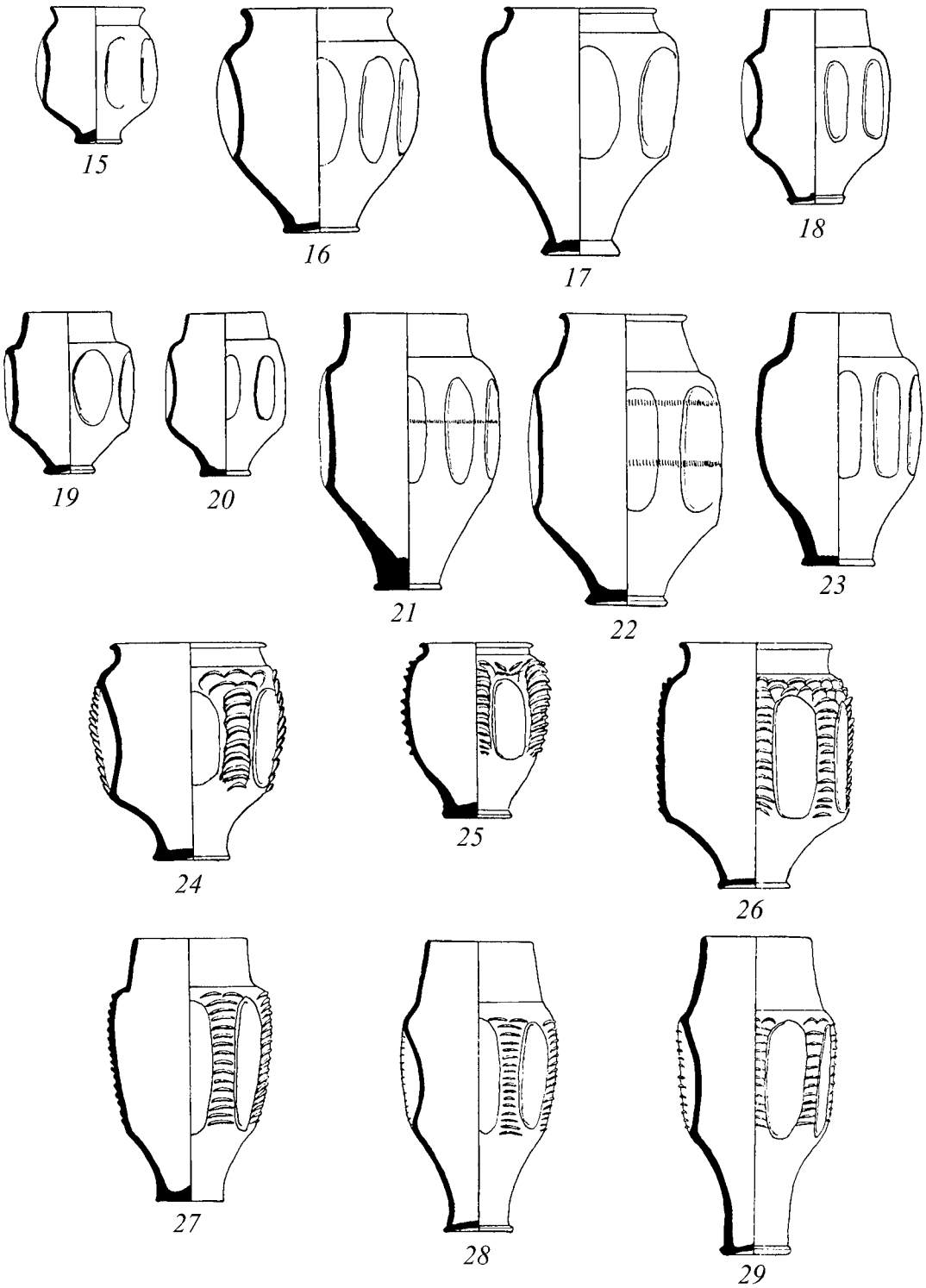



*Fig 2: nos 15–23 indented beakers; nos 24–29 scale-pattern beakers, see Table 1 for sources (scale 1:4)*

found within Kiln A2, at Water Newton, in the Nene Valley (*see now* Gillam 1999, 20–23, figs 11–12; pots abandoned on the oven floor), I noticed that all of the vessels of any one class or type-series, were generally similar in proportions. Measurement showed that they were in fact almost identical. The potter had clearly thrown vessel after vessel with automatic mechanical precision, though without the aid of machinery, other than his wheel. This nicely complemented the Carrawburgh evidence. There, 'castor-ware' (ie Nene Valley colour-coated ware) vessels were of different proportions in successive contexts, while at Water Newton 'castor ware' vessels, made perhaps on the same day, were of the same proportions.

This naturally raised once more the question of Thomas May's table of standard proportions. May includes flagons, jars and beakers of various origins in his table. In this study I confine myself to 'castor' beakers.

We begin with a selection of eight plain-rim beakers, roughly copied from published specimens (Table 1 and Fig 1, nos 1–8). The presence or absence of decoration varies from vessel to vessel, but they have in common the low maximum diameter, the plain rim and, in most instances, the characteristic groove below the lip. Only complete vessels, or vessels with a complete section that have already been published have been selected (for publication references see Table 1). So far as possible, those vessels for which there is some indication of date, either from site evidence, or from the published judgement of a competent student of pottery, have been chosen for preference. The first desideratum has been an as long, and as evenly spaced a series of differently proportioned vessels as possible. I have naturally tried to resist the temptation to select examples that help to prove my point. The examples are in fact illustrative rather than demonstrative. Anyone following up the idea would, of course, need to take into account every available vessel, but for my purpose a selection will suffice, provided that it is not unrepresentative to the point of deception.

For my present purpose, I have taken only one of Thomas May's major proportions, the rim diameter to height. The diameter at the highest point of the rim is expressed as a percentage of the height. When I discussed the Carrawburgh cups (Richmond and Gillam 1951, 80–84), I used the maximum rim diameter; May used the diameter of the base as well.

The drawings (Figs 1–2) are arranged with the more bulbous on the left over the top line, and the least bulbous on the right on the bottom line. The percentages decrease as one moves along, from Fig 1, no 1 at 73%, through 69%, 61%, 58%, 54%, 51% to 48% for Fig 1, no 8; this is of course the way they were arranged; When we look at the dates which their publishers claimed for them, we find that by and large the dates ascend as the percentages descend. The datings (see Table 1) are: Fig 1, no 1 undated; no 2 early third century; no 3 late-second to early-third century; no 4 mid-third century; no 5 AD 200–270; no 6 AD 250; no 7 undated and no 8 AD 260–320. In the last column of Table 1 single figure dates are given. It is not intended that these should be treated too seriously. In any case, there is no suggestion that dating to a precise year is remotely possible: the dates were arrived at by taking two reliably dated vessels, wide apart on the scale, as a base, and working out the dates of others by simple arithmetic. The interest of this is that the date arrived at usually falls close to or within the bracket previously suggested.

Turning to the beakers with cornice rims and barbotine decoration, the classic hunt-cups (Fig 1, nos 9–14), the percentages of the six vessels have once more been made to descend, 87%, 79%, 73%, 67%, 63% and 58%. Once more the general tendency of the dates is to ascend: Fig 1, no 9 AD 150–155/60; no 10 AD 140–180; no 11 AD 170–220; no 12 late-second to early-third century; no 13 *circa* AD 230; and no 14 AD 200–250. On this occasion, the calculated single-year dates fall without exception squarely within the published date-brackets. In the case of Fig 1, no 9 from *Verulamium* and Fig 1, no 13 from the Nene Valley, this is automatic, for they were the basis of the calculation.

The percentages of the next group, nine indented beakers (Fig 2, nos 15–23) are 71%, 66%, 60%, 56%, 52%, 47%, 43% 41% and 39%. The published dates are: Fig 2, no 15 AD 190–270; no 16 late-second to early-third century; no 17 *circa* AD 230; no 18 mid-third century; no 19 third to fourth century; no 20 late-third century; and undated. Once again, including of course the specimens used as a basis of calculation, the calculated single-year dates fall squarely within the published date-brackets.

The final half dozen specimens, scale-pattern beakers, (Fig 2, nos 24–29) are basically of the same forms as the previous nine. Their percentages are: 70%, 63%, 59%, 41%, 34% and 33%, and their published dates: Fig 2, no 24 third century; no 25 undated; no 26 AD 190–270; no 27 AD 300–367; no 28 AD 180–230; and no 29 third to fourth century. When we take the six single-year dates, two automatically coincide with the published dates, but none of the others does precisely. The calculated date for Fig 2, no 24, which is from Brigstock (Northants), falls five years before the published bracket (Greenfield 1963, 259, fig 9, no 26); this is very little, but as the Brigstock vessel (a surface find) was only tentatively dated (linked to the example in Collingwood 1930, fig 57, no 80), it need not detain us. The calculated date for Fig 2, no 27, from Birdoswald fort (Richmond and Birley 1930, fig 14, no 30), also falls four years before the published bracket. Here the published date of AD 300 to 367 is that of the level, 'Hadrian's Wall Period III', in which it was found. When this beaker was subsequently re-published (Gillam 1970, Type 53), it was dated, as a vessel, to AD 260–320; the

calculated date of AD 296, falls squarely within that bracket. There is no published date for Fig 2, no 25, but the calculated date for Fig 2, no 28 is widely outside the published date-bracket: AD 321 by arithmetic, AD 180–230 in the report (Atkinson 1937, T.15). This is the only case among the twenty-nine that we have considered to show so great a discrepancy. The vessel is from the town of Caistor-by-Norwich (Norfolk), and our reaction must be that it is an instance of incorrect dating in the report. *[Since this paper was written, other evidence has been published showing inappropriate dating for a number of the deposits and ceramic assemblages excavated by Donald Atkinson at Caistor-by-Norwich (Swan 1981).]*

My paper has brought no new material; and no ideas which are not simply variants of ideas first published by May early in the 20th century, but its purpose is to stimulate thought and discussion. If I have stimulated you to look at old Thomas May once more, and reminded you of what you are already aware, that the strange phenomenon of elongation is to be observed in class after class of Roman pottery, then advantage can be taken of this, with the use of a little simple arithmetic, to obtain approximate relative dates.

**Acknowledgements**

This previously unpublished paper, the basis of 'Gillam's Law', has been made available through the kindness of Dr Grace Simpson. As a lecture, it inevitably lacked references, and this had been remedied by Vivien Swan and Pam Irving. John Gillam's original drawings were digitised and enhanced for publication by Dave Whitworth of Tyne and Wear Museums Service, through the kindness of Paul Bidwell.

## Bibliography and site publication-source locator

Atkinson, D, 1937, Roman pottery from Caistor-next-Norwich, *Norfolk and Norwich Archaeol Soc* **26**, 197–230

Benwell 1968: Gillam 1968

Birdoswald 1930: Richmond and Birley 1930

Brigstock 1963: Greenfield 1963

Caistor-by-Norwich 1937: Atkinson 1937

Car Dyke 1949: Clark, JGD, 1949, Report on excavations on the Cambridgeshire Car Dyke, 1947, *Antiq J* **29**, 145–63

Carlisle 1917: May and Hope 1917

Castlesteads 1917: May and Hope 1917

Colchester 1963: Hull, M R, 1963, *The Roman Potters' Kilns of Colchester*, Res Rep Soc Antiq London **21**, London/Colchester

Collingwood, RG, 1930, *The Archaeology of Roman Britain*, London.

Corbridge 1970: Gillam 1970

Corder, P, 1951, The Romano-British buildings and enclosures in Edlington Wood, near Doncaster, in Grimes, WF (ed), *Aspects of Archaeology in Britain and Beyond: Essays presented to OGS Crawford*, 66–92

Edlington Wood 1951: Corder, P, 1951

Felixstowe 1948: Moore, IE, 1948 Roman Suffolk, *Proc Suffolk Inst Archaeol* **24**, 163–81

Fieldhouse, WJ, May, T, and Wellstood, FC, 1931, *A Romano-British industrial settlement near Tiddington, Stratford-upon-Avon*, Birmingham

Gillam, JP, 1968, *Types of Roman coarse pottery vessels in Northern Britain* (2nd ed), Newcastle upon Tyne

Gillam, JP, 1970, *Types of Roman coarse pottery vessels in Northern Britain* (3rd ed), Newcastle upon Tyne.

Gillam, JP, 1999, Area 3, Kilns A, B and C at Water Newton: The pottery, in, Perrin, JR, Roman pottery from excavations at and near to the Roman small town of Durobrivae, Water Newton, Cambridgeshire, 1956–58, excavations carried out by F Dakin, JP Gillam, E Greenfield, BT Hartley and G Webster in advance of the dualling of the A1 trunk road, *J Roman Pottery Stud* **8**, 19–37

Greenfield, E, 1963, The Romano-British Shrines at Brigstock, Northants, *Antiq J* **43**, 228–63

Housesteads 1968: Gillam 1968

Manchester 1909: Bruton, FA (ed), 1909, *The Roman Fort at Manchester*, Classical Assoc of England and Wales, Dist Branch Ann Rep 2, Manchester

May, T, 1900, Excavations on the site of the Romano-British civitas at Wilderspool, years 1899–1900. *Trans Hist Soc Lancashire Cheshire* **52**, 1–52

May, T 1903/4, The excavations on the Romano-British site at Wilderspool and Stockton Heath, years 1901–4, *Trans Hist Soc Lancashire Cheshire* **55/56**, 209–37

May, T, 1904, *Warrington's Roman remains: the Roman fortifications, potters' kilns, iron and glass furnaces, and bronze founders' and enamellers' workshop, discovered at Wilderspool and Stockton Heath, near Warrington*, Warrington

May, T, 1906, The excavations on the Romano-British site at Wilderspool during 1905, *Trans Hist Soc Lancashire Cheshire* **58**, 15–40

May, T, 1909, The Roman pottery in York Museum, Part 1. *Annual Rep of Yorkshire Philosophical Soc for 1908*, 35–48

May, T, 1910, The Roman pottery in York Museum, Part 2. *Annual Rep of Yorkshire Philosophical Soc for 1909*, 34–40

May, T, 1911, The Roman pottery in York Museum, Part 3. *Annual Rep of Yorkshire Philosophical Soc for 1910*, 14–44

May, T, 1912, The Roman pottery in York Museum, Part 4. *Annual Rep of Yorkshire Philosophical Soc for 1911*, 2–48

May, T, 1916, *The pottery found at Silchester: A descriptive account of the pottery recovered during the excavations on the site of the Romano-British city of* Calleva Atrebatum *at Silchester, Hants, and deposited in the Reading Museum*, Reading

May, T, 1922a, On the pottery from the waste heap of the Roman potters' kilns discovered at Sandford, near Littlemore, Oxon., in 1879, *Archaeologia* **22**, 225–42

May, T, 1922b, *The Roman forts of Templebrough near Rotherham*, Rotherham

May, T, 1930, *Catalogue of the Roman pottery in the Colchester and Essex Museum* Cambridge/Colchester

May, T, and Hope, LE, 1917, *Catalogue of the Roman pottery in the Museum, Tullie House, Carlisle* (Reprinted from Trans Cumberland Westmorland Antiq Archaeol Soc, new ser, **17**, 114–97), Kendal

Nene Valley 1960: Hartley, BR, 1960, *Notes on the Roman pottery industry in the Nene Valley*, Peterborough Museum Soc Occ Pap **2**

Nene Valley 1999: Gillam 1999

Newstead 1911: Curle, J, 1911 *A Roman frontier post and its people: the fort of Newstead in the parish of Melrose*, University of Glasgow

Ospringe 1931: Whiting, Hawley and May 1931

Richmond, IA, and Birley, EB, 1930, Excavations on Hadrian's Wall in the Birdoswald—Pike Hill Sector, 1929, *Trans Cumberland Westmorland Antiq Archaeol Soc* ns **30**, 169–205

Richmond, IA, and Gillam, JP, 1951, The temple of Mithras at Carrawburgh, *Archaeol Aeliana,* 4 Ser, **29**, 80–86

Swan, V.G. 1981, Caistor-by-Norwich reconsidered and the dating of Romano-British pottery in East Anglia, in, Anderson, AC, and Anderson, AS, *Roman Pottery Research in Britain and North-West Europe: Papers Presented to Graham Webster, British Archaeol Rep Int Ser **123**,* Oxford, 123–55

*Verulamium* 1972: Frere, SS, 1972, *Verulamium excavations*, Res Rep Soc Antiq London **28**, Oxford

Whiting, W, Hawley, W, and May, T, 1931, *Report on the excavation of the Roman cemetery at Ospringe, Kent,* Res Rep Soc Antiq London **8,** Oxford

York 1968: Wenham, LP 1968. *The Romano-British Cemetery at Trentholme Drive, York,* (Ministry of Public Building and Works Archaeol Rep **5**), London

# Pots for tables; tables awaiting pots: an exercise in speculative archaeoeconomy

*BR Hartley*

As with all commercial enterprise, the laws of demand and supply apply to Roman pottery industries, whether in coarse wares, mortaria, or samian ware. Any attempts at analysis of the industries with those laws in mind tend to founder on the lack of precise evidence of quantities of pots being produced and, particularly for coarse wares, on the patchy and often localised demand. Kay's coarse–ware mortaria possibly fall in an intermediate state between most of the ordinary coarse–wares and samian ware. The intention here is to explore the nature and reliability of the evidence for production in some of the samian industry for the first century AD and to consider the demand side of the equation, even if that, too, can only be done to a first order of approximation.

## *Tables needing samian ware*

For obvious reasons, demand for samian ware was not uniform in all areas over the period of its production. Fashion sometimes called for more ostentatious display at certain times or social levels, hence the increasing use of glass, silver, bronze or pewter at table. At some periods different fine wares, such as colour–coated or red–slipped pots from Mediterranean factories were in demand in particular areas and we should perhaps remember that treen may have been used in humbler circles more than we normally allow. But in general we can say that samian ware was in enormous demand over all of the western European provinces in the first century and the opening decade or two of the second century. Even relatively unromanised rural settlements, such as those of the British Fenland, produce appreciable quantities, despite the fact that much will have been scattered on the land and totally disintegrated in the processes of manuring and cultivating fields, particularly in areas of acid soils). Regular use of samian at that level, even if largely plain forms, is striking, considering its relative costliness (Hartley and Hartley 1970, 167 *and below*). In the second century demand reduced greatly in some areas, such as North Africa and Provence, and La Graufesenque, the principal supplier of first–century samian was reduced to local marketing of very indifferent pots. However, most of the former markets continued to require samian, sometimes in increasing quantities, and exports from Central Gaul, East Gaul and the Rhineland to the middle and lower Danube provinces and even beyond the bounds of the Empire to the north and east increased considerably during this same period.

As has been suggested above, the geographical extent of the markets is well attested. It is much less easy to quantify demand, since it is notoriously difficult to arrive at population figures for the Roman world and its individual provinces. Indeed, the same is true of any period down to the introduction of national censuses in the nineteenth century. The point is well illustrated by taking the only record that we have for the population of a *civitas*, namely the *civitas Aeduorum* under Constantine (Duncan Jones 1974, 260–1, note 4, drawing on *Panegyricus* viii.2) with a free population of 50,000 to 55,000 or perhaps something of the order of 60,000 including slaves. Taking the higher figure, and assuming roughly the same average population density for Gaul and the Germanies as a whole, one would arrive at an approximate figure of just over three million for the total population of those provinces, which is manifestly absurdly low. Probably the figures are corrupt, or less probably refer only to the *caput* of the *civitas* at Autun and its suburbs. However, although uncertainties abound for all Roman population figures, it is usually possible to make informed guesses, which should be right to a first order of approximation. These have to take into account the evidence from aerial photography and field surveys, accumulated over the last fifty years or so, for a vastly higher density of rural population than had previously been considered possible.

The population of the Empire as a whole has been estimated at 50–60 million at the beginning of the Christian era (Finley1973, 30). That is very low in comparison with the attested figure for Egypt (excluding Alexandria) in the first century, which was put at 7.5 million by Josephus (*Jewish War* II, 385). With Alexandria added, eight million would be about right. Furthermore, the 50–60 million estimate does not take into account the more recent evidence for rural populations, though S.N. Miller (1935, 456) had thought of 70 to 80 million as possible almost seventy years ago, and that figure might

cover our revised ideas of rural density.

There have been some recent estimates of population for individual provinces and groups of provinces, which should be considered. For Britain, Salway (1981, 542–49), extrapolating from Cunliffe's regional figure for population to the province as a whole, seems to favour 4–6 million. Frere (1987, 302) opted for 'nearly three million', after revising his earlier figure of two million. Millett (1990, 185) with added emphasis on the constantly increasing rural density arrived at a mid–range figure of 3.7 million and that perhaps is as close a first order approximation as is possible at present.

For the Gauls and Germanies combined, King (1990) suggested an urban population of 1,180,000 and a range of 8–15 million for rural dwellers. Taking a figure for the latter slightly below the median, we might hazard a 'best guess' of 12–13 million civilians, a figure reasonably commensurate with an earlier suggestion that Gaul may have had ten million inhabitants under Caesar (Gough 1928, 273).

*Noricum* is credited with a population roughly estimated at only 200–400,000 by Alföldy (1974, 3), but *Raetia*, rather larger and with more and better agricultural land should be estimated at a million at least.

As Italy and Africa (in the modern sense) both received less that one percent of the La Graufesenque production, they may be neglected for present purposes, but the Iberian peninsula was of greater importance as a market receiving at least 2.6 percent of the output from La Graufesenque. Unfortunately no recent estimate of population has been found, but a guess of the order of 5–6 million may be justified.

If we now assemble the estimates for the main civilian areas supplied by La Graufesenque, we arrive at: Britain 3.7 million, The Gauls and Germanies 12.5 million, *Noricum* and *Raetia* 1.3 million and Iberia perhaps 5.5 million. The approximate estimated total is, therefore 23 million.

In other words, allowing for all the approximations made, there was a potential market of the order of 16–29 million civilians in the area of distribution of South Gaulish samian in the first century. We then have to take the military markets into account. In the area in question, there were about 100,000 troops in the later first century. If we then make allowance for families, a total of something like quarter of a million people would be about right. To err on the conservative side, let us assume some 18 million adults all told for the market in the western provinces, since though children might use samian, they are unlikely to have bought it in the ordinary way.

Against the emphasis often placed on military markets in the economy, often stated in terms of trade 'following the flag', the proportion of military to civilian customers was certainly very low. However, that may have been compensated for slightly by other factors. Since stores of samian are known from military sites, such as the legionary fortress at Inchtuthil (Hartley 1985, 316) and the pre–Flavian fort at Cirencester (Hartley and Dickinson 1982, 133–42), it is evident that the army indulged in bulk buying, whether from local retailers, wholesale merchants or, less probably, but not impossibly in view of an analogy in another trade, by contracts with manufacturers. There are hints that garrisons sometimes moved with samian among their baggage, either as individual 'carries' by soldiers, or as the contents of stores, as is demonstrated by sites, such as Flavian Camelon, which have a much higher proportion of survivals in use, or in store, than would normally be expected (Dickinson, B, forthcoming). But equally it is evident that a change of location sometimes led to total replacement of stored samian, since that is the implication of the jettisoning of the pots from the Cirencester store in the fort's ditches on abandonment of the site. Then, too, the hurly–burly of garrison life will surely have led to a higher breakage rate than in normal civilian contexts, unless we think of the traditional part of the bull in the pottery shop or, in the higher reaches of society, the shattering effect of mortar or mosaic floors on the dropped pot.

To sum up, then, the potential civilian market soon after the initial conquest of an area was huge compared to the military one, even allowing for the modifying factors just noted. That said, there is still the major problem of arriving at a replacement rate for broken or damaged pots. Samian ware would not easily have bounced, except on earth floors or, sometimes, on wooden floors and tables, as its firing temperature makes it almost as brittle as modern china. A survey of friends and relations revealed that most had experienced some particularly smashing times, but that in the ordinary way a casualty rate of two or three pieces of tableware a year per person is normal. Hostelries and restaurants obviously have a higher score and will also have had in the Roman period. Neglecting such exceptional examples, it will be evident that the casualty rate per person per year for samian will have been at least one pot. With our assumed population of rather over 18 million for the western provinces, something like that quantity of replacements would have been needed each year. This is obviously a very conservative estimate, as it does not take into account initial buying. If we assume buying of an initial average of three pots per adult in each generation, then we would need to add over two million to our total of pots, or twenty million all told each year

It would be idle to pretend that these figures are accurate, but our reasoning does lead to the suggestion that they are probably numerically of the right order.

## *Pots for Tables*

There is more than one potential way of looking at the likely scale of production of samian ware in the first century, particularly at La Graufesenque. At a subjective level the impression gained is that the scale was

enormous, since towns and military sites occupied at the time always produce very large quantities. On relatively unromanised sites the absolute quantities found are obviously always much lower for each site, but it would be a very poor site indeed that produced none, and as there were vastly more people living on unromanised sites at this period than in and around forts, towns and villas the cumulative total would have been very considerable. At all sites excavated we only recover a small proportion of the samian that was used, since towns and military sites will all have had regular collection and disposal of rubbish and rural ones will have had middens whose contents would have been widely scattered beyond the nucleus of the sites in manuring of the land.

Less subjectively, but with obvious problems, the capabilities of throwers, assuming that they were supplied with prepared clay and that someone else was dipping the pots in the slip (the process of *ad samiandum*, cf Marichal 1988, no 169) and firing them, need to be assessed. Consultation with practising craft potters suggests that the likely daily totals per potter would be roughly 240 cups, or 160 dishes or 80 decorated bowls. Most of the production would be plain forms with an average of 200 vessels a day, assuming more or less equal production of cups and dishes with the total reduced to 180 to allow for the normal proportion of decorated bowls, though not all potters made them, of course. At least 600 people stamped pots at La Graufesenque during its main production, say AD 10–110, so about 150 would have been active at any given time, but their levels of production will have varied greatly, depending on the numbers of throwers working for them, whether internally or as out–workers. If we were to assume a low figure of two internal and five external workers for the larger establishments, we would arrive at an average production of 1260 pots a day for each. At any given time there will have been a minimum of twenty–five large establishments operating, so we have to reckon with over 30,000 pots a day, or given an estimated 300 working days a year an annual total of nine million from the major shops. If we only allow one thrower for the other workshops, then 125 x 1 x 180 x 300 gives us 6.75 million. The total output on this basis would be 15.75 million, a figure below, but of the same order as, our estimated twenty million required each year.

Another approach to output per year from La Graufesenque means starting from the series of firing lists (often simply known as 'graffiti') from the site. The main series was found in the same place and at the same level within an area about 12ft by 12ft (Hermet 1923, 165). There were 22 lists on dishes stamped by Castus (Marichal 1988, nos 1–11, 13, 15–17, 19–23, 85), two on dishes stamped MARTI (Marichal 1988, nos 12 and 14) and one unstamped fragment, which obviously belonged to another series. Most of the dishes had been broken, but the texts are usually complete or nearly so.

While it is not possible, or desirable, to explore the full details of the firing lists and previous interpretations of them here, some of their basic nature and possible significance must be considered in order to appreciate their significance. *Caveat lector* the opportunity is taken to float some new suggestions.

The firing lists found by Hermet in 1906, forming what we may term the Castus series are very consistent in nature and may confidently be taken together as our basic source. They show a particular kind of operation, which may or may not apply to other *officinae* at La Graufesenque active at the same time or at other periods.

Near the head, each list gives a firing number, never exceeding ten in the Castus ones and with many of the numbers repeated in the series (Firing 6 occurs three times, 1, 2, 4, 9 and possibly 3, each appear twice, Firings 5, 7, 8 and 10, only occur once each). The implication is that Castus fired his kiln, for which we have his genitive signature on furniture (Hermet 1934, pl.116, 15), up to ten times a year, starting a new series of firing numbers each year. Also, if he was associated somehow with Martius, the latter may have used the same kiln for his firings. Up to six firings a year are attested for him. It is likely that fewer than twenty firings of the type of kiln used by Castus would be possible in a year, allowing for loading (four days), firing (four days), cooling (five days), unloading (two days) and repairs (two or three days), a minimum total of about seventeen days would probably be needed for a firing cycle. On this basis Castus would evidently account for at least half the possible firings. If Martius also used the kiln, he could have taken the rest of the possible firings, or the kiln could sometimes have been leased to others. However, in contrast to Castus's total of nearly 400 stamps from the Hermet excavations, only five stamps of Martius were found by Hermet and even if we were to equate him with Martialis, which can be shown to be unlikely, we would only add thirty more stamps to the total. Another possible explanation is that the Martius graffiti were found with the Castus series simply because Castos/Castus was named on both of them as a supplier of pots and they were kept with the Castus archive as a record of Martius's indebtedness to him. However, of the eighteen workmen known to have supplied Martius, ten are common to him and Castus, so they were all contemporaries. Furthermore, both potters' stamps are sometimes on dishes with grooves of unusually small diameter on their bases, though admittedly that could be because they were thrown by one or more of the shared out–workers and so not indicate a close association of the two masters. On the other hand, the dishes with stamps of Martius have the same symbols (crow and star) under their bases as ones stamped by Castus. On the whole, then, the evidence suggests some form of

association between the two men.

The firing–lists normally next give the names of people sending pots for firing in Castus's kiln, the type and often the size of pot and finally the quantity produced. Both in general, and for the Castus series in particular only about a third of the names of the suppliers occur as more or less contemporary potters' stamps. They are frequently common names for which several homonyms would certainly have existed at La Graufesenque at any time, so it seems almost certain that what we have on the lists are the names of out–workers supplying the master–potters. That could have been done either on a contractual basis or perhaps sometimes a speculative one. Had they been potters bringing pots for firing in a 'communal' kiln, their names would all, or almost all, be known as potters' stamps. The fact that most are not, suggests either that Castus's name was stamped on all the pots, or that the out–workers used the stamps of other potters (Polak 2000, 141), but the list of Hermet (1923) stamps scarcely supports the last suggestion. It rather suggests the predominant use of Castus stamps (Table 1). This might be the explanation of the otherwise puzzling fact that Castus's name occurs on forty–one dies, when one might have thought that four or five of different sizes would be adequate at any one time. The handing of a die or dies to an out–worker on arrangement of a contract to supply pots, and its return when the order was completed, might account for the extraordinary quantity of dies used.

*Table 1: Potters with more than fifty stamps from the Hermet excavations*

| *Potter* | *Qty* | *%* | *Remarks* |
|---|---|---|---|
| Castus | 391 | 27.0 | No stamps in the1950–54 excavations |
| Niger | 281[1] | 19.4 | Many stamps in 1954 |
| Germanus | 224 | 15.5 | Many stamps in 1954 |
| Mommo | 154 | 10.6 | Many stamps in 1954 |
| Albus | 151 | 10.4 | Only eight stamps in the 1950–54 excavations |
| Lucceius | 136 | 9.4 | No stamps in the 1950–54 excavations |
| Cennatus | 110 | 7.6 | No stamps in the 1950–54 excavations |
| ***Total*** | **1447** | **99.9** | |

**Notes**:
[1] Including 19 of Niger–And–.
The seven potters listed account for nearly half the total of Hermet stamps left by 236 potters.
See Marchal 1988, plan 1 or Polak 2000, fig 2.7 for the sites

Normally a fairly high proportion of illiterate stamps appear at most sites occupied in the first century alongside stamps giving potters' names. These seem puzzling at first sight in an industry where literacy was normal. A possible explanation is that out–workers supplying pots on a speculative basis for others might have used them. They could scarcely stamp their own names on pots being supplied to master–potters and they could not have used dies belonging to the masters, since they would not know in advance who would be buying their products. Their names would appear on the graffiti in the same way as the contracting potters, assuming that they still had to be paid for their work.

It is presumably just coincidence that the figure for major potters and Hermet's seven different areas of excavation (Marichal 1988, plan 1) coincide. It is evident that the Hermet stamps of Castus, Lucceius and Cennatus did not come from the vicinity of the 1950–54 work, whereas Niger's, Germanus's and Mommo's did (Table 1). Furthermore, Germanus and Mommo began work considerably later than Castus. Castus, Lucceius and Cennatus should, then, be assigned to one or more of the three Hermet sites furthest to the north–east. Albus could possibly qualify for the most southerly of the Hermet excavations.

At this point a cautionary note is needed on the Hermet stamps. First, it should be said that there were very few fragmentary stamps in his collection, except on decorated ware. The implication is that fragmentary stamps were not usually kept. However, what was kept should have been reasonably representative of the whole collection. Secondly, and more seriously, only a dozen or so illiterate stamps were found in the Musée Fenaille at Rodez, among the Collection Hermet. This certainly means that the surviving Hermet stamps are not a proper representation of what he excavated, since the proportion of illiterate stamps found on contemporary sites is normally much higher. The percentages for ten collections of first–century stamps are shown in Table 2.

*Table 2: Incidence of illiterate stamps from La Graufesenque as percentages of stamps from the site*

| *Site* | *%* |
|---|---|
| Aislingen | 1.3 |
| Burghöfe | 8.8[1] |
| Cala Culip IV | 1.8 |
| Conimbriga | 10.4 |
| Hofheim I | 3.8 |
| Rheingönheim | 5.7 |
| Valkenburg ZH | 6.1 |
| Vechten | 12.1 |
| Woerden | 4.5 |
| Average | **5.8** |

**Notes:**
[1] The figures for the Geschirrdepot are omitted: they would make 28.3 per cent of the total for the site, but exceptional circumstances obviously apply

Illiterate or anepigraphic stamps are not always recorded with as much assiduity as normal potters' stamps, and we suspect that at some sites (as at La Graufesenque under Hermet) the stamps were either thrown away at the time of the excavations or later. The Vechten collections are an honourable exception and that, together with Polak's careful and full catalogue, is no doubt why the percentage is higher than for other sites. The average figure given above will undoubtedly be too low, and something like 10

percent would almost certainly be nearer the truth. One intriguing anomaly is the figure for the Burghöfe Geschirrdepot, where 86 of the surviving 264 stamps were illiterate. One might almost wonder whether prospective purchasers looked at the stamps before selecting their pots!

Seven of the Castus bases (Marichal 1988, nos. 8, 13, 17, 21, 22, 23 and 25) have a series of pots for which suppliers' names are not given. It seems likely that those were 'in–house' products which Castus would not have to pay for and so may not always have been included on his other lists, or possibly, as Marichal, *ibid*, 25 may hint, could sometimes have been recorded on a separate dish.

From what has been said above, it surely seems probable that the firing-lists were kept to record the sums of money due to outside suppliers, no doubt duplicating records on wax or in ink on wooden tablets similar to the *Vindolanda* ones (Bowman 1998). The firing, as it were, fossilised the records in a virtually indestructible way.

The firing lists in the Castus series with complete totals of pots give an average of just below 30,000 pots to a firing. As some firing lists on pots not stamped by Castus also have closely similar figures, it seems likely that the bigger establishments had kilns of much the same size. With 30,000 pots to a firing and 10 firings a year, 25 major *officinae* would give 7½ million pots a year. In addition there were clearly smaller kilns used by lesser workshops and perhaps by some of the bigger producers for special products, such as marbled samian or special forms, such as *lagenae*.

Adding the products of the many lesser independent workshops, as above, at just under seven million, the estimated cumulative total would be over 14 million pots a year, or rather fewer than our projected 18 million on the basis of one pot per person per year for replacements (*see above*). But the figure is close to the 15.75 million suggested on other grounds. At least the probable demand and the probable supply for the first century AD are of the same order of magnitude and we should probably think of an annual output of at least 15 million pots for La Graufesenque at its height.

## *Conclusions*

Despite the obvious approximations and the guesswork involved it is clear that production at La Graufesenque at its height was indeed enormous, even in modern terms. It has been worth attempting this exercise, if only because it may jog the minds of students of samian ware into further discussion of the possibilities. It is hoped, too, that Kay may find some of the ideas expressed of interest and use when she is writing her eagerly awaited work on the mortarium industry. More power to her pen, or rather to her keyboard!

Unfortunately, we have no prices for samian ware in the first century, so it is impossible to estimate the total retail value of the production with any certainty. What we can say is that a decorated bowl sold for 20 *asses* in the mid–second century (Noll 1972, 222) and that a plain dish, probably of form Ludowici Tb, cost 12 *asses* in the late second or early third century (Kovacsovics 1987). These figures would be equivalent to a day and a half's pay for a legionary and rather over half a day's pay, respectively, at the relevant periods. Wholesale prices would be appreciably less, and what the potters were paid would only be a fraction of that price. Nevertheless, the sheer quantities involved suggest that master potters at least would have a tolerable income, once their overheads had been covered.

## Bibliography


Alföldy, Géza, 1974, *Noricum,* London

Bowman, Alan K, 1998, *Life and Letters on the Roman Frontier: Vindolanda and its People* (2nd, revised edn), London

Dickinson, Brenda, (forthcoming) Report on the samian ware in Maxfield, V, *Excavations at Camelon*

Duncan–Jones, RP, 1974, *The Economy of the Roman Empire,* Cambridge

Finley, MI, 1973, *The Ancient Economy,* London

Frere, SS, 1987, *Britannia: A History of Roman Britain* (3rd, revised, edition), London

Gough, AB, 1928, The Taxes of three Roman Provinces, Appendix XLV in Friedländer, L, *Roman Life and Manners under the early Empire*, London, 270–73

Hartley, BR, 1985, Chapter 32, The samian pottery, in Pitts, LF, and St Joseph, JK, *Inchtuthil: the Roman Legionary Fortres,* Britannia Mono **6,** London

Hartley, KF and Hartley, BR, 1970, Pottery in the Romano–British Fenland' in Salway, P, Hallam SJ and Bromwich, JI'A, *The Fenland in Roman Times,* London, 165–9

Hartley, BR and Dickinson, B, 1982, The Samian, in Wacher, J, and McWhirr, A, *Early Roman Occupation at Cirencester,* Cirencester Excavations I, Cirencester

Hermet, F, 1923, *Les graffites de La Graufesenque,* Rodez

King, A, 1990, *Roman Gaul and Germany*, London

Kovacsovics, WK, 1987, *As* XII –Eine Preisangabe auf einem Sigillatateller aus Salzburg, *Germania* **65**, 222–5

Marichal, Robert, 1988, *Les graffites de La Graufesenque* XLVII supplément à *Gallia,* Paris

Miller, SN, 1935, The Roman Empire in the First Three Centuries, in Eyre, E, *European Civilization: Its Origin and Development,* Oxford

Millett, M, 1990 *The Romanisation of Britain*, Cambridge

Noll, Rudolf, 1972, 'Ein sigillataschüssel mit Eigentumsvermerk und Preisangabe aus Flavia Solva', *Germania* **50**, 148–52

Polak, Marinus, 2000: *South Gaulish Terra Sigillata with Potters' Stamps from Vechten* Rei Cretariae Romanae Fautorum Acta Sup **9,** Nijmegen

Salway, Peter, 1981, *Roman Britain,* Oxford

# The Pitt Rivers Collection of samian ware in Salisbury and South Wiltshire Museum

*Robert Hopkins*

(*This paper deals only with the General's purchases of samian and not material from any of his excavations*)

It is probably fair to say, that all County Museums have artefacts donated to them by local antiquarians and Victorian collectors. Most were found or purchased from diverse, unprovenanced or dubious sources by their donors. Furthermore, there is the suspicion that artefacts may have been introduced or 'salted' to legitimate site assemblages. 'Salting' is suggested to 'exotics' found at Silkstead Sandpit, Otterbourne, Hants (Denford 1993, 51); similarly, doubt has been cast (CN Moore *personal comment* 2002) on the artefacts recorded by nineteenth-century antiquarians, purporting to come from what has recently been suggested is an Iron Age port at Meols, on the Wirral (Matthews 1996, 12–14; *personal comment* 2001). To quote Comfort, after taking provenances at face value, such collections have 'a fishy smell' (Comfort 1976, 159). This is not to say however, that antiquarian collections should be ignored, indeed some artefacts could shed light on new, or known sites, and possibly add to their respective corpora.

Salisbury and South Wiltshire Museum has one such large antiquarian acquisition, formerly the collection of British antiquities purchased from dealers and auction houses, by General Pitt Rivers during the last twenty years of the nineteenth century. The collection was displayed in the Pitt Rivers Museum, Farnham, Dorset until the 1960's; with that Museum's closure, the archaeological collection pertaining to Britain, along with artefacts and associated material from the General's excavations (mainly on Cranborne Chase), entered the Museum at Salisbury in 1975 (Thompson and Renfrew, 1999, 380).

It comes as no surprise to learn that the General catalogued, with illustrations, many of his purchases, (*see* Thompson and Renfrew 1999) and also labelled most of the pottery. (Where there are discrepancies between the catalogue entries and respective labels, the catalogues take precedent, as a re-labelling programme was undertaken between 1925 and 1932 (Bowden 1991, 152)). The paginated catalogue/inventory, running to nine volumes, was started in September 1881. At first, the entries, entered consecutively by purchase date were written by Pitt Rivers with occasional sketches by him (Thompson and Renfrew, 1999, 392). As the catalogue progressed into the second volume however, the drawings became more frequent and detailed; eventually almost each item was illustrated in colour, and in superb detail. The set of nine volumes were donated to Cambridge University in the 1990's (*ibid*, 385, 388); a microfilm copy is also deposited in Salisbury Museum. In the main, each entry, informs us as to where, or from whom, items or lots were purchased, the price paid, and occasionally some sort of provenance, or at least the provenance that was given by the vendors of the artefacts. Towards the end of the cataloguing process, a backlog developed and some items were not entered consecutively by date of purchase. The catalogue is not exclusive to purchased acquisitions, and contains details of some artefacts excavated by the General, eg finds from the Wor Barrow, such as a Roman nail-cleaner (Pitt Rivers Cat vol III, 1891–96, 974, 6th October 1893; *cf* Bowden 1991, 131–34).

Included in the collection are a number of pottery items that come under the general category of samian ware. With two exceptions, all are complete, and are mainly plain ware, suggesting that Pitt Rivers was only interested in collecting whole vessels rather than fragments. Statistically, plainware far outnumbers decorated vessels; this is particularly true in the case of burials, where decorated vessels are extremely rare *cf* Ospringe (Hawley, May and Whiting, 1931). It implies that his interest was more as a collector rather than learning about samian itself. Several samian vessels in the collection had not been entered into the catalogue by the time of Pitt Rivers' death in 1900 (catalogue nos: 4, 5, and 11 *below*); there are however four vessels recorded in the catalogues that have not entered Salisbury Museum (*Appendix A*), their present whereabouts are unknown, but they were probably sold sometime between the closure of the Farnham Museum, and before transfer of the collection to Salisbury (Bowden 1991, 152–3).

All confirmed auction purchases of samian, were made at three sales held by Messrs Sotheby, Wilkinson and Hodge, on their premises at 13 Wellington street, Strand, London WC. We are fortunate that records

covering the period in question, are kept in the British Library, these take the form of ledgers containing a catalogue of each sale, prices realised for each lot, name of purchaser, and running totals at the top and bottom of each page.

The first purchase was at the sale of the 'Well Known and Important Collection of Pottery, Bronzes and Miscellaneous Antiquities of G H Vize Esq' held on Monday 30th and Tuesday 31st May 1892 (Sotheby, Wilkinson and Hodge 1892); despite the collections apparent fame, the writer has been unable to find out anything about G H Vize Esq. Three samian vessels were purchased as parts of Lots 385 and 398; it's clear by the absence of the name Pitt Rivers in the sales ledger that he was not present on either day; the purchaser of these two lots however, was one 'Ready' (*see below*), almost certainly acting on behalf of General Pitt Rivers.

The second set of samian purchases came in 1893, when the estate of the Derbyshire archaeologist, ethnologist and anthropologist Thomas Bateman (who died in 1861) sold the collection of antiquities started by his father, William Bateman FSA in 1759. The contents of Thomas' private museum at Lombardale Hall had been loaned to the Museum at Weston Park Sheffield. In 1893, the Corporation of Sheffield purchased the artefacts from the Bateman's excavations of Barrows in Derbyshire, Staffordshire and Yorkshire (Howarth 1899, iii). [This is not quite true, at least one artefact, a mortaria, from London was also purchased by the Corporation (Hartley 1996, 149, no 3)]. Fortunately for us, Thomas Bateman published a catalogue of the collection in 1855 (Bateman 1855). Although this is little more than a numbered list of artefacts grouped by period with limited supporting text, there are some provenances. This allows us to trace Pitt Rivers' purchases from the Bateman Collection back to the 1850's, if not earlier. The Bateman collection was split into two sales in 1893; two samian vessels were purchased, both part of Lot 190 in the second sale on 14th June 1893 (Sotheby, Wilkinson and Hodge 1893). (The first sale was held on Friday 14th April 1893). The dimensions and provenance given in the Pitt Rivers Catalogue are identical to the description of two of the vessels in the Bateman catalogue; we can therefore match the vessels as follows: The vessel here catalogued as no 12 is Bateman 1855, 147 no 54, and vessel no 14 is Bateman 1855, 147 no 53; both vessels were purchased by Bateman, although there are no details given of the vendor or date of purchase. Both were apparently found in the Thames in 1844 (Bateman 1855, 147). Pitt Rivers was present at both Bateman sales, as was the French coins, medals and antiquities dealer Rollin (*below*) (Sotheby, Wilkinson and Hodge 1893).

The third auction purchase was on Tuesday 12th March 1895, at one of several sales held in 1895 of property of the Royal United Service Institution. The Institution was originally founded in 1830 for the study of the arts, sciences, military affairs and natural history, with its own museum, but today concentrates exclusively on military matters and strategy; Pitt Rivers was a frequent lecturer at the Institute (Thompson and Renfrew 1999, 380). The two vessels purchased (here catalogue nos 1 and 2 and Fig 1), formed part of Lot 41 (Sotheby, Wilkinson and Hodge 1895). They are described as 'samian' dishes, but are actually Arretine.

All other samian purchases were from dealers. A restored krater (catalogued here as no 3) was purchased from 'W Talbot Ready, 55 Rathbone Place, London', in April 1893 (the probable relationship between Pitt Rivers and Ready is noted above). The vessel was sold to Pitt Rivers as coming from the Bateman Collection, with Dorchester as the provenance. Ready was a purchaser at both Bateman sales in 1893, however the krater was not listed in the first sale, nor published in Bateman 1855. There are two possibilities, either Ready was falsely attributing artefacts; or the Bateman Estate had sold some property privately prior to the Sotheby's auctions. In this case since it is absent from his catalogue it is possible that Bateman had purchased the krater sometime after 1855 but before his death in 1861. Of the two explanations, the former is most likely.

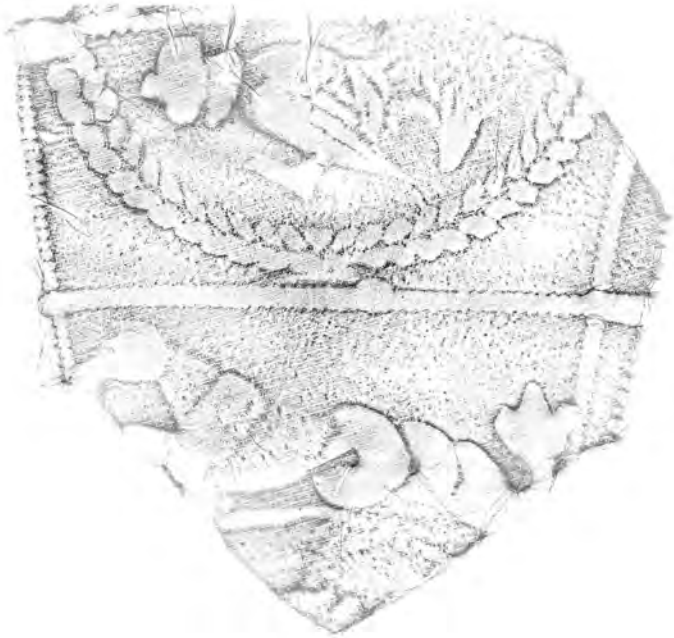
A number of artefacts from 1896 to 1899 were purchased from 'Lawrence of Wandsworth' (Thomson and Renfrew 1999, 392), this is the antiquities dealer G F Lawrence, or 'Stony Jack' (1861–1939), who traded at 7 West Hill, Wandsworth from about 1893 onwards (Macdonald 1996, 243), nos 6, 7 and 9 (*below*), were bought in 1898 'from Lawrence' or 'LWNC' (Other published purchases from Lawrence by the General are published in Griffiths 1996, nos 4, 46, 58).

Pitt Rivers' renowned collection of 'peasant' artefacts was purchased on his Continental tour of 1882 (Thompson and Renfrew 1999, 388); the samian moulds and the Argonne ware Dr 37 (here nos: 10, 13 (Fig 1, nos 3 & 4), and Appendix A, a), were purchased from Rollin and Feuardent, a firm of French numismatic and antiquities dealers, who ceased trading in 1911. The Argonne form 37 (Appendix A, a) however, came via F Wheelan, of 19 Bloomsbury St, WC, in November 1891, presumably a London based agent of Rollin and Feuardent. The mould from Montans, and the Lezoux mould fragment are particularly interesting; the complete mould is currently labelled as a forgery, but is undoubtedly genuine. Although no mould maker can be assigned, it is characteristically a Montans product rather than from neighbouring La Graufesenque. The mould fragment on the other hand has no provenance, however the odd mica platelets suggests an origin at Lezoux, as does its maker, *Sacer* or an associate.

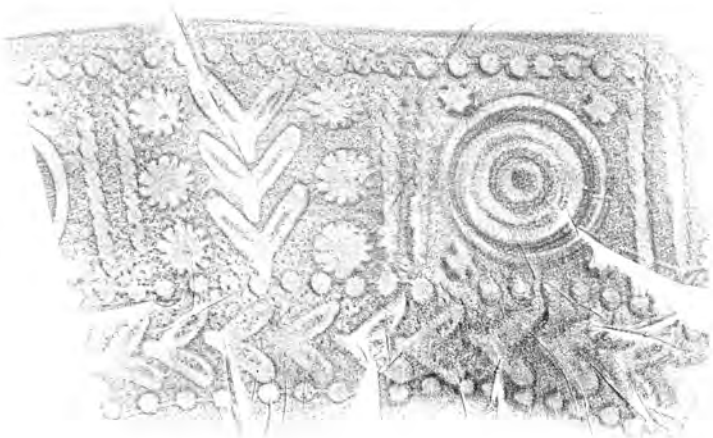
One item, a Drag 18 (here no 4), has the name of Webster on its label, this may be the antiquities dealer from Bicester, who more famously sold Pitt Rivers the Benin Bronzes (Thompson and Renfrew 1999, 388); the

1

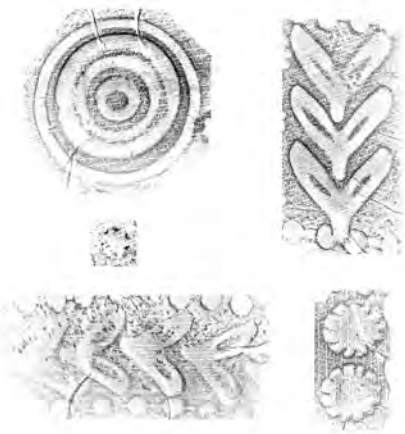
2



3



4



4 Detail

*Fig 1: Arretine stamps Cat nos 1 and 2, (scale 2:1) and samian moulds Cat nos 10 and 13 (reversed, scale 1:1)*

samian vessel is not listed in the catalogues, and probably formed part of the backlog noted by Thompson and Renfrew (*ibid* 385).

Several vessels in the collection purport to come from the Thames; but how genuine are these provenances? Macdonald (1996, 244) informs us that from the 1880's onwards, the antiquities dealer GF Lawrence, acquired artefacts from the river; and The Royal Commission for Historic Monuments for England's volume for London (Parsloe 1928, 194) records numerous metal artefacts, such as coins and votive statues from the general area of London Bridge, but curiously only one cache of (broken) pottery (*ibid* 194). Marsh (1981, 127) brought to our attention the questionable attributions given by Victorian dealers to some of their stock, he also highlights the suspect provenance (and authenticity of the graffito) of the famous Isis pot (*ibid* note 27, 129). It is open to question whether quantities of complete vessels were recovered from the River, or just the occasional vessel; it's likely that dealers used 'the Thames' as a convenient provenance which collectors would accept, and even possibly pay a premium for an association with prized bronze artefacts. (Similarly, antique dealers placing grandfather clocks at auctions in provincial towns often repaint the dials with known makers-names from the area where the auctions are held, as locals will pay a premium for a local maker *personal observation*.) It is prudent to question attributions by dealers. G F Lawrence misled the London Museum over the provenance of a crossbow puller he said came from London Wall but which he later admitted really came from Finsbury Circus (MacDonald 1996, 247).

No antiquarian collection would be complete without samian from the Pudding Pan area off the North Kent coast; at least one vessel, (no 5 *below*), is attributed to the wreck (rather than the sands) and a second vessel, (no 6 *below*) has a provenance of Whitstable, this may come from the Estuary as its stamp has been previously recorded from the wreck, but there's no evidence on the dish itself, such as encrustation or wear, to prove or its association with the wreck. The date range of stamps thought to have come from the wreck, suggest a deposition of *c*AD 170/80–200 (B Dickinson, *below*).

There are no records in the Kent SMR of Roman finds from Sandwich before or during the period in question (Kent SMR, 2003), but that doesn't mean that artefacts were not found, merely that they went unrecorded, either in the press or by antiquarians; vessel no 4 (*below*) is apparently therefore the earliest recorded artefact from the town. Despite the lack of evidence, on balance therefore, the Sandwich provenance is likely to be genuine, as there's no obvious financial gain to motivate a dealer to provide a false provenance to a town that had no previous record of a yield of Roman artefacts.

John Aubrey in the 17th century was the first to record finds from Sandy, Bedfordshire; we may presume that the two vessels in the collection from Sandy (nos 7 and 9 *below)* were found as a result of building the Great Northern Railway (Dawson 1995, 167).

The samian ware vessels purchased by Pitt Rivers, with one exception, are all complete or restored vessels; clearly the absence of sherds, especially decorated ware ones, demonstrates that he was only interested in purchasing whole vessels. Indeed, several of his auction purchases were part of larger lots of pottery, apparently complete. His acquisitions from dealers, with the exception of the krater, appear to have been selected because of their (almost) mint condition. The one decorated vessel, the krater, and the plain ware Pudding Pan vessel appear to be compulsory requirements for Victorian collectors of antiquities, and it's possible that Pitt Rivers thought as much himself. Such was the demand for decorated Arretine vessels, that a small trade developed making forgeries of moulds of Arretine kraters and Rheinzabern vessels (Marsh 1979, 127; Vickers, 1990, 5).

The meticulous cataloguing of General Pitt Rivers' purchases of antiquities, together with superb illustrations clearly makes the The Pitt Rivers Collection an important source for artefact specialists and regional archaeologists. With careful consideration of the evidence, it's possible to suggest which artefacts may have a genuine provenance, and those that are suspect. The collection, together with supporting documentary evidence, is also important in shedding light on the relationship between collectors, dealers, auction houses and the trade in antiquities during the later nineteenth century. Although the General's recording methods may be unique amongst collectors of his day, such collections should not be overlooked, and clearly deserve study, albeit with a critical eye.

## *Catalogue of samian ware*

*With contributions by J Bird, B Dickinson, M Hassall, P Kenrick and R Sauvaget*
*Entries marked with an asterisk* are illustrated*

Fig 1 no 1

**1*** Arretine, Ettlinger *et al,* 1990*,* form 4.6, plate, the side details are two pairs of applied rosettes. The stamp I take to be S.M.F retrograde in a round-ended stamp: Oxé *et al 2000,* 1212, SEX. M(VRRIVS) F(ESTVS), of Pisa. The F does not actually look like an F at all, but more like the toes of a *planta pedis*. (*cf* no 2 *below* for discussion and date). *PK*
*Label:* Lot 41 Sotheby March 1895 from the Royal United Service Institution, 1022,
*Pitt Rivers Catalogue* III, 1891–96, 1022, March 12 1895: Bought at Sotheby's Wellington St, Strand – London. Red samian dish, stamped with maker's name (illegible). Purchased as part of a lot of five vessels, [including Fig 1, no 2 *below*] purchase price of £1-18-0d for the set.
*Salisbury and South Wiltshire Museum accession number: 3M 8B 5*

Fig 1 no 2

**2*** Arretine, Ettlinger *et al,* 1990*,* 20.4, plate, with applied decoration. The motifs are a rosette and a rabbit (pairs opposed). The stamp is L.R.PI , retrograde in planta pedis: Oxé *et al* 2000, 1690, L. RASINIVS PISANVS of Pisa. Although Oxé *et al* 2000 illustrates 62 different stamp-types for this potter, this one is not amongst them and is of interest for that reason. The two pieces are probably contemporary and are attributable broadly to the second half of the first century AD. The late Italic potters of Pisa are extremely prolific, and the vessels could have been found almost anywhere in the western Mediterranean (or indeed as far east as Cyprus). They may have come from a burial, or indeed from Pompeii. Despite the lack of context, they are both of interest in giving us further new stamp-types. *PK*

*Label:* Lot 41 Sotheby March 1895 from the Royal United Service Institution, 1022

*Pitt Rivers Catalogue* III, 1891–96, 1022, March 12 1895: Bought at Sotheby's Wellington St, Strand, London. Red samian dish, stamped with maker's name (illegible). Purchased as part of a lot of 5 vessels, [including no 1 *above*] purchase price of £1-18-0d for the set.

*Salisbury and South Wiltshire Museum accession number*: *3M 8B 1*

Figs 2 and 3

**3*** Arretine Krater, Drag form 11 (Webster, 1996, 29). The *poincons* are all human figure-types, with one figure repeated. Above, a horizontal frieze of bearded masks. ?mid-first century AD

*Ink label:* Samian ware BT of Ready *APR* 1893, 904 Bateman Coll, Thames London.

*Pitt Rivers Catalogue* III, 1891–96, April 21,1893: Bought of W Talbot Ready, 55 Rathbone Place, London, Samian bowl, restored, ornamented with figures in relief from Dorchester. Height: [size not entered] ins. Purchase price £4.

This vessel had been broken prior to purchase, and professionally restored. The restorer has coloured the new patches, as well as parts of the original vessel slip to get an even match. Note the discrepancy between the provenance on the ink label and in the Pitt Rivers Catalogue.

*Salisbury and South Wiltshire Museum accession number: 3M 7C 2*

**4** Samian Drag form 18 (Webster, 1996, 32), Southern Gaul: Stamped OFS?EVERI Severus iii of La Graufesenque, Die 7c (Hartley 1990–91), *c*AD 75–100. *BD*

Post-coctorum graffito – partially obscured by a label on the vessel underside which reads RΛBIRINIV, conceivably Rabiriniu(s). The name Rabirinius is not attested but is a possible nomen derived from the cognomen Rabirinus, itself derived from the nomen Rabirius. *MH*

*Partial label*: Samian ware Sandwich, Kent [pot]ters markOF[ ] Schuermans, m[ ] bt Webster s[ ] Pencil annotation: 'Schuermans no 4525'

There is no catalogue entry for this vessel

The reference is to Schuermans 1867; the number given by Pitt Rivers refers to a stamp OFF.PVERI, although stamps of Severus are numbered 5158–70 by Schuerman.

*Salisbury and South Wiltshire Museum accession number: 3M 7B 5*

**5** Samian Drag form 31 (Webster, 1996, 34), Central Gaul, stamped ALBVCIANI Albucianus of Lezoux, Die 6a (Hartley 1990–91). *c AD* 160–200. *BD*

*Label*: Samian patera from the Pan wreck Whitstable Kent with potters name

There is no catalogue entry for this vessel.

The foot ring has broken off, and the break has been worn by water erosion. The external glaze has been eroded by (?) sand, suggesting that the vessel ended upside-down on the seabed. The stamp is partially covered with encrustation.

*Salisbury and South Wiltshire Museum accession number*: *3M 8B 6*

**6** Samian Drag form 31R (Webster, 1996, 34), micaceous fabric, stamped MAINCNI or MAINACNI Mainacnus of Lezoux, Die 2a (Hartley 1990–91). *c*AD 160–200. *BD*

*Label*: Samian bowl with makers stamp found at Whitstable May 1867

*Pitt Rivers Catalogue* VII, 1898–99, 2097: Imitation [later pencilled annotation] samian bowl found at Whitstable May 1867 Bt of Lawrence

The vessel is complete, but with a slight twist in the rim. It is possible that it's from the Pudding Pan Wreck. No price entered in the Pitt Rivers Catalogue.

*Salisbury and South Wiltshire Museum accession number: 3M 7B 1*

**7** Samian Drag form 32 (Webster, 1996, 44), Central Gaul, late second century AD

*Label:* Samian patera found at Sandy Beds in 1862 or 1863. It was deposited at the bottom of a hollow column formed of stone 12 ins across, the pile being 12 ft in height. It was placed between two oyster shells. Bt of Lawrence Apr 1868, 2097

*Pitt Rivers Catalogue* VII 1898–99, 2097: Samian patera found at Sandy Beds in 1862 ['or 1863' omitted]. It was deposited at the bottom of a hollow column formed of stone 12in across. The pile being 12ft in height. It was placed between 2 oyster shells. Bt of Lawrence Apr 1898.

*Salisbury and South Wiltshire Museum accession number: 3M 7B 4*

**8** Imitation samian Drag form 35/36 (Webster, 1996, 46), with a matt orange slip (almost identical to no 9 above). There are four trailing stalked leaves on the rim. The foot ring is very thin and shallow, not the standard thick angular type found on samian bowls and dishes. The colour and texture of the slip, and particularly the shape and size of the footring, are characteristic of African Red Slip ware. The form, which comes early in the African series, when the potters were still copying South Gaulish forms, is Hayes form 3B, (Hayes 1972) dated *c*AD 75–150. There are a few African red slip vessels from Roman contexts in Britain, ranging in date from the Flavian period up to the later 4th century; there are also a few complete examples whose provenance is much less certain in British museums, to which group this pot must presumably be assigned. All the (British) Roman-period pieces then known were published in Bird 1977. *JB* (Identified from photographs)

*Ink label*: Romano British Vize Collection Sotheby May 1892 Lot 375, 872

*Label*: 208

*Pitt Rivers Catalogue* III, 1891–96, 827, May 31 1892 Lot 335: Bought at Sotheby's, Wellington Street, Strand, London. Sale of old English pottery, Greek and Roman vases etc. Collection of G H Vize esq.

*Salisbury and South Wiltshire Museum accession number: 3m 6b 9*

**9** Imitation samian Drag form 35/6 (Webster, 1996, 46), slip similar to no 8. The rim is decorated with six leaves with trailing stalks, three stalks terminate on the left, the other three to the right, thus L, L, L, R, R, R. Halfway down the exterior of the bowl is a small horizontal groove running around the

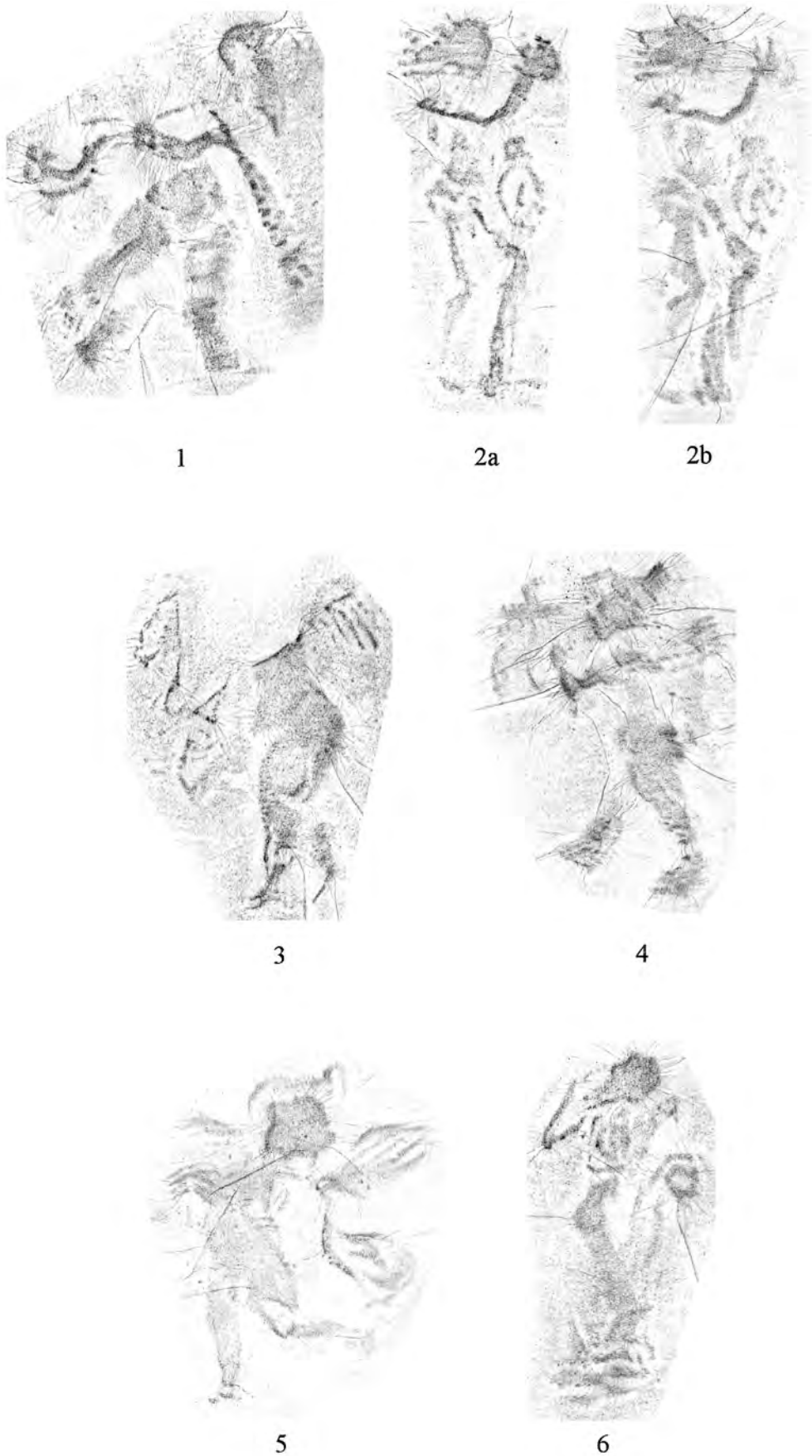



*Fig 2: Arretine krater Cat no 3, figure types 1–6 (scale 1:1)*


*Fig 3: Arretine krater Cat no 3, figure types 7–10 (scale 1:1)*

circumference; the angled footring is standard samian form, with a horizontal groove just below the angle. The external profile and the groove halfway up suggests an East Gaulish origin. The dish, form Curle 23 on Oswald and Pryce, 1920, pl 59, no 8, has a similar external profile and groove, while an undecorated Dr 36 from Rheinzabern, Ludowici form T1' on Oswald and Pryce, 1920, pl.53, no 21, is also of similar shape but without the groove. The rather heavy footring would also support an Eastern Gaulish origin. From the texture of the slip, Rheinzabern is probably the most likely, though it is usually more red in colour, with a date range in the later 2nd or early 3rd century. *JB* (Identified from photographs)
*Label*: Samian patera found at Sandys Bedfordshire LWNC: 1898, 2097
*Pitt Rivers Catalogue* VII, 1898–99, 2097: Samian patera found at Sandys Bedfordshire and similar to one found by Genl Pitt Rivers at the Romano-British village on Wood-Cutts common'
*Salisbury and South Wiltshire Museum accession number: 3m 6b 8*

Fig 1 no 3
**10*** Fragment of samian Drag form 37 (Webster, 1996, 47) mould pale pink colour, with micaceous inclusions. A panelled bowl, demarcated by very fine vertical beaded borders, but with a horizontal wavy line below the (missing) ovolo; a fine horizontal bead row divides the upper and lower panels, just off centre of the panel division, a single rosette. The upper panel contains a cockerel, Oswald (1936/7) 2361, within a wreathed festoon, Rogers (1974) F8. The lower panel contains a seahorse, Oswald (*ibid*) 41. The cockerel is attributed by Oswald (*ibid*) and Rogers (1999; *cf* Hopkins 2000) to several potters, amongst them *Attianus,* X-13 and X-14. Of these three, the seahorse is recorded for X-13 and X-14; while the festoon is known for X-12. X-14 is actually *Sacer*, and it's now thought that X-13 is also *Sacer* (Dickinson B, *et al* 2001, 190). That said however, the festoon has not yet been recorded for him. *Sacer* or an associate. Date: *c*AD 120–45
*Label*: Fragment of samian mould Bt of Rollin and Pevaboent, Mar 1891, page 672
*Pitt Rivers Catalogue* II 1884–91, 672, March 19 1891: Fragment of terra cotta samian mould
*Salisbury and South Wiltshire Museum accession number: 3m 7b 2*

**11** Samian Drag form 40 (Webster, 1996, 44) Central Gaul. Date: late second century
*Label:* "Trouvé en 1837 dans les déblais du chemin de fer, à Landan" [Found in 1837 in a spoil heap of the railway at Landan] *trans R.S* (Landan remains unidentified)
Not catalogued by Pitt Rivers
*Salisbury and South Wiltshire Museum accession number: 3m 8b 2*

**12** Samian Drag form 79 (Webster, 1996, 64), Stamped PAVL?LI Paullus v of Lezoux, Die 8c (Hartley 1990–91), *c*AD 160–200 *BD*.
*Bateman label*: 54 Thames August 1844
Bateman Catalogue (1855), 147 no 54: P Perfect PATERA of samian ware, 7½ inches diameter, Thames
*Pitt Rivers Label*: Ju 93 Lot 190 Sotheby Bateman Coll: 943 Thames 1844
*Pitt Rivers Catalogue* III 1891–96 June 14 1893: Patera of red samian ware, 7½ ins diameter, with makers stamp. From the Thames

One of two samian vessel (*the second, no 15 below*) in Lot 190, of the Bateman Collection sold at Sotheby's; a total of 28 Roman and Romano-British vessels purchased for £4. The P in the Bateman catalogue denotes purchase; and it was apparently found in 1844, published by Griffiths, 1995, no 50
*Salisbury and South Wiltshire Museum accession number: 3m 7b 9*

Fig 1 no 4
**13*** Samian, Hermet 9 mould (Vernhet 1986, fig 1); The decorative scheme of two horizontal zones is bounded above, below, and separated by single horizontal rows of large beads. The upper, a series of eight panels, A and B repeated. Panel A consists of a medallion of four concentric circles. In the four panel corners, single six-pointed rosettes. Panel B, a straight vertical wreath of three hollow biffid leaves; on either side three vertical rosettes of 12 petals. Separating panels A and B, two vertical roped borders. The scheme is as follows: A, B, A, B, A, B, A, B. The lower zone is a straight wreath of hollow biffid leaves, but smaller than those in panel B. Date: Late first to early second century
*Ink*: Mould for samian bowl found at Montans. Varn. Alt Bt of Rollin and Pevardent Mar 1890 page 671
*Label*: Trouvé à Montans Tarn ALT ('Found at Montans ALT' trans *RS*)
*Pitt Rivers Catalogue* II 1884–91, 671 March 19 1891: Bought of Rollin and Feuardent (Mr Wheelan) Bloomsbury. Mould for samian bowl found at Montans (Varn) Alt. Purchase price £6
This mould and the Lezoux example (no 10 above) were purchased on the same day from Rollin and Feuardent acting through an agent in London (*cf* Appendix A, a, *below*). Salisbury Museum currently has this labelled as a forgery, however there is no doubt that it's a genuine Montans mould.
*Salisbury and South Wiltshire Museum accession number: 3m 7b 3*

**14** Samian form Curle 15 (Webster, 1996, 57), Central Gaul. A twelve-petalled rosette, Central Gaulish (almost certainly Lezoux). There are three stamps from this die on form 46 that are probably part of the Pan Rock find, one in Plymouth Museum and two in Whitstable Museum. *c*AD 160–200. *BD*
Bateman Catalogue (1855), 147, no 53: P Perfect CUP of samian ware, 1 ¾ inch high, 4 ½ inches diameter, from the Thames, August [The Bateman catalogue entry is also pasted onto the vessel]
*Ink*: Ju 93 Lot 190 Sotheby Bateman Cat: 93 Thames and Bateman GI.
*Pitt Rivers Catalogue* III 1891–96, June 14 1893: Cup of red samian ware, 1 ¾ inch high 4 ½ ins diameter. From the Thames. Purchased with no 12 (*above*). The P in the Bateman catalogue denotes purchase; and was found in 1844. Griffiths, 1996, no 49
*Salisbury and South Wiltshire Museum accession number: 3m 7b 8*

## *Appendix A*

### Samian purchased and catalogued by Pitt Rivers not in the Salisbury and South Wiltshire Museum Collection

**a** Drag form 37 (Webster, 1996, 47). Argonne ware
Pitt Rivers Catalogue III 1891–96, November 26 1891: Bought of Rollin and Fueardent (F Whelan) 19, Bloomsbury St WC. Red samian bowl ornamented from [illegible] height 3½ inches width 7 ¼ inches ornamented with lines of squares filled with [illegible] lines. Purchase price £4

**b** Drag form 36 (Webster, 1996, 46)
Pitt Rivers Catalogue III 1891–96, May 31 1892, Lot 385: Bought at Sotheby's, Wellington Street, Strand, London. Sale of old English pottery, Greek and Roman vases etc. Collection of GH Vize esq. Purchase price for the lot, 8/-, including a stamped *terra rubra* platter (Griffiths, 1996, no 52)

**c** Platter or bowl, form unclear, but either Drag form 18, 18/31 or 31 (Webster, 1996, 32–4)
Pitt Rivers Catalogue III 1891–96, May 31 1892, Lot 398: Bought at Sotheby's, Wellington Street, Strand, London. Sale of old English pottery, Greek and Roman vases etc. Collection of G H Vize esq Samian, 6in diameter. Purchase price 7/-

**d** Drag form 35 or 36 (Webster, 1996, 46)
Pitt Rivers Catalogue I 1881–83, April 30 1883, 220: Lot 38: 'Objects purchased at sale of antiquities (?)fcnt messers Sothebys Wellington St Strand. Roman red samian bowl found in Shropshire ornated with leaves.' Purchase price 12/-

**Acknowledgements**
I'm grateful to the following individuals for their co-operation, expertise and assistance in researching this paper: J Bird; B Dickinson (Leeds University); JE Jones (University of Bristol); M Hassall (University College, London); Dr P Kenrick (Oxford University); Kent SMR; W. Moses; R Sauvaget; Dr P Webster (Cardiff University) and Martin Wright (Salisbury and South Wiltshire Museum). I am extremely grateful to the Salisbury and South Wiltshire Museum for permission to reproduce the rubbings and photographs, and who remain the copyright holders.

**Bibliography**
Bateman, T, 1855, *Descriptive Catalogue of the Antiquities and Miscellaneous Objects Preserved in the Museum of Thomas Bateman: at Lombardale House, Derbyshire*, privately printed
Bird, J, 1977, African Red Slip Ware in Britain, in Dore, J, and Greene, K (eds), *Roman Pottery Studies in Britain and Beyond. Papers presented to John Gillam, July 1977,* BAR Supp Ser **30,** 269–77
Bowden, M, 1991, *Pitt Rivers: the Life and Archaeological Work of Lieutenant-General Augustus Henry Lane Fox Pitt Rivers, DCL, FRS, FSA,* Cambridge University Press
Comfort, H, 1976, Lake Nemi and London: Two Retractions, *Rei Cretariae Romanae Fautorum* **16**, 158–9
Dawson, M, 1995, Sandy, in Brown, AE (ed), *Roman Small Towns in Eastern England and Beyond,* Oxbow Mono **52**, 167–76
Denford, GT, 1993, Some Exotic Discoveries at Silkstead Sandpit, Otterbourne, and the Possible site of an Ancient Temple, *Proc Hampshire Field Club and Archaeol Soc* **48,** 27–54
Dickinson, B, Hartley, B, and Pengelly, H, 2001, Samian Ware, in Anderson, AS, Wacher, JS and Fitzpatrick, AP, *The Romano-British Small Town at Wanborough, Wiltshire,* Britannia Mono **19,** 179–209
Ettlinger, E, Hedinger, B, Hoffmann, B, Kenrick, PM, Pucci, G, Toth-Rubi, K, Schneider, G, von Schnurbein, S, Wells, CM, and Zabehlicky-Scheffeneger, S, 1990, *Conspectus Formarum Terrae Sigillatae Italico Modo Confectae,* Materialien zur Römisch-Germanischen Keramik **10**, Bonn
Griffiths, N, 1996, Roman Material from London in the Pitt Rivers Collection at Salisbury Museum, in Bird J, Hassall, M, and Sheldon, H (eds), *Interpreting Roman London Papers in memory*

*of Hugh Chapman,* Oxbow Mono **58**, 189–97

Hartley, BR, 1990–91, The new Index of Potters' Stamps on Samian Ware (Terra Sigillata). *Annales de Pegasus* **1,** 18–25

Hartley, KF, 1996, Procuratorial Mortarium Stamps, in Bird J, Hassall M, and Sheldon H (eds), *Interpreting Roman London: papers in memory of Hugh Chapman*, Oxbow Mono **58**, 147–51

Hawley, W, May, T, and Whiting W, 1931, *Report on the Excavation of the Roman Cemetery at Ospringe, Kent*, Soc Antiqu of London Res Rep **8**

Hayes, JW, 1972, *Late Roman Pottery,* The British School at Rome

Hopkins, RW, 2000, *Index of Central Gaulish Pottery Figure Types,* www.cf.ac.uk/learn/archaeol/gaulish/main.html

Howarth, E, 1899, *Catalogue of the Bateman Collection of Antiquities*, Sheffield Public Museum

Macdonald, J, 1996, Stony Jack's Roman London, in Bird J, Hassall M, and Sheldon H (eds), *Interpreting Roman London: papers in memory of Hugh Chapman*, Oxbow Mono **58**, 243–51

Marsh, G, 1979, Nineteenth and Twentieth Century Antiquities Dealers and Arretine Ware from London, *Trans of the London and Middlesex Archaeol Soc* **30**, 125–29

Matthews, K, 1996, Iron Age sea-borne trade in Liverpool Bay, in Carrington, P (ed), *Where Deva Spreads Her Wizard Stream: Trade and the Port of Chester, Papers From a seminar Held at Chester, November 1995,* Chester Archaeol Occ Pap **3**, Chester City Council, 12–23

Oswald, F, 1936–37, *Index of figure-types on Terra Sigillata*, Supp Ann Archaeol Anthrop

Oswald, F, and Pryce, TD, 1920, *An introduction to the study of Terra Sigillata, treated from a chronological standpoint*, London

Oxé, A, Comfort, H, and Kenrick, P, 2000, *Corpus Vasorum Arretinorum, A Catalogue of the Signatures, Shapes and Chronology of Italian Sigillata*, Bonn, 2nd Edn, completely revised and enlarged

Parsloe, G, 1928, Appendix V, notes on the site of the Roman Bridge at London in RCHME, *Roman London: An Inventory of the Historical Monuments in London* Vol **3,** 192–94

Pitt Rivers Catalogues vol I–IX, 1881–99, Cambridge University Manuscript Library, Additional Manuscript 9455/1–9

Rogers, GB, 1974, *Poteries Sigillees de la Gaule Central: 1: Les Motifs non Figures,* Gallia Supp **28**

Rogers, GB, 1999, *Poteries Sigillees de la Gaule Centrale,* Cahier du Centre Archeologique de Lezoux

Schuermans, MH, 1867, *Sigles Figulins*, Academie D'Archeologie De Belgique

Sotheby, Wilkinson, and Hodge, 30th May 1892, *Well known and important collection of pottery, bronzes and miscellaneous antiquities, collection of GH Vize esq*, London (British Library Shelf mark: SC Sotheby.1031)

Sotheby, Wilkinson, and Hodge, 14th June 1893, *The Bateman heirlooms, catalogue of the second portion of antiquities formed by the late W Bateman Esq and T Bateman Esq of Lombardale House, Youlgrave, Co Derby*, London (British Library Shelf marks: SC Sotheby.1052)

Sotheby, Wilkinson, and Hodge, 12th March 1895, *A few Greek and Roman Antiquities etc, the property of the Royal United Services Institution*, London (British Library Shelf mark, SC Sotheby.1081)

Thompson, M, and Renfrew, C, 1999, The catalogue of the Pitt Rivers Museum, Farnham, Dorset, *Antiquity* **73**, 377–92

Vickers, M, 1990, Arretine Forgeries Revealed, *The Ashmolean* **18**, 5

Webster P, 1996, *Roman Samian Pottery in Britain,* CBA Practical Handbooks in Archaeology **13**

Vernhet, A, 1986, Centre de Production de Millau Atelier de la Graufesenque, in Bemont C, and Jacob, J-P (eds), *La Terre Sigillee Gallo-Romaine, Lieux de Production du Haute Empire: Implantations, Produits, Relations,* Docs D'Archeologie Francaise **6**

# The Great Essex Earthquake (AD60/1)?

*Raphael MJ Isserlin*

## *Introduction: burying one myth…*

There is one really interesting question to do with Boudicca, it is a big one, and it is very simple: Can we trust Cassius Dio's statement that Boudicca had a costly (πολυτελῶς) funeral (*Epitome*, LXII, 8)? We do not know the answer because we do not know where she was buried. He does not give any precise details, nor does Tacitus, the other surviving account of the rebellion. The site could have been near to London (*cf Annals* XIV, 32). A voluminous correspondence has grown up on this subject. Romantic locations like Stonehenge and Platform 8 at King's Cross Station have been mooted over the years, few less evocative surely than Pentonville or Staines (Fraser 1988, 93f, 100). It has been surmised (Webster 1978, 97f, 111f; *cf* Sealey 1997, 40) that her last stand took place at Mancetter, subsequently to achieve better archaeological renown as the site of a mortarium factory that the recipient of this paper has excavated. But that is only an educated guess, though a good one, if the rebellious provincials were obliging enough to meet the Roman army half-way along Watling Street as it marched back from Mona.

Had the course of history been different, Boudicca might have been buried near Prasutagus her husband, somewhere in East Anglia. Prasutagus' tomb may not have been so very different from those we now know of at Stanway outside *Camulodunum*, and Folly Lane near *Verulamium*, underground wooden chambered tombs, topped by turf barrows, or even (as at Lexden, outside *Camulodunum*) within a Roman-style barrow. There may be a hint of this in Dio's text, which describes where Boudicca stood to address her troops, as a 'tribunal built of earth in the Roman fashion' (βῆμα ἐξ ἐδάφους ἐς τὸν Ῥωμαϊκὸν: *Epitome*, LXII, 3). This description reads mighty like such a barrow being pressed into service as a rostrum, and the mere act of her standing atop the paternal grave would give impressive support to the pressing home of her cause. Would Boudicca's tomb have been modelled on her late husbands? *If* it was, and *if* it survived any Roman retaliation, there ought somewhere to be a female skeleton (or cremated remains), associated with the large golden torque (στρεπτὸν μέγαν χρυσοῦν), multicoloured tunic (χιτῶνά τε παμποίκιλον), thick cloak (χλαμύδα) and brooch fastening (παχεῖαν ἐνεπεπόρπητο) that she wore, the spear that she clutched (λόγχην) and the chariot in which she rode (ἐφ' ἅρματος ὠχεῖτο: *Epitome*, LXII, 4; 8). An *arbustum* (cremation site) may lie nearby. The environs of *Venta Icenorum*, might be a suitable location... *if* it ever proves to have been occupied in the AD 40s–60s. There is the enigmatic and vanishingly ill-documented revolt of AD 47 to bear in mind too. Tacitus' description of that incidentally involves an earthwork, a rarity for Norfolk (*Annals* XII, 31–2).

The potential archaeological correlates are fairly clear: our chances of showing them for Boudicca, less so (but for Prasutagus, possibly slightly more). As the chances of discovering the fate of Varus' army through fieldwork were rated low until quite recently, and archaeology now seems to be coming up with pretty solid evidence of the *clades lolliana* and, more surprising still, is confirming what Dio said about Varus founding towns in Germany east of the Rhine (*Epitome*, LVI, 18), who knows? It would be interesting to know where Dio got his very specific information regarding the earthen tribunal (and, unless it was sheer fiction, just how did Tacitus know that the temple of the imperial cult at Colchester withstood a siege of two days: '*biduo obsessum*', he says (*Annals* XIV, 32) ?). Tacitus also says that Boudicca's army and the female bystanders were all wiped out, along with their baggage animals; '*Et milites ne mulierum quidem neci temperebant, confixaque telis etiam iumenta corporum cumulum auxerant*' (*Annals* XIV, 37)). But we cannot assume that all of the tribes were involved in the revolt. Indeed Dio says the rebels were scattered to their homes, and they may have subsequently provided useful information to the Roman authorities. If Dio was correct, a touch of revision may be in order, and perhaps we should start by considering how a defeated ragtag army could find the time for final obsequies in the first place. We know less (and more) than we think.

Archaeological material is beginning to suggest that the paradigm of a revolt that flares up suddenly and ends just as quickly is based on unspoken modern

assumptions that the surviving classical texts cannot sustain. A statistical study of the Celtic component of coin hoards deposited in Icenian territory *c*. AD 60/1, indicates that Boudicca actually minted silver coins, presumably to finance her revolt (van Arsdell 1988, 24, 213f.). They bear images not so very different from earlier issues. Dynastic stability and continuing political independence are the subtexts here, along, we may infer, with Boudicca's own personal legitimacy. Minting silver coins would have taken time to arrange, and would surely have impacted beyond the boundaries of the client kingdom – where did the metal come from? News of such activity must have reached the ears of the provincial governor, and the Romans were ignorant neither of basic economics, nor of the political significance attached to images on coins. Nor was this last time in Nero's reign that rebels minted coins. Coin conveying slogans of freedom and redemption was struck in Judaea (Mildenberg 1990). In that war, ethnic and religious identities were paramount, and it lasted for years. Yet if the Romans were aware that trouble was brewing in south-east Britain, perhaps with similar undercurrents, we do not know it. The classical narratives treat initial events amongst the Iceni and the Catuvellauni as purely local matters; frustrations boiled over *in reaction to* events initiated by Rome. The religious conflict takes place in *Mona*. The overall picture may have been rather more complicated, the tribal leaders more proactive, and the first rumblings of discontent heard a little earlier than we think.

## *…and unearthing a buried one*

So, in offering thoughts based on the supposedly much simpler and safer question, favoured by examiners, namely 'Account for the causes of the Boudiccan Revolt', I hope to show that there is more than one way of answering such a question, and of getting a somewhat different answer from familiar material. Let me give an analogy. Thomas Thornycroft's well-known bronze sculpture on the Thames Embankment of Boudicca and her daughters in a chariot, scythes fixed to its wheels, has long conditioned the 20th century imagination (Fraser 1988, 272, 297f). At least one other work of art depicts her. Yet very few I suspect have heard of it. Clare Sheridan produced a panel showing her in a chariot, one of a series specially commissioned from Commonwealth artists for the Coronation of HM King George VI and Queen Elizabeth, in May 1937, and it is illustrated in a commemorative booklet published by Messrs. Selfridge's of London (Selfridges 1937, 1; Fig 1). Just as only one sculpture of Boudicca is usually illustrated in modern textbooks, so significant historical details tend to get bypassed and forgotten, by privileging and reiterating one particular historical tradition, and that has continued to the present day. We only have a partial (I


*Fig 1: Boudicca in her chariot, 20th-century style*
*(Reproduced with the permission of the Public Monuments and Sculpture Association and Leeds Galleries and Museums; Henry Moore Archive)*

use the word advisedly) Roman narrative. But let us return to our hypothetical essay question, and to that well-trodden path.

The majority of candidates would (I hope) receive credit for mentioning the names Tacitus and Dio in their answers, and for referring to land-confiscation, or exorbitant loans; points would surely be withheld for not mentioning a well-known temple in Colchester; additional credit might be awarded for a thoughtful reference to burnt layers at Colchester, *Verulamium*, and London as a consequence of Rome 'Overstepping the Mark'. It would not be surprising to find Druids lurking somewhere in the verbiage, performing ghastly rites in the Isle of Anglesey; and the flogging of Boudicca, the rape of her daughters and the contesting of her husband's will would perhaps appear too, as well as barbarian hordes running amok in London and performing sacrifices in the grove of Andaste (Green 2001). The more perceptive students might draw parallels with the victorious Roman army subsequently dispatching the Britons and their beasts *en masse*, and conclude it was repaying the locals in kind. Those sorts of atrocity stories (doubtless justified at the time as legitimate acts of self expression) tend to stick in the mind. Some of the more able students might note that there had been earlier unrest in AD 47. Those at least are some of the known facts (or factors); they are all perfectly correct, I am sure; the levels of analysis and argument presented might vary from script to script, as it can sometimes be rather difficult to isolate and distinguish between cause and

effect. That is where the fancy footwork comes in. Most modern treatments lend the whole affair an undertone of inevitability. Like Europe in 1913/14, East Anglia in AD 60/1 was a powder keg; the Roman soldiers who humiliated Boudicca and her kin merely lit the match their masters so thoughtfully supplied; and the rest, as they say, was history. That at least is the assumption.

But the potential for unrest was not necessarily so unusual in a Roman province. It was the realisation of that potential that counts. In Roman Germany the *agri decumates* were settled by all sorts of ruffians (but there was no revolt as a consequence); the Senecas of the time will have farmed their loans out very astutely to other provinces besides Britain (yet we hear of no other consequences as a result of financial panics at this time); the will of a client king being redrafted did not automatically provoke discontent (Herod did this at least once with no untoward consequences). We should distinguish two sorts of revolt; one, which occurs within Rome, Italy or a long-settled province, is when members of the upper classes ('the establishment' or potentially so) attempt to seize power either for personal gain or as a means of expressing dissent (MacMullen 1985), potentially as a means of transforming 'the system' while basically working within it. The second sort of revolt involves rejection of `the system itself' and can become a major war. Our episode is one of these. They tend to occur fairly early on in the lifespan of a province, involving an indigenous elite that is exposed to Roman traditions but with tribal structures intact, before detribalisation and when the newly imposed administration is isolated from its subjects, and matters to do with cult play a part (Dyson 1971; 1975). In short, come the hour, come the man, or woman.

But something is missing from the equation. I submit that we do not know all the factors, nor do we automatically accord to all those we do know, their correct importance or interpretation. Precisely what sparked smouldering political resentment and potential unrest into actual revolt in AD 60/1? I would like to suggest an additional factor, which can be teased out from the historical record (Dio, Tacitus) but which has been long overlooked or misinterpreted.

## *Some literary trickery; and a tale of two cities*

We have to look at what happened immediately prior to the revolt, and where whatever happened, happened: and that means returning to the accounts of Cassius Dio and Tacitus. Dio is vague as to the precise location, relating it to two unnamed cities: δύο τε γὰρ πόλεις (*Epitome*, LXII, I). For Tacitus the *mise en scène* is Colchester (*Annals* XIV, 31), and yet the vision of a destroyed *colonia* presents itself in the Thames estuary (*visamque speciem in aestuario* ***Tamesae*** *subversae coloniae*). The spectre moves! Dio echoes this '…some houses were seen underwater in the River Thames…' (οἰκίαι τέ τινες ἐν τῷ Ταμέσᾳ ποταμῷ ὕφυδροι ἑωρῶντο) but adds a crucial detail of geography '…and the Ocean between the island and Gaul once grew blood-red at flood tide…' (καὶ ὁ Ὠκεανὸς ὁ μεταξὺ τῆς τε νήσου καὶ τῆς Γαλατίας αἱματώδης ποτὲ ἐν τῇ πλημμυρίδι ηὐξήθη) (*Epitome*, LXII, I). There is no island at London (so far as we know) apart from the Thames mudflats by Southwark, and the mention of Gaul may lead one to assume that the island is the British mainland. Not so. Dio places the incident between the island (in the singular; one might expect the word to appear in the plural, Βρετανικαὶ νήσοι, or be explicitly named as Βρεττανία) in apposition to Gaul, Γαλατία. It would make better sense if the island were Mersea Island, directly opposite Colchester on the estuary of the River Colne, and not the British mainland. The only British *colonia* existing in AD 60/1 was Colchester, not London. So why the shift? Tacitus skimmed through an account that plays detailed close attention to the local topography and inserted the name of a better-known foreign river. In which case, his conflation of two locations, London and Colchester, misled Dio and modern scholars. Colchester it is, then. (Be it noted, incidentally, that *Verulamium* does not get a look in, except in passing: It suffered the same fate as London, Tacitus adds laconically, '*Eadem clades municipio Verulamio fuit*' (*Annals*, XIV, 33)).

This is an extraordinary image in a highly melodramatic passage, and more is to come. We should recall Dio's remark that 'Heaven gave them indications of the catastrophe beforehand: ὥς που καὶ τὸ θεῖον τὴν συμφορὰν αὐτοῖς προεσήμανεν' (*Epitome*, LXII, I). He and Tacitus had the benefit of hindsight and what both describe are usually interpreted (if at all) as portents or marvels (*prodigia*), a literary trick to condition the audience to expect something dreadful in the narrative. Demands of rhetoric have sometimes overtaken veracity in Tacitus' account; just what one might expect of the author of *de Oratoribus*. He is not wholly to blame; he had his audience's expectations to fulfil and as they knew the plot already, his account assumes an almost epic aspect, to read all the better in a recitation (*declamatio*) in Rome on a hot summer's evening; I give a (fairly) accurate translation, line for line, breaking the text where it seems appropriate:

| | |
|---|---|
| '*..simulacrum victoriae ac retro conversum*; | …and the statue of Victory turned her back; |
| *et feminae in furorem turbatae adesse exitium canebant*, | and frenzied females were raving 'The End is Nigh', |
| *externosque fremitus in curia eorum auditos*; | and outlandish groans were heard in their senate house; |
| *consuisse ululatibus theatrum* | the theatre echoed with shrieking |
| *visamque speciem in aestuario Tamesae subversae coloniae*; | and the image of a ruined colonia was seen in the Thames Estuary; |
| *iam Oceanus cruento aspectu*; | now the Ocean turned blood red; |
| *dilabente aestu humanorum corporum effigies relictae'* | and human bodies were left by the retreating tide. |

Certain literary features would help Tacitus make his point. Alliteration is one (the repetition of the letter 'f': *'feminae in furorem',* literally *women in their rage*). Another is the use of the word *iam* (now, already). It makes the listener sit up and expect a vivid image. The Roman literary salon was quite familiar with this sort of trick: it occurs in Virgil's *Aeneid* and on this occasion Tacitus' audience would be presented with the image of '*now* the ocean appearing blood-red'. There are others. (The reference to shrieking women recalls to the reader the cursing women (*intercursantes feminae*) of *Annals* XXX when the Roman army storms the island of *Mona*.) The episode concludes with a typically pithy Tacitean epithet – these signs gave hope to the Britons, and fear to the veterans (*ut Britannis ad spem, ita veteranis ad metum trahebantur*). It gives a very visual, epic episode closure, and brings us back down to earth: here comes that *clades*.

But I submit that there was more to it than that, when one strips away Tacitus' rhetoric and dramatic technique, and Dio's vagueness. There is an underlying narrative, the elements of which have been ignored, based on a real text. What are presented as supernatural or ominous signs (and interpreted just on that level) can be rationalized as something very different. The original source for Tacitus and Dio provides clear indications of an earthquake or seismic event, taking place in the Colchester area; and little details in the surviving accounts support this contention. We may even be able to identify who that source was.

Let us take each motif in turn:

The toppling or pivoting of a statue of Victory (*simulacrum victoriae ac retro conversum*); this is not mentioned by Dio who forewarns his audience of the theme of the *clades Lolliana*, and refers to the statue of Victory turning in Rome together with a whole string of other omens, but does so *after* awful events of AD 9 have taken place in Germany, not before (LVI.24). (Dr JG Hind personal comment)

Hysterical keening women (*feminae in furorem turbatae adesse exitium canebant*);

Unearthly sounds in the council chamber (*externosque fremitus in curia eorum auditos*); this is paralleled in Dio who talks of '…foreign jargon mingled with laughter…';

The theatre echoing these (*consuisse ululatibus theatrum*); again, paralleled in Dio who talks of '…outcries and lamentations from the theatre …';

The vision of an overturned *colonia* becoming visible in the Thames estuary (*visamque speciem in aestuario Tamesae subversae coloniae*); Dio's statement that '…houses were seen under the water in the river Thames…' can be read in several ways (see also (vii), below);

The ocean turning blood-red (*iam Oceanus cruento aspectu*);

The retreating tide uncovering what looked like submerged corpses (*dilabente aestu humanorum corporum effigies relictae*).

There is, I think, plenty to go at here.

## *A more robust approach*

We can take these vignettes and set them against generally observed or subsequently reported earthquake-related phenomena, and they fit surprisingly well. A list is given as Table 1. It is a matter of personal choice how far one wants to go. For example the motif of keening women implies things had possibly reached as high as Level 6.9 on the Richter scale but I suspect there would have been some alarm well before then! On such evidence as Tacitus provides, the Colchester event of AD 60/1 seems to fall between levels 4.8–6.9 on the Richter Scale. (NB: each point on this Scale is 10 times more powerful than the previous one, so a seismic event or earthquake could have had a pretty powerful effect on Colchester.)

A cynic would dismiss this comparison as wild conjecture; a rationalist would ask if there were any documented examples of such an occurrence in Colchester that would justify the analogy? And the answer to that is a decisive 'Yes'.

Perhaps I may add an observation based on personal experience in the 1990s first of all; for a while I lived just outside Chelmsford (*Caesaromagus*) in a building half-a-mile or more from the nearest road, which ran from *Londinium* to *Camulodunum*, a ruinous mansion with a

*Table 1: Comparison of the Modified Mercalli Scale and the Richter Scale (Source: McGuire 1999, 165)*

| *Level* | *Intensity on Modified Mercalli Scale* | *Effect or Damage* | *Corresponding magnitude on Richter scale* |
|---|---|---|---|
| *I* | Instrumental | Not felt by humans | - |
| *II* | Feeble | Felt by some people at rest | - |
| *III* | Slight | Hanging objects swing; similar to heavy trucks passing | <4.2 |
| *IV* | Moderate | Doors windows and crockery rattle; felt by people walking | - |
| *V* | Slightly strong | Doors swing, liquids and pictures disturbed; sleepers wake; church bells ring | 4.8 |
| *VI* | Strong | Windows and crockery broken; walking difficult; trees sway; masonry may crack | <5.4 |
| VII | Very strong | Furniture broken, walls crack and plaster falls; noticed by drivers; difficult to stand | <6.1 |
| *VIII* | Destructive | Partial collapse of poorly constructed buildings; chimneys fall; steering of cars difficult | - |
| *IX* | Ruinous | Some houses collapse; underground pipes break; obvious ground cracking; general panic | <6.9 |
| *X* | Disastrous | Many buildings destroyed; landslides and soil liquefaction common; many ground cracks | <7.3 |
| *XI* | Very disastrous | Most buildings and bridges collapse; railways pipes and cables destroyed | <8.1 |
| *XII* | Catastrophic | Total destruction; trees uprooted; ground rises and falls in waves; objects thrown in the air | |

Neolithic cursus and a Class II henge monument attached, and on several separate occasions felt a mild unease and heard the furniture rattle. Having lived in parts of the world where earthquake damage is a real possibility, and worked on archaeological sites where excavation vividly attests it, I was rather alarmed at the prospect that sprung unbidden to mind, and so on one memorable and hitherto tranquil evening were my dinner guests; nor was I totally reassured to read next day in the *Victoria County History* (Doubleday and Page 1903, 23) that at 9.18 am on April 22nd, 1884 an earthquake centred on Colchester, the River Blackwater, and Mersea Island: precisely the area under discussion in this paper! It damaged 12–13,000 buildings throughout the region, including 31 churches (ie structures of brick or stone, just like those that would be appearing in Roman Colchester). Its effects were felt throughout much of south-east England, and the Thames experienced a minor tidal wave. Other archaeologists in the region are taking an interest in the 1884 earthquake and there is a thriving interest in archaeoseismology more generally (Crummy 2001; Stiros and Jones 1996).

Details in Tacitus' text can be read in other ways; he has been artfully ambiguous in his use of language. The groans issuing from the senate-house need not be just ill omens parodying the sounds of senatorial debate in full flow, but the creaking and cracking of a superstructure under seismic strain. His audience would thrill at this. Again, the motif of unearthly echoing in the theatre: such structures, designed to have good acoustics (Vitruvius, *de architectura* V, 3) would naturally echo anything coming from stage-level; or up from below it. The substructure was probably resounding with noises as its foundations began to settle. Colchester was not alone in suffering such ills. The *praetorium* of Cologne was damaged in an earthquake in late-antiquity, its foundations settling by 0.2m as the underlying soil liquefied, in an event whose magnitude was potentially 5.8. It was the 1992 Roermond earthquake (magnitude 5.4) that showed this possibility (Hinzen and Schütte 2002; Schütte, personal comment). If the 1884 Colchester event is any guide, something similar may well have happened to *Camulodunum* in AD 60/1.

So, that witty tricksiness of words and images (the haunted theatre indeed!) would provoke a wry smile among people who knew of superstitions and what an earthquake could do; such noises had an all too earthly basis. They knew that the years AD 60–62 had seen seismic activity in the Mediterranean, most notably in Campania, but also Greece and Asia Minor (Table 2), not least because Seneca, Nero's advisor, devoted part of his *Natural Questions* to the subject. Pompeii was near the epicentre when earthquake struck on 5th February, and this was the talk of the town. Its public buildings were quite badly affected; the amphitheatre and theatre probably survived because their shape diffused the forces, but the rectangular temples would have buckled under them. Indeed, Pompeii was so badly affected in AD 62 that its inhabitants were still rebuilding the town when Vesuvius erupted, 17 years later. That same earthquake also hit Herculaneum, Nuceria and Neapolis (*N.Q.* VI, 25.3; Cooley 2004, 19; Laurence 1994, 35 and n.4).

*Table 2: Some documented earthquakes at Roman coloniae*

| *Date* | *Site* | *Source* |
|---|---|---|
| AD 60 | *Laodicea* | Tacitus *Ann.* XIV, 27 |
| AD 61 | *Philippi* | *Acts* 16, 26 |
| AD 62 | *Pompeii* | Seneca *N.Q.* VI, 25.3 |

Earthquakes can exacerbate political instability under certain circumstances and give rise to religious sentiments (Horden and Purcell 2000, 306–8, 419, 626), and it could have been seen as some sort of 'sign' by the infernal gods that all was far from well. An earthquake or land-slip in Britain that caused visible damage to the temple of an alien Roman cult may have been seen as the local deities inviting retaliation on the invasive ones for the Roman's attack on their traditional stronghold in Anglesea. The earthquake at *Philippi* that damaged the jail inspired those who experienced it with profound religious sentiments. In Britain it was the infernal gods that clearly inspired this reaction, with yet another *prodigium*, the exposure of submerged corpses and structures outside the city. (The Law of the XII Tables meant that burials, even of this sort, would be extra-mural.) One example of a submerged body associated with London is the burial on the Thames foreshore dated by radiocarbon to AD 70 ± 70, and sealed by deposits containing human remains (HAR 2239: Parnell 1985, 5–7). In a marshy place, it has all the characteristics of a bog-burial. There is no reason why there should not be other examples in the Colne Estuary if (as argued here) this is where the narrative is to be placed. Equally, what Dio describes as '…houses seen under water' could be just that: prehistoric structures on the river foreshore. Coastal erosion has in recent years produced wooden structures on the coast of East Anglia, most notably the timber Seahenge monument in Norfolk (Pryor 2000). The circumstances of their exposure of structures or bodies should be considered, and though normal tidal erosion is a possibility there is another explanation for the retreat of water followed by a high tide, sufficient severe to be worthy of note; this sounds like a *seiche* (oscillation of water in an enclosed area caused by seismic disturbance). The sudden if brief and violent retreat of water in the Colne estuary near Mersea Island could expose such remains. Woodcock was at least aware of the possibility of the forces of nature, even if he could not define precisely what caused it (1939, 120).

## *Conclusion*

In the end, since Dio used Tacitus as a source, it all goes back to Tacitus; or does it? He gives a vivid account, but explicitly avoids the word earthquake or even hinting at it. This is odd, because his surviving works give no less than 6 reports of earthquake, and those of Dio, no less than 11 (Newbold 1982, 33). So why this anomaly? His literary treatment was highly tendentious, as he was quite capable of manipulating the truth to make his point; being a traditionalist and republican at heart, he was not overly keen on the imperial system and his philosophy was quite clear ('all emperors are bad, as the examples of Nero and Domitian clearly show; the current ruler Trajan is at least bearable; but the Republic is the best form of government'). Nero was incompetent; omitting walls to defend the *colonia* proved that; and stressing the supernatural effect would underline Tacitus' point even further, the very gods were clearly against such an ill-starred ruler, even if the precise mechanism is understated, divine agency is clear. This theme re-emerges more clearly in his treatment of the next year, AD 62. Lightning struck the *Gymnasium* in Rome, and it burnt down; the statue of Nero inside it melted into shapeless bronze (*Annals* XV, 22). His very next sentence deals with earthquake at Pompeii.

Some details in his account of events in Colchester can be related to the *colonia*'s nascent urban architecture: the statue of Victory probably stood at the temple of the imperial cult referred to at *Annals* XIV, 31. That argues for potential first-hand knowledge though it is possible that it is a literary foil to that other Victoria, the Celtic form of which is *Boudig* (Webster 1978, 1). It is also possible that both Dio and Tacitus relied on a third set of sources: eyewitness accounts, writings of participants or the official records from the archive relating to the province, or even the memoirs of the provincial governor. That was the attitude of Sir Ronald Syme. He suggested it might possibly be Pliny but then drew back, saying 'It is apparent that the *prodigia* (XIV 32.1, *cf* Dio LXII. 1.2) derive from the same source ultimately. Speculation is unprofitable' (Syme 1958, 765 n4). I am not so sure that effort is altogether wasted. If the interpretation offered here is correct, namely that what we are looking at is not a trotting-out of contrived omens but genuine descriptions of actual natural phenomena derived from authors with a sound knowledge of geography, and simplified or omitted in the retelling in order to fulfil a broader meta-narrative, it would not be in the least surprising if that original source were one of the missing works of Pliny, given that he also described the demise of Pompeii so well. That would probably have comprised a detailed account of what went on in Colchester, London and *Verulamium* during those fateful days, gleaned from the handful of Romans who survived hidden somewhere, and also captured Britons, the narrative sequences at the first two settlements being conflated by Tacitus and those after him into a single narrative, goings-on at the third omitted. After all (Tacitus would reason), *Camulodunum* probably, *Londinium* possibly, but who in Rome had heard of *Verulamium*?

**Acknowledgements**

I would like to thank, in alphabetical order: Ms Katherine Fenton, Archivist, Henry Moore Institute Archive, for assistance with Fig 1; Dr JGF Hind, formerly of the School of History, University of Leeds, for assistance with the text of Cassius Dio; Dr Paula James, Department of Classical Studies, the Open University, for comment on Tacitus' rhetoric; and Dr Richard Jones, Department of Archaeology, University of Glasgow for initial encouragement on this idea from an archaeoseismic point of view. The biggest thanks go to my father, Dr BSJ Isserlin, for putting up with all of this and a great deal more!

**Bibliography**

Crummy P, 2001,Virley church: a survivor of the Essex earthquake of 1884, *Colchester Archaeol* **13** (for 2000), = http://www.catuk.org/articles/earthquake.htm (accessed 26.05.04)

Cooley, AE, 2004, *Pompeii*, London

Doubleday, HA, and Page, W (eds), 1903, *The Victoria History of the Counties of England. Essex,* Vol I, London, St Catherine Press

Dyson, SL, 1971, Native revolts in the Roman Empire, *Historia* **20**, 239–74

Dyson, SL, 1975, Native revolt patterns in the Roman Empire, *in* Temporini, H, and Haase, W (eds), *Aufstieg und Niedergang der Römischen Welt*, Bd **2.3** (Berlin, de Gruyter), 138–75

Fraser, A, 1988, *Boadicea's Chariot: The Warrior Queens,* London

Green, M, 2001, *Dying for the Gods: Human Sacrifice in Iron Age and Roman Europe,* Stroud

Hinzen, K-G, and Schütte, S, 2002, Evidence for a Medieval-Earthquake with Damaging Effects on Buildings from Late Antiquity in Cologne, Germany, http://atlas-conferences.com/cgi-bin/abstract/caiq-20 [accessed 10.02.04]

Horden, P, and Purcell, N, 2000, *The Corrupting Sea: A Study of Mediterranean History,* Oxford

Laurence, R, 1994, *Roman Pompeii: Space and Society*, London

MacMullen, R, 1985, How to Revolt in the Roman Empire, *Rivista Storica dell'Antiche* **15**, 67–76

McGuire, B, 1999, *Apocalypse. A Natural History Of Global Disasters,* London

Musson, R, 2002, Seismicity and earthquake hazard in the UK, *British Geological Survey/Natural Environment Search Council*, http://www.earthquakes.bgs.ac.uk/hazard/hazuk.htm [accessed 10.02.04]

Mildenberg, L, 1990, Rebel Coinage in the Roman Empire, *in* Kasher, A, Rappaport, U, and Fuks, G, (eds) *Greece and Rome in Eretz Israel: Collected Essays* (Jerusalem), 362–74

Newbold, RF, 1982, The reporting of earthquakes, fires and floods by ancient historians, *Proc of the African Classical Assoc* **16**, 28–36

Parnell, G, 1985, The Roman and Medieval Defences and Later Development of the Innermost ward, Tower of London: Excavations 1955–77, *Trans London and Middlesex Archaeol Soc* **36**, 1–79

Pryor, F, 2000, *Seahenge: New Discoveries in Pre-historic Britain,* London

Sealey, PR, 1997, *The Boudiccan Revolt Against Rome,* Princes Risborough

Selfridges, 1937, *Portfolio of Selfridges Decoration for the Coronation – May 1937,* London

Stiros, S, and Jones RE, 1996, *Archaeoseismology*, Athens, Inst of Geological and Mineral Exploration and British School at Athens

Syme, R, 1958, *Tacitus*, Oxford

van Arsdell, R, 1988, *Celtic Coinage of Britain*, London

Webster, G, 1978, *Boudicca: the British Revolt against Rome*, London

Wacher, J, 1974, *The Towns of Roman Britain,* 1st edn, London

Woodcock, EC, 1939, *The Annals of Tacitus Book XIV*, London

# A bird in the hand

*Catherine Johns and Val Rigby*

After some 35 years, the bird-pot found in the King Harry Lane Cemetery, St Albans, is still unparalleled according to whatever criteria are chosen to define and describe it except for its grog-tempered fabric (Stead and Rigby 1989). While this highlights the difficulties of publishing rare objects, more significantly, it raises fundamental issues about the spread and take-up of technical, cultural and religious change, specifically in that tantalising period when Britons teetered on the brink of a historic record and engulfment by Rome, between say 120 BC and AD 60.

## *Recognition*

When I (VR) was called out to identify the strange pot slowly emerging in Grave 280 of the King Harry Lane Cemetery, I had to confess that I could not do so. The fabric appeared typical of the locally made oxidised grog-tempered wares which made up half of the ceramic grave goods so it was clearly not an import from somewhere in the Roman empire. It was however a totally alien vessel since a solid rectangular lug handle appeared to protrude from its shoulder, or maximum girth, and in my experience no late Iron Age pots in southern Britain were adorned with such appendages although similar vessels were possibly not unknown in Rhineland contexts. As I stood on the grave side, watching the excavator painstakingly working with dental pick and 1/2in paint brush, what appeared to be a bird wing and then a bird head emerged from the gravel: the mystery object was a bird figure and so an even more rare and exotic find than any lugged jar would be (Stead and Rigby 1989, fig 42).

At that time, August 1968, no parallels could be traced, but since it was so clearly made by a 'local potter' it seemed just a matter of time before at least one parallel was traced in an existing collection, or was newly excavated in one of the many large-scale projects then underway. It was, however, still unique in Britain when the excavation report was published in 1989 and remains so today not far short of forty years after discovery.

## *Technology of manufacture*

An ancient break across the tail shows that the body is hollow, and that there are no luting seams showing where separately formed sections were joined together. To achieve the void, the potter must have adopted a technique similar to that of smiths casting with the lost-wax technique. The body void was prepared as an oval shape in wax or organic matter, perhaps dry hay, which would be dispersed or burned out during firing. Typical grog-tempered clay was applied overall and sculpted into the body shape with tail, wings and a neck aperture. A ring was thrown on a wheel and luted in place to form a pedestal foot-ring. The overall surface was carefully smoothed and when leather-hard plumage was lightly drawn over the wings and tail. The head is solid and was separately sculpted to fit the neck aperture neatly. The body and head were fired together in oxidising conditions in an open fire just as more the conventional local pots, it could even have been in a joint firing.

## *The potter*

Central to its uniqueness is its date of manufacture. The bird-pot had been buried by AD 25, so it was definitely made in the pre-conquest period by a potter born in the late first century BC, possibly earlier than 25 BC. To date, regardless of source, it is the only naturalistically sculpted bird, animal or human figure in any material to have a secure pre-conquest context in Britain. In addition, it is unique both as a zoomorphic flask and as a narrow-necked flask with a solid cork-like ceramic stopper. It represents a total break with existing late Iron Age artistic concepts and craftsmanship in southern Britain, yet no imported prototypes from which such a three-dimensional naturalistic representation could be copied have been found. It is no trial piece, the maker was skilled and experienced and had considerable inborn artistic talent, so where was this potter-sculptor born and raised

and where did the idea and techniques for a bird-shaped flask come from? Was it simply to satisfy a personal 'creative urge', or was it 'market-led' as the result of a special commission from the deceased or the family?

## *The deceased*

The body is that of an adult, so age at death could be anything from 25 years onwards; the cremation is so fragmented nothing else can be deduced. He or she was probably born in the first century BC in the years following Caesar's invasion when Tasciovanus and Cunobelin were chieftains at *Verulamion* and *Camulodunum* and trade with Rome and its provinces were apparently developing fast. More than just trade was involved, as is illustrated by the range and quality of grave goods and precious metal hoards of the time. The parents of the grave's occupant could have belonged to the previous generation when the rivalry of Cassivellaunus and Commius, Caesar's lieutenant and ally, apparently led directly to Caesar's intervention in 55 BC: a time when, according to the archaeological record, wine appears to have been the mainstay of the import trade.

## *The grave group*

With a total of nine pots, eight imported fine wares and the bird-pot Grave 280 is the second richest grave group in the King Harry Lane Cemetery. It is also one of the most colourful with the black and grey of terra nigra, red of terra rubra, white and gold of mica-coated ware and also plain white pipeclay. Metal artefacts are scarce, there are no brooches, but there is a wooden tray or box ornamented with sheet copper alloy discs, which would add more gold colour as the items were placed in the grave. Functionally, all of the pots are tablewares for displaying and consuming food of Mediterranean type in a formal Roman manner. The pair of matched drinking

cups and two small platters suggest a table-setting for two adults with a large platter, a serving bowl and the mica-coated jar presumably with special contents. The large two-handled flagon or *lagena* could contain about 20 litres of alcohol, probably diluted, while the bird could contain about a litre of presumably more potent stuff. Like all of the larger richer grave groups in the cemetery the emphasis is on Roman feasting manners using imported Roman ceramics and suggest a life-style and trading links very similar to that in contemporary *Gallia-Belgica*. Here an important question is whether the grave goods were acquired specifically for the burial ceremony, had belonged to the deceased, or were donated by mourners?

## *The bird: what and why?*

The possible identification of the bird, and any conclusions that might be drawn from it, were discussed in the original publication (Stead and Rigby 1989, 151–2), and there is comparatively little to add.

The bird is modelled in a confidently stylised form. Its large egg-shaped body is supported on a small, flaring pedestal base, and the wings are clearly indicated by a sharp, elegantly curved line in relief that runs out to the short, squared and flattened tail. There is some delicate surface texturing of the body. The neck opening is neatly finished, and the stopper, which depicts the head and neck of the animal, has been carefully made to fit, and can be turned so that the bird's gaze can be focused in any direction. The eyes are circular and protuberant, and the beak begins as a flattened projection, its tip now broken away.

Water-birds featured in the mythology and iconography of the native societies of Iron Age northern Europe. It is just barely possible to envisage the King Harry Lane bird as a duck, if we imagine the missing beak as having been long and flattened, but even then, the body-shape would need to be longer, lower and narrower to make a convincing duck. The head, too, would need to have a more elongated form. Zoomorphic pots, and pots with animal- and bird-head terminals, were a particular feature of burials of the Urnfield and Hallstatt cultures in Central Europe (Pittioni 1954, figs 304, 413–4, 430; Gimbutas 1965, fig 239). More relevant is a group of three bird-flasks, an adult and two juveniles, found in a late Iron Age cremation at Sponsheim (Behn 1941, pl 28, 2).

Ducks and swans also appear regularly in provincial Roman decorative arts. Two rectangular silver platters from the Hildesheim treasure come to mind, with their rendering in low relief of ducks swimming, diving and taking off from the water (Baratte and Painter 1989, no14, 73–4); they are probably of early first-century AD date. The handles of Roman silver vessels were often modelled in the form of generic birds' heads, usually thought of as swans, and the handles of the type of late-Roman spoon known as a *cignus* also terminates in a swan's head (*cf* spoons nos 50–65 in the Thetford treasure, Johns and Painter 1983). Enamelled bronze zoomorphic brooches that appear to depict ducks are also well known in Roman Britain.

The very frequency of swan- and duck-representations in both pre-Roman northern European and Roman provincial art suggests that, if the King Harry Lane pot had been designed to depict a duck, it would have been easily recognisable as such, even though the most diagnostic feature, the beak, is lost.

The immediate impression made by the pot is that, if it depicts any specific species at all, it is some kind of pigeon. The large ovoid body, relatively small round head, and the short, squared tail, would all be consistent with native British species such as the Woodpigeon (*Columba palumbus*) or the smaller Rock Dove (*Columba livia*), the wild ancestor of the modern feral street pigeon, both indigenous species in Britain. The Turtle Dove (*Streptopelia turtur*), mentioned in the original published discussion, is also possible. The Collared Dove (*Streptopelia decaocto*) is less likely because these birds have a smaller, slimmer body and a much longer tail. The fact that they are not indigenous to Britain is irrelevant, as, if the pot depicts a specific, domesticated bird, it could quite well have been imported from elsewhere.

The Rock Dove is considered to be the principal wild progenitor of domesticated pigeons, and this species (and possibly others) was already extensively domesticated by Classical times. The keeping of pet animals was long established in the Graeco-Roman world, and birds, both native and exotic, were amongst the animals favoured. Pigeons were therefore kept both as domestic livestock intended for human consumption, a practice that has continued ever since, and as pet birds, highly valued both in emotional and financial terms (Toynbee 1973, 258–9). A possible interpretation of the

bird-pot is therefore that it represents a domestic pigeon, even a personal pet of the deceased, rather than being intended simply to convey some religious or symbolic message.

If the King Harry Lane bird is indeed a pigeon, it conveys an important message. The deceased person in whose grave it was found was surely familiar with some aspects of Graeco-Roman society. If it was simply a bird of good omen, its symbolic and mythological significance as a bird of Venus is Classical, not native British, so we have to assume that the person involved was conversant with Classical mythology in addition to the beliefs of pre-Roman Britain.

If, as seems even more likely, the pot is actually intended to depict a domesticated bird, perhaps a pet of the deceased, it indicates some direct experience of the way of life of reasonably leisured people in the Graeco-Roman world. The image conjured up is that the occupant of Grave 280 was a well-travelled person, who had learned about pigeon-keeping on the Continent, and had taken it up himself. This might well have appeared a most exotic practice to his neighbours, and his fame as a bird-keeper might have given rise to the manufacture of this special vessel to accompany him to the next world.

While the detail is pure speculation, it seems undeniable that the trouble taken to depict a pigeon suggests personal links with the Roman Empire. The spread of what might be termed Roman life-styles amongst influential members in British Iron Age society well before the time of the Claudian invasion could take many forms, and the evidence for it is constantly increasing.

## *After thoughts*

Given the degree of expertise illustrated by the bird-pot, can it really have been the only one? As with all so called unique archaeological finds there is the problem of the known sample size. Do more await excavation, if so, is it one or a hundred, where are they and how do we find them; perhaps it is simply that any others were destroyed by the passage and processes of time.

Naturalistic portrayal is a special concept central to the classical art of the Mediterranean but apparently not part of British Iron-Age craft tradition. There are some stylised and schematic representations of human figures and animals in bronze but few are in secure contexts and most probably represent Grand Tour souvenirs (Rigby, Swaddling and Cowell 1995).

From a search of continental publications it is clear that zoomorphic pots were produced as functional containers from the earliest Neolithic times. Some are naturalistic and decorative in shape while others are so shapeless and basic they are difficult to recognise. The most naturalistic range of bird- and animal-pots was produced in the Greek world, the painted parchment wares being particularly decorative. From the mid-first century AD factories in Gaul mass-produced human, bird and animal figurines and flasks in white and lead-glazed pipeclay using two-piece wooden moulds. These products however did not arrive in Britain until after the Roman invasion at least a generation after the King Harry Lane bird-pot was buried.

This bird-pot is so typically local in potting skills that we might assume for arguments sake that the potter was a native of the *Verulamion* area, born with the latent talent to produce naturalistic figures, who learnt the actual sculpting techniques abroad. The style is provincial Roman not classical Graeco-Roman so Gaul rather than Italy or Greece is the most obvious centre. Of course, our sculptor-potter could have been a Gaul with the necessary artistic training who came to Britain from somewhere like Rheims or Trier and then learnt to make typical grog-tempered pots, a very new and alien skill. It is likely that the bird-pot is the result of both the potter and the deceased travelling between Britain and Gaul and so exchanging ideas and skills.

As we re-examined the bird-pot for this paper we began to appreciate just what a little gem it is. In overall shape and proportion, details of the wings, tail and above all the head it could scarcely be bettered. With such character and presence it was surely a treasured possession in spite of its broken beak. From our viewpoint the bird-pot is certainly the most touching and personal offering found in King Harry Lane Cemetery and possibly any British Iron Age burial.

## *Endnote*

It is a pleasure to have collaborated on this paper for a volume in recognition of the contribution that Kay Hartley has made to Roman pottery studies. Single-handedly she created a body of research centred on mortarium stamps, that has become a fundamental tool, not only for Romano-British archaeology, but also beyond.

### Bibliography

Baratte, F, and Painter KS, (eds), 1989, *Trésors d'Orfèvrerie Gallo-romains,* Paris

Behn, F, 1941, Ein Gräberfeld der Spätlatènzeit bei Sponsheim an der Nahe, G*ermania*, **25**, 170–80

Gimbutas, M, 1965, *Bronze Age cultures in Central and Eastern Europe,* Paris, The Hague, London

Johns, C, and Potter, TW, 1983. *The Thetford Treasure,* London

Pittioni, R, 1954, *Urgeschichte des Österreichischen Raumes,* Vienna

Rigby, V, Swaddling, J, and Cowell, M, 1995, The Blandford Forum Group: are any Etruscan figures true-finds from Great Britain and Eire? in Swaddling J, Walker, S, and Roberts, P (eds), *Italy in Europe: Economic Relations 700 BC–AD 50,* London

Stead, IM, and Rigby, V, 1989, *Verulamium: The King Harry Lane Cemetery,* Historic Buildings and Monuments Commission for England Archaeol Rep **12**, London.

Toynbee, JMC, 1973, *Animals in Roman life and art,* London

# Food and drink in Wales: the impact of the Roman occupation

*Myfanwy Lloyd Jones*

Kay's friends know her as an excellent cook, with a keen interest in the food of different times and places. In recognition of that interest, this paper attempts to assess the impact of the Roman occupation on eating and drinking habits in the territory occupied by modern Wales by reviewing the evidence for the diet of the civilian population of that region from the pre-Roman Iron Age to the post-Roman period. As the relevance of the dietary evidence found on Roman military sites in the region to the diet of the civilian population is not clear, such evidence is not discussed here. However, a comparison of the evidence from those military sites with that from the civilian sites would form an interesting subject for future study.

## *The pre-Roman Iron Age*

The archaeological evidence suggests that, in the pre-Roman Iron Age, virtually all the animal protein in the diet of the population of Wales came from cattle, sheep and, to a lesser extent, pigs. Cattle presumably made the greatest contribution, as they seem to have been the most common domesticated animals, although in some places sheep were found in approximately equal numbers (Davies 1995, 686). In Britain as a whole, little use seems to have been made of other animals: chickens are rare, appearing only fairly late in the pre-Roman Iron Age, and there is little evidence for the consumption of game (King 1991, 16), fish (Dobney 2001, 41) or oysters (even in areas where they were found in profusion) (King 1991, 17). There is no evidence that Wales differs from the rest of Britain in this respect.

The main cereal crops in Iron Age Wales were spelt and emmer wheat, and barley (Davies 1995, 686). Oats and rye were also grown (Stanford 1981, 162 (Mid-summer Hill), Savory 1970, 54 (Llanblethian, Glam), Jones M 1981, 104), but there is no clear evidence for the cultivation of bread wheat prior to the Roman conquest (Davies 2000, 90).

Although the pea and Celtic bean were cultivated in Iron Age Britain (Jones M 1996, 33), they have yet to be found in Iron Age contexts in Wales (Davies 2000, 90). Most other edible plants (green plants, roots, herbs and fruit) would be less likely to leave a trace in the archaeological record. They may have been collected and used, but their contribution to the diet was probably not substantial: certainly, in Britain as a whole, considerably less use was made of perennial food plants such as fruits and nuts in the Iron Age than in either earlier or later periods (Jones M 1996, 29).

There is limited evidence relating to methods of food preparation. Querns, found on many Iron Age sites in Wales, were presumably used primarily for grain. Most were saddle querns, which may only have been capable of crushing grain to a consistency suitable for making porridge (Avery 1981, 47) rather than grinding it for flour. However, rotary querns have been found in possible Iron Age contexts on several sites in south-east Wales (Lloyd Jones 1984, 287). One indication of how the grain might then have been cooked comes from Lindow Man, who died in Cheshire, not far from the Welsh border, around the time of the Roman conquest (Sales et al 1991). His last meal was of finely-ground grain (hulled barley, spelt and emmer wheat, with traces of oats): this had been baked at a high temperature in direct contact with a heat source, and probably took the form of an unleavened griddle cake rather than leavened bread (ibid, 52, 55–6) As ovens are rare in Iron Age Britain, bread was presumably generally baked on a flat stone placed on or beside the hearth (Renfrew 1985A, 25–26), and this technique is likely to have been widely used in Iron Age Wales.

Since much of Wales was aceramic in the Iron Age, vessels made of materials such as metal, wood and leather must have been widely used in the preparation, cooking and storage of food. Such artefacts are rare both because they require special conditions to survive and because broken or superfluous items were presumably reused, as scrap metal or firewood (Coles and Minnitt 1995, 167). However, meat, grains and other foodstuffs were presumably boiled in cauldrons such as those from the Llyn Fawr and Llyn Cerrig Bach hoards (Fox and Hyde 1939, 369–73, Fox 1945, 67); they may also have been used for brewing beer (Wells 1995, 220). Meat may also have been spit roasted: the stakeholes surrounding hearths at Castell Henllys presumably held supports for spits and cauldrons (Mytum 2003), and metal firedogs

such as those from Capel Garmon (Megaw and Megaw 1989, 234) may also have been used for this purpose (Renfrew 1985A, 25).

## *The Roman period*

In the Roman period, most of the meat eaten by the civilian population of Wales probably still came from cattle and sheep (Davies 2000, 92–4). However, in Britain as a whole, the consumption of pork increased in the Roman period (Grant 1989, 137). This has been claimed as an index of Romanisation, as pork was a high-status meat in the Roman world (King 1991, 16–17). However, it may simply reflect a desire to increase the proportion of meat in the diet – presumably also an indication of wealth and status, but one which was not necessarily linked with Romanisation (Grant 1989, 137, 142). In Wales, the Roman levels at Coygan Camp and Whitton farmstead yielded an unusually high proportion of pig bones, mostly from immature animals (Davies 2000, 92–4).

In Britain as a whole, the Roman period also saw the utilisation of sources of animal protein that had apparently not been widely exploited in the Iron Age; poultry (chicken and, to a lesser extent, duck and goose), game (deer, hare), and fish (King 1991, 18, Grant 1989, 144). There is also evidence for these changes in Wales during this period. Poultry was reared, and furred and feathered game hunted (Davies 2000, 94). Fish and a range of shellfish, including oysters, were eaten (Alcock JP 2001, 46, 56, Davies 2000, 94, Baynes 1908, 199, Baynes 1930, 377, Benson *et al* 1990, 234). Doves may have been kept for food at Caerwent (Alcock JP 2001, 46, 56).

The Roman period saw the introduction to Britain of a number of new or improved varieties of edible plant. In addition, some foodstuffs, which could not be produced locally, were imported (see Table 1). Because vegetable (as opposed to seed and grain) crops are difficult to detect archaeologically (Jones M 1991, 23–4), it has yet to be demonstrated archaeologically that the majority of these foodstuffs were introduced specifically to non-military sites in Wales in the Roman period. However, dill and coriander seed have been found at Caerwent (Alcock JP 2001, 69, 72). In addition, bread wheat was grown at some sites, although spelt and barley remained the most common cereals in Roman Wales (Davies 2000, 91–93). Oil and wine were imported, and amphora fragments indicate that they may have reached remote rural sites (Llawhaden, Brennan 1998, 97–8, and Castell Henllys, Mytum 2003).

*Table 1: Foodstuffs introduced into Britain by the Romans (after Potter and Johns 1992, Renfrew 1985B, Roach 1985, Wild 1970, Tomlinson and Hall 1996)*

| *Vegetables* | *Herbs and spices* | *Fruit* | *Nuts* | *Miscellaneous* |
|---|---|---|---|---|
| *Grown in Britain* | | | | |
| Asparagus | Alexanders | Fig | Almond | Stone pine |
| Beet | Aniseed | Medlar | Walnut | |
| Cabbage | Black mustard | Mulberry | Spanish chestnut | |
| Celery | Borage | Improved varieties of: | | |
| Cucumber | Chervil | Apple | | |
| Endive | Coriander | Cherry | | |
| Globe artichoke | Dill | Damson | | |
| Hemp | Fennel | Pear | | |
| Lamb's lettuce | Garlic | Plum | | |
| Leek | Gold of pleasure | | | |
| Lentil | Hyssop | | | |
| Marrow | Lovage | | | |
| Onion | Mint | | | |
| Parsnip | Parsley | | | |
| Radish | Rosemary | | | |
| Shallot | Rue | | | |
| Turnip | Sage | | | |
| Improved variety of broad bean | Savory | | | |
| | Sweet marjoram | | | |
| | Thyme | | | |
| | Wormwood | | | |
| *Imported into Britain* | | | | |
| Lentil | Bay | Dates | | Fish sauce |
| | Cinnamon | Figs | | Olive oil |
| | Ginger | Olives | | Wine |
| | Pepper | | | |

There is some archaeological evidence for changes in methods of food preparation at this period. Rotary querns became more common, and appeared on sites where they did not previously seem to have been used (Mytum 1988, 75–6); mechanical mills have also been found in south-east Wales (Davies 2000, 91, 93). Presumably, therefore, finely-ground grain was available in larger quantities than before. Mortaria were introduced, and even reached remote rural sites; for example, Din Llugwy (Baynes 1908, 194, 198, 201, 204, 206) in Anglesey and Castle Flemish (Wheeler 1923, 29, fig 3, nos 7–11), Dan-y-coed (Brennan 1998, 98) and Walesland Rath (Wainwright 1971, 87) in Pembrokeshire. Their presence suggests that ingredients were being pounded, pureed or pulverised in the preparation of Roman-style food (Potter and Johns 1992, 141–42). Finally, coarse pottery became more widely used. The soot-covered 'Malvernian' jars found at Dan-y-coed, Pembrokeshire (Brennan 1998, 103) indicate that some coarse pottery was used for cooking, again suggesting changes in methods of food preparation.

Linguistic evidence can be used to supplement the archaeological evidence for the impact of the Roman occupation on the diet of the inhabitants of modern-day Wales. The early Brittonic languages contain Latin loanwords most of which were popular borrowings from the spoken Latin of Roman Britain (Jackson 1953, 77–80). As these borrowings are largely nouns, it has been plausibly suggested that they generally denote items that the Romans introduced to Britain either for the first time or, in some instances, in a different or improved variety (Jackson 1953 77–8, Wild 1970, 127). Since Latin appears to have survived into post-Roman Wales as a spoken language (Charles-Edwards 1995, 715–17), in the absence of evidence of migration into Wales from other parts of Britain during that period, it seems reasonable to assume that the Latin loanwords in early Welsh relate to items which were introduced to Wales during the Roman occupation and which remained in use thereafter. An exhaustive list of these loanwords has yet to be published. However, Table 2 lists a number of such loanwords related to foodstuffs and cooking methods.

The linguistic evidence indicates that the cabbage, bay, fennel, sweet chestnut and mulberry were first introduced or imported into Wales in the Roman period, together with improved varieties of broad bean and pear. It also supports the archaeological evidence for the import of oil and wine. Interestingly, Latin terms were also adopted for some items that would have been available before the conquest (fish, oysters, young pigs), suggesting that their consumption was seen as a Roman innovation. This is consonant with the archaeological evidence that fish and oysters were rarely eaten in the Iron Age, and that the consumption of young pigs became substantially more popular in the Roman period.

The linguistic evidence also suggests that new or improved food items were produced as a result of the introduction of new methods of food preparation in the Roman period. These items included sausages, cheese (made either for the first time or to an improved recipe using rennet), and sophisticated twisted loaves, made of finely ground wheat, leavened and baked either in brick ovens, like those found on military sites in Wales and in villas elsewhere in Britain, or in portable ovens of earthenware or iron (Renfrew 1985B, 29).

Further examination of the linguistic evidence might extend the range of items that could be identified as Roman introductions.

## *The post-Roman period*

There is little archaeological evidence for the diet of the population of early post-Roman Wales. However, animal bones from Dinas Powys indicate that cattle, sheep and pig were still eaten. Pig bones were unusually numerous on that site, suggesting that pork, mostly from immature animals, made a relatively large contribution to the diet;

*Table 2: Foodstuffs and cooking methods represented by Latin loanwords in Welsh (Jackson 1953, Wild 1970)*

| *Animals* | *Vegetables* | *Herbs* | *Fruits and nuts* | *Miscellaneous* |
|---|---|---|---|---|
| Columba/dove | Brassica/cabbage | Feniculum/fennel | Castanea/sweet chestnut | Caseus/cheese |
| Ostrea/oyster | Faba/broad bean | Laurus/bay | Morus/mulberry | Cena/main meal |
| Piscis/fish | | | Pirus/pear | Coagulum/rennet |
| Porcellus/little pig | | | | Coquina/kitchen |
| | | | | Coquus/cook |
| | | | | Furnus/oven or pot oven |
| | | | | Iuscellum/broth |
| | | | | Prandium/lunch |
| | | | | Pulsum/pottage |
| | | | | Molina/mill |
| | | | | Oleum/oil |
| | | | | Salsica/sausage |
| | | | | Torta/twisted loaf |
| | | | | Vinum/wine |

sheep, on the other hand, seem to have been exploited more for wool and milk than for their meat (Arnold 2000, 166). Domestic fowl (including ducks) were also kept at Dinas Powys (Alcock L 1987, 81), and salmon and sea trout were eaten, as were most edible varieties of shellfish (Arnold 2000, 167). Rotary querns, found at Dinas Powys (Alcock L 1963, 162–3) and at Dinas Emrys (Savory 1961, 41), indicate that grain was ground.

Fragments of amphorae found on sites in both south and north Wales – Dinas Powys, (Alcock L 1963, 130–33), Degannwy Castle, (Alcock L 1967, 198), Longbury bank (Campbell and Lane 1993, 36–8, fig 6), Dinas Emrys (Savory 1961, 41), Coygan Camp (Wainwright 1967, 157–8), and Hen Gastell (Wilkinson 1995, 18) – indicate that oil and wine were imported in the late 5th to mid 6th centuries (Campbell 1996, 84–6). Mortaria dating to around the 6th century have also been found on some of these sites including Dinas Powys (Alcock L 1963, 133–6) Longbury Bank (Campbell and Lane 1993, 37 and 39, fig 6) and Hen Gastell (Wilkinson 1995, 19).

## *Conclusions*

The evidence summarised above indicates that the Roman period brought changes which affected the diet of at least a proportion of the civilian population of the area occupied by modern Wales. A wider range of foodstuffs was utilised. Pork became more popular, and the consumption of immature pigs was apparently regarded as a Roman innovation. Poultry was kept, and game, fish and shellfish were eaten. New or improved varieties of edible plants were introduced, and exotic foodstuffs (oil, wine, herbs and possibly also spices) were imported. The introduction of novel food preparation techniques resulted in the production of sausages (presumably made using mortaria), cheese, and a lighter, leavened bread made using finer flour and baked in ovens or pot ovens (Peate 1943, 9–11) or on a griddle under an inverted iron pan (a technique still in use on Bardsey approximately a hundred years ago) (Jones J 1999, 24–6). As a result of all these innovations, at least some of the inhabitants of the region enjoyed a diet that was more varied, more highly flavoured, and generally more palatable than that of the pre-Roman Iron Age.

A few of these changes may have been short-lived, or limited to a relatively small sector of the population. It has been suggested that wine and oil were imported into western Britain in the early post-Roman period as symbols of Romanitas rather than because of a residual taste for their consumption (Wooding 1996, 81–82). The survival in Welsh of Latin loanwords for these substances may therefore reflect their political or liturgical significance rather than their dietary importance. However, the adoption and survival of Latin loanwords for items that had no religious significance suggest that they represent introductions which were relatively widespread, and which remained in use for an extended period of time. The Roman occupation of Wales thus seems to have had a lasting culinary legacy in the form of the utilisation of a wider range of plant and animal produce than in the pre-Roman Iron Age, and the use of Roman techniques to manufacture of a range of novel foodstuffs including sausages, cheese and a finer, lighter type of bread.

### Bibliography


Alcock, J P, 2000, *Food in Roman Britain*, Stroud

Alcock, L, 1963, *Dinas Powys. An Iron Age, Dark Age and early Medieval settlement in Glamorgan,* Cardiff

Alcock, L, 1967, Excavations at Degannwy Castle, Caernarvonshire, 1961–6, A*rchaeol J*, **124**, 190–201

Alcock, L, 1987, *Economy, society and warfare among the Britons and Saxons,* Cardiff

Arnold, C J, 2000, Subsistence, in Arnold, C J, and Davies, J L (eds), *Roman and early Medieval Wales*, Thrupp, Stroud, Gloucestershire, 166–7

Avery, M, 1981, Furrowed bowls and carinated Hawkes A pottery, in Guilbert, G (ed), *Hill-fort studies. Essays for A H A Hogg*, Leicester, 28–64

Baynes, E N, 1908, The excavations at Din Lligwy, *Archaeol Cambrensis*, **6.8**, 183–210

Baynes, E N, 1930, Further excavations at Din Lligwy, *Archaeol Cambrensis*, **85**, 375–93

Baynes, E N, Benson, D G, Evans, J G, Williams, G H, Darvill, T, David, A, 1990, Excavations at Stackpole Warren, Dyfed, *Proc of the Prehistoric Soc*, **56**, 179–245

Brennan, N D, 'Native' and Romano-British pottery, in Williams, G, and Mytum, H (eds) *Llawhaden, Dyfed. Excavations on a group of small defended enclosures, 1980–84,* BAR British Ser **275**, 96–103

Campbell, E, 1996, The archaeological evidence for external contacts: imports, trade and economy in Celtic Britain AD 400–800, in Dark, K R (ed), 1996, 83–96

Campbell, E, and Lane, A, 1993, Excavations at Longbury Bank, Dyfed, and (sic) early Medieval settlement in South Wales, *Med Archaeol*, **37**, 15–77

Charles-Edwards, T, 1995, Language and society among the insular Celts AD 400–1000, in Green, M J (ed), 1995, 703–36

Coles, J, and Minnitt, S, 1995, '*Industrious and fairly civilized'. The Glastonbury Lake Village*, Somerset Levels Project and Somerset County Council Museums Service

Dark, K R (ed), 1996, *External contacts and the economy of late Roman and post-Roman Britain*, Woodbridge

Davies, J L, 1995, The early Celts in Wales, in Green, M J (ed), 1995, 671–700

Davies, J L, 2000, Subsistence, in Arnold, C J, and Davies, J L (eds), *Roman and early Medieval Wales*, Thrupp, Stroud, Gloucestershire, 90–94

Dobney, K, 2001, A place at the table: the role of vertebrate zooarchaeology within a Roman research agenda for Britain, in James, S, and Millett , M (eds), *Britons and Romans: advancing an archaeological agenda*, York, 36–45

Fox, C, 1945, *A find of the early Iron Age from Llyn Cerrig Bach*, Cardiff

Fox, C, and Hyde, H A, 1939, A second cauldron and iron sword from the Llyn Fawr hoard, Rhigos, Glamorgan, *Antiqu J*, **19**, 369–404

Grant, A, 1989, Animals in Roman Britain, in Todd, M, (ed), *Research in Roman Britain: 1960–89*, London, 135–46

Green, M J (ed), 1995, *The Celtic world*, London

Jackson, K, 1953, *Language and history in early Britain. A chronological survey of the Brittonic languages first to twelfth century AD*, Edinburgh

Jones, J, 1999, *Tomos o Enlli/Tomos the Islandman*, Llanrwst

Jones, M, 1981, The development of crop husbandry, in Jones, M, and Dimbleby, G (eds), *The environment of man: the Iron Age to the Anglo-Saxon period,* BAR British Ser **87**, 98–127.

Jones, M, 1991, Food production and consumption: plants, in Jones, R F J (ed), 1991, 21–27

Jones, M, 1996, Plant exploitation, in Champion, T C and Collis, J R, *The Iron Age in Britain and Ireland. Recent trends*, Sheffield, 29–40

Jones, R F J (ed), 1991, *Britain in the Roman period: recent trends*, Sheffield

King, A, 1991, Food production and consumption: meat, in Jones, R F J (ed), 1991, 15–20

Lloyd Jones, M, 1984, *Society and settlement in Wales and the Marches 500 BC to AD 1100*, BAR British Ser **121**

Megaw R, and V, 1989, *Celtic art from its beginnings to the Book of Kells*, London

Mytum, H, 1988, On-site and off-site evidence for changes in subsistence economy: Iron Age and Romano-British West Wales, in Bintliff, J L, Davidson, D A, and Grant, EG (eds), *Conceptual issues in archaeology*, Edinburgh, 72–81

Mytum, H, 2003, *Castell Henllys: Iron Age fort and native settlement of the Roman period. Summary report,* http://www.york.ac.uk/depts/arch/castellhenllys/web/

Peate, I C, 1943, The pot-oven in Wales, *Man* **43** (Jan–Feb 1943), 9–11

Potter, T W, and Johns, C, 1992, *Roman Britain*, London

Renfrew, J, 1985A, *Food and cooking in prehistoric Britain. History and recipes*, London

Renfrew, J, 1985B, *Food and cooking in Roman Britain: history and recipes*, London

Roach, F A, 1985, *Cultivated fruits of Britain. Their origin and history,* Oxford

Sales, K D, Oduwole, A D, Robins, D, Hillman, G, and Holden, T G, 1991, An analysis of the stomach contents of Lindow Man with ESR spectroscopy, in Renfrew, J M (ed), *New light on early farming. Recent developments in palaeoethnobotany*, Edinburgh

Savory, H N, 1961, Excavations at Dinas Emrys, Beddgelert (Caern.), 1954–6, *Archaeol Cambrensis*, **109** (1960), 13–77

Savory, H N, 1970, The excavation of the Marlborough Grange barrow, Llanblethian (Glam.), 1967, *Archaeol Cambrensis* **118** (1969), 49–72

Stanford, S C, 1981, *Midsummer Hill. An Iron Age hillfort on the Malverns*, Hereford

Tomlinson, P, and Hall, A R, A review of the archaeological evidence for food plants from the British Isles: an example of the use of the Archaeobotanical Computer Database (ABCD), *Internet Archaeology* **1**, http://intarch.ac.uk/journal/issue1/tomlinson_toc.html

Wainwright, G J, 1967, *Coygan Camp. A prehistoric, Romano-British and Dark Age settlement in Carmarthenshire*, Cardiff

Wainwright, G J, 1971, The excavation of a fortified settlement at Walesland Rath, Pembrokeshire, *Britannia* **2**, 48–108

Wells, P S, 1995, Resources and industry, in Green, M J (ed), 1995, 213–29

Wheeler, R E M, 1923, A Roman site in Pembrokeshire, *Archaeol Cambrensis* **78**, 211–24

Wild, J P, 1970, Borrowed names for borrowed things? *Antiquity* **44**, 125–30

Wilkinson, P F, 1995, Excavations at Hen Gastell, Briton Ferry, West Glamorgan, 1991–2, *Medieval Archaeol* **39**, 1–50

Wooding, J M, 1996, Cargoes in trade along the Western seaboard, in Dark KR (ed), 1996, 67-82

# Size matters: the role of smaller temporary camps in North Britain

*Gordon S Maxwell*

The aerial archaeologist and the pottery specialist have much in common: both depend on the collection and assimilation of countless, tiny fragments of evidence gathered from the field; their objectives, too, are very much the same, by correctly uniting the scattered fragments and reconstructing the whole to provide a template for future study; and, perhaps most important, by shining an oblique light on some aspect of the past to enhance its significance in other fields of archaeological endeavour. In aerial studies these processes are well illustrated by the case of the small Roman camp.

The first to be observed from the air in Scotland was that discovered just before World War II by OGS Crawford (1939, 285) at Galloberry in Nithsdale; it was an elongated parallelogram on plan, measuring only 64 by 110m (0.7 ha) and perceptively identified from the first as a marching-camp. An example of the same class was one of the first aerial discoveries to be reported after peace returned, again by Crawford (1951, 95). Cropmarks had revealed the presence, at Dunblane, a little to the north of Stirling, of two camps, the smaller lying within the other and reusing part of its perimeter. The report was remarkable for a number of reasons, not least that the site-plan was published so soon after the discovery, but also because, at the time, complexity of structure in temporary works had rarely been recorded in Scotland. The dimensions of the two elements were also worthy of note: even the larger, at about 13 ha, lay at the lower end of the then known size-range of Scottish sites, while the 5.7 ha of the smaller exceeded in area only the minor temporary works at Pennymuir, Galloberry and Burnswark North. Interestingly, comments on the discovery, made shortly afterwards (St Joseph 1951, 62), stressed its importance as an indicator of the Roman line of advance northwards from the crossing of the Forth.

Such an assessment reflected the tenor of archaeological understanding of the category over the previous two centuries, and even in more recent times, before the impact of aerial prospection was appreciated: temporary camps were perceived primarily as *marching* camps: the halting-places of military forces of considerable strength, the spatial distribution of which demonstrated the legions' avenues of invasion. In consequence, scholars and fieldworkers from General Roy to Crawford concentrated their attention on the largest examples; in Scotland that meant the identification and study of sites between 10 ha and 50 ha in area. Research priorities differed from person to person: for some (*cf* Roy 1793 *passim)* the main objective was not only to relate a specific site to an historically attested invasion, but also to assess the strength of the legionary unit that had built and occupied it. Much ingenuity was expended in the interpretation and application of data provided by ancient historians and military authors, especially Hyginus, Vegetius and Polybius, but the paucity of the archaeological evidence and the ambiguity of the historical evidence combine to restrict the value of all but one of the elegant conclusions to the realms of theory. The exception was the recognition of the importance of close observation and the accurate recording of even tiny details. Crawford provided a highly relevant example of this in his remarks (1949, 93–101) on the large camps at Battledykes Oathlaw and Kirkbuddo, both members of the Strathmore group and once thought to have accommodated troops on Agricola's Caledonian campaigns. He singled out as unusual, but worthy of note, the small external enclosure which 18th-century antiquaries recorded abutting the defences near the SE angle of each camp; in Crawford's view, although these might well be earlier than the larger structures, since later works would probably have been inserted within the relevant angle, the presence of traverses blocking the gates of the Kirkbuddo enclosure demonstrated that they were indubitably of Roman origin.

The development of aerial survey in the late 1940s as an engine of programmed field-reconnaissance changed the face of archaeology in Britain (Wilson 2000, 16–30). The astoundingly successful application of this discipline to Roman military sites derived equally from the research interests of its leading exponent, JKS St Joseph, and the already well defined, widely understood characteristics of the material under examination. These considerations markedly facilitated the rapid increase of information about temporary camps in particular: in Scotland north of the Clyde–Tweed line, for example, whereas Crawford's volume (1949, endpapers) listed only fifteen sites, present-day scholars can interrogate an archive comprising upwards of 130

entries! Nor is numerical enhancement the only benefit from aerial survey. Although study of the larger camps continued to dominate research, attention focusing on their date and capacity, it now became obvious that air photography offered a sharper definition of scrutiny and a greater subtlety of interpretation. Early confirmation of this was provided by the discovery of a small camp, about 1 ha in area, attached to the 25 ha camp at Keithock (St Joseph 1951, 64–5); its close similarity to Crawford's Kirkbuddo enclosure suggested that other camps in the Strathmore series might also possess such features. And so it proved. Within a decade St Joseph was able to demonstrate (1973, 224–5) that the possession of a *c* 1 ha annexe was a standard attribute of camps in the now sixteen-strong 25 ha group, whose distribution appeared to indicate an invasion-route extending from the Forth to the heart of Strathmore.

Within a short time four more series of large marching-camps had been tentatively identified in Scotland (*ibid*, 228–33; 1977, 140–45): a 53 ha group, following roughly the same line of march as the above; a 66 ha group disposed at regular intervals along the course of Dere Street between the Tweed and the Forth; and two possibly contemporary groupings of sites some 45 ha in average area, which related to activity in southern Perthshire and north-eastern Scotland. The first two of these groups probably illustrate phases of the Severan campaigns in the early third century AD; the other two seem to have accommodated the main striking force of the provincial governor, Agricola, in the late first. In addition, isolated examples of large camps ranging from *c* 10 to 24 ha have been recognised in many parts of Roman Scotland and the North, but, although ready enough to assign a date on the basis of their size and shape, or the possession of certain structural traits, we still find it difficult to say exactly how many troops each individual site or series held (*cf* Maxwell 1981; Hanson 1987, 122–3). This uncertainty has continued to promote discussion, especially when key sites such as *Mons Graupius* are concerned (*cf* St Joseph 1978). Nevertheless, despite the intense aerial activity of both Cambridge and the Royal Commissions on the Ancient and Historical Monuments of Scotland (RCAHMS) and England (RCHME), a definitive answer still eludes us. The interpretation of the well-preserved camp at Rey Cross on Stainmore by Richmond and McIntyre (1934) has been modified by Frere and St Joseph (1983, 24–5) to suggest that a legion on the march with an (unquantified) element of auxiliaries would occupy a camp of 7 to 8 ha (ie at a density of about 750 men per hectare). This calculation may be compared with the widely-differing figures of 476 and 1228 to the hectare that Roy (1793, 52) and Lenoir (1979) proposed respectively in their hypothetical reconstructions of the camps described by Polybius and Hyginus. Hanson, basing his estimate on the historical evidence of the strength of Flavian field armies in Britain, reckoned (1987, 135–36) that about 750 was the likely figure. More recently, a conflation of the data derived from excavation and air-photography of the Flavian labour-camps at Inchtuthil (Pitts and St Joseph 1985, 239–44) was taken to indicate a density of 655/ ha.

As if such a wide range of options was not enough, the current archaeological evidence presents scholars with another problem: the apparent absence of lineal series of such large camps from extensive areas of the North and almost the whole of England and Wales. Admittedly, alongside Dere Street between the Tweed and the Tyne individual examples have long been known, recorded on the ground and from the air (*cf* Richmond 1940, 116–29), but they do not constitute an appropriately homogeneous group. The more recent identification by the RCAHMS of several 16 ha camps, set a day's march apart on the Roman route connecting mid-Clydesdale with the Forth (Maxwell and Wilson 1987, 32–4), though welcome, may be exceptional, not least in their relationship to the category of attached camps, as we shall see. Addressing this matter, the RCHME review of the field archaeology of temporary camps in England (Welfare and Swan 1995, 10–11) compared the under-representation in the record of examples above 15 ha with the profusion of those below 2 ha; their conclusions were that the latter (most of which lay within the Hadrian's Wall zone) need not have been practice works, but might rather 'be evidence that small detachments of troops were on the move around the country in the course of their normal duties'. An earlier study of the smaller camps along Hadrian's Wall (Bennett 1980) distinguished between those that tended towards squareness of plan and those of more elongated shape, some quite markedly so. None of these sites, it should be noted, fell into the category of attached camps, although a few represented a reduced occupation of much larger enclosures, and none resembled in any obvious way the mid-second-century labour camps of *c* 1 to 3 ha that had already been identified on the Antonine Wall (Hanson and Maxwell 1986, 117–20; see now Jones 2004). With regard to the larger size-ranges, the RCHME found a marked 'bunching' of camps around 3.5 ha, 8.2 ha and 16 ha, and deduced from the regular doubling of size that this progression related to the strength of standard units commonly on the move.

Thus matters lay, with a general awareness that the 'bunching' of the size-range in England (and Wales) applied also to the middle and upper register of the Scottish camps, progressing in steps from around 8 ha to as much as 66 ha. Although the steps appeared to be irregular, the doubling pattern might dimly be discerned: Flavian sites averaging 8 ha and 16 ha, for example, and Severan series of 25 ha and 52 ha. As in England, a relationship could be inferred with standard units of the Roman army; but which? The real requirement was still

to discover some external standard, which did not derive mainly from the strict application of ancient texts or 'guesstimates' of available manpower.

And then in 1996 aerial inspection of the presumably Flavian 16 ha camp near Carlops, Midlothian (Keppie 1997, 408), revealed the presence of a camp of about 1 ha attached to its NE end. The cropmark that indicated the perimeter was the merest trace, suggesting that the underlying ditch was of minimal width and depth; and yet its significance (not fully appreciated at the moment of discovery) could hardly have been greater, for this was the first instance known in Scotland of an annexe abutting a large marching-camp other than one of the third-century 25 ha class. Curiously enough, the discovery prompted a recollection of possible traces of similar features at two other large camps, both also adjoining Roman routes that traverse the Southern Upland massif; these are still under review. The features that attracted most attention at Carlops, however, were the annexe's area and shape, for they compared closely with those recorded at the Severan examples, ie approximately 1 ha and somewhat narrower than tertiate (2:3). Consideration of the purpose which the annexe might have served led back to the same range of possibilities entertained in discussions of the Severan examples: the corralling of draught-animals, the detention of prisoners or hostages, the post of a caretaker garrison, etc. In the course of this process it was noticed that, whatever the purpose, the Carlops annexe differed from the others in the proportion of its area to that of the main camp. It thus seemed possible that herein lay a clue to its function, namely that all the annexes were intended to accommodate a separate unit of similar strength. Two further points then became clear: firstly, that the dimensions of the annexe at Carlops, *c* 125m by 70m, closely approximate to 3.5 by 2 Roman *actus,* an area of 3.5 Roman acres (*jugera*), while the Severan annexes, marginally larger, are designed to occupy 4 *jugera*; and secondly, the area occupied by each of the main Severan camps (25 ha) is the almost exact equivalent of 100 *jugera*!

As has been proposed elsewhere (Maxwell 2003), the inference to be drawn from this and similar metrical observations is not only that smaller and larger camps were laid out in *actus* modules, but also that 'bunching' in the size-ranges probably results from a prescribed (but not necessarily observed) allocation of camping-ground in multiples of a basic *jugera*-assessment. The RCHME conclusions, mentioned above, strongly suggest that this may have been around 12 Roman acres or 3.0 ha, at which level one is dealing with significant subdivisions of a legion. For smaller forces, the most relevant information is provided by the clusters of small works associated with the legionary bases of York (Welfare and Swan 1995, 135–6) and Chester (Philpott 1998). In the former, whose clavicula-guarded gates suggest a late-first-century date, the size range mirrors precisely that of the Scottish attached camps. In the more extensive complex at Chester there is a greater variety of sizes (0.5 to 2.2 ha), but 0.95 and 2.0 ha works predominate, while the markedly narrow 'long-axis' plan appears at both sites. Although their purpose cannot be determined with certainty, the 'bunching' implies that each was built to hold a temporary 'garrison' of a common unit-strength, the most likely occupiers of the predominating types being a 500-man cohort of legionaries in the *c* 1 ha camps and two cohorts in the larger.

Many of the small camps that cluster along the line of Hadrian's Wall and the Stanegate belong to the same size-range as those found near Chester and York, ie overall about 0.5 to 2.2 ha, and they display the same features and properties, clearly to be distinguished from the tiny square works which also abound there. Yet it is not just their density of distribution that makes them so interesting, but also the fact that they are remarkably well-preserved: Haltwhistle Burn 1, an example of the long-axis single-cohort group, appears to have been planned as a 4 by 2.25 *actus* rectangle (4.5 *jugera*); Glenwhelt Leazes another example of the same group, but measuring 4.5 by 2.5 *actus,* is distinguished not so much by its marginally greater size as by its clavicula-guarded gates, enough to invite a Flavian context and to identify it as perhaps the handiwork of a different legion; the smaller, long-axis camp at Boomby Lane, near Carlisle, provides an instance in cropmark form of precision-building, 480 by 240 Roman feet or exactly 4 *jugera.* And that the occupants were in fact legionary troops is strongly supported by the presence of the long-axis examples, whose proportions and gate-positions point to an interior subdivided into a shallow forward area (*antica*) and a much deeper rear or *postica*; this typically early plan-form facilitated the accommodation of the extended tent-rows that a legionary presence surely demanded, as at Inchtuthil (Pitts and St Joseph 1985, 223–39) and Masada in Israel (Richmond 1962, figs 6 and 7).

The occurrence of comparable sites on the road leading from York to Carlisle reinforces the idea that all were constructed by small vexillations of legionary troops operating at a relatively short distance from their permanent base, or from some seasonal forward strongpoint, and engaged on temporary duties connected with the consolidation of either the early conquest of the North or the military cordon which preceded the building of Hadrian's Wall. The absence of such clusters to the south suggests that their appearance in these parts reflects a new policy in military affairs. If that was so, its introduction, which seems to have included a decision to make much greater use of marching camps on campaign, produced an especially dramatic impact in Scotland. The archaeological evidence for this comprises not only the sudden efflorescence of the camps in the Flavian or late Neronian period, whether in series, or isolated examples,

or densely packed complexes (St Joseph 1976; Maxwell 1989, 38–67; Maxwell 1991), but also the variety of structural peculiarities that manifested themselves in the design of the camps themselves; these peculiarities, which had their equivalent in the architecture of permanent fortifications, eg parrot's-beak ditch-terminals in forts (Maxwell 1998), made it possible tentatively to identify at certain sites when and by whom they had been constructed. From such clues it is conceivable that we may within time develop a more reliable basis for the discussion of legionary zones of operation, and within this ferment of activity north of Tyne and Solway we may now argue that small camps had a significant role to play.

Three sites are particularly worthy of attention: the first, occupying high ground at the SW edge of the legionary complex at Inchtuthil, is a long-axis camp of about 0.96 ha (Pitts and St Joseph 1985, 223–44); the camp at Castledykes in mid-Clydesdale (RCAHMS 1978, 124–8) is of the same size and proportions, and it pre-dates at least one phase of Flavian campaigning; at the third, Camelon near Falkirk, there are two long-axis camps, neither closely datable, but, at about 1.45 and 1.95 ha, respectively representing the 6-*jugera* and 8-*jugera* groups recognised at Chester and elsewhere. The presence of these examples at three nodal points of the Flavian network should encourage us to interrogate more rigorously the structural elements of all the major complexes and beyond. It is quite possible, for example, that the 1.5 ha Stracathro-gated camp lying inside a polygonal enclosure at Woodhead, where Dere Street crosses the Lothian Tyne (Maxwell 1983, 177–81), also belongs to this category. At Dalswinton, the main node in Nithsdale, what is probably the earliest structure takes the form of another camp of the Stracathro type; with an estimated area of about 3 ha (12 *jugera)*, it may have held as many as three legionary cohorts.

Clearly, the search is just beginning. Many other classes of structure also need to be considered in this context, not least the similarly sized camps in other provinces (the siege-camps at Masada in Israel are especially relevant) and the burgeoning class of polygonal enclosures (including Llanfor in Wales and Cawthorn C?). The quest will probably be long and arduous, with the solution depending greatly on luck and the summation of numerous tiny clues. But it is important to remember that, like ceramic studies, this is no 'stamp-collecting' exercise. The structures under examination have to do with the dynamic phases of military achievement in Roman Britain when, in business management terms, goals and tactical innovation were held more important than systems and strategy, as Tacitus put it, referring to this very period, *habuerunt virtutes spatium exemplorum*, 'soldierly qualities then had room for display'. Flexibility of response was doubtless one of those praiseworthy qualities; was this what gave rise to the ubiquity of the small camp?

## Bibliography


Bennett, J, 1980, 'Temporary' camps along Hadrian's Wall, in Hanson, WS, and Keppie, LJF (eds), *Roman Frontier Studies 1979,* BAR International Series **71.i**, 151–72

Crawford, OGS, 1939, Air Reconnaissance of Roman Scotland, *Antiquity*, **13**, 280–92

Crawford, OGS, 1949, *The Topography of Roman Scotland*, Cambridge

Crawford, OGS, 1951, Editorial Notes, *Antiquity* **25**, 95

Frere, SS, and St Joseph, JKS, 1983, *Roman Britain from the Air,* Cambridge

Hanson, WS, 1978, Roman campaigns north of the Forth–Clyde isthmus: the evidence of the temporary camps, *Proc Soc Antiqu Scot* **109**, 140–50

Hanson, WS, 1987, *Agricola and the Conquest of the North* London

Hanson, WS, and Maxwell, GS, 1986, *Rome's north-west frontier: the Antonine Wall*, Edinburgh

Jones, RH, 2004, Temporary camps on the Antonine Wall, *Procs of the 19th Internat Congress of Roman Frontier Studies*, Pecs

Keppie, LJF, 1997, Roman Britain in 1996: Scotland, *Britannia* **28**, 405–14

Lenoir, M, 1979, *Pseudo-Hygin,* Paris

Maxwell, GS, 1981, Agricola's campaigns: the evidence of the temporary camps, in Kenworthy, J (ed) *Agricola's Campaigns in Scotland (Scot Archaeol Forum xii)*, 25–54

Maxwell, GS, 1983, Recent aerial discoveries in Roman Scotland: Drumquhassle, Elginhaugh and Woodhead', *Britannia* **14**, 167–81

Maxwell, GS, 1989, *The Romans in Scotland,* Edinburgh

Maxwell, GS, 1991, Springboards for invasion: marching camp concentrations and coastal installations in Roman Scotland', in Maxfield, VA, and Dobson, MJ (eds), *Roman Frontier Studies 1989: Procs of the XVth Congress of Roman Frontier Studies*, 111–13

Maxwell, GS, 1998, Agricola and Roman Scotland: some structural evidence' in Bird, J (ed), *Form and Fabric,* Oxbow Mono **80**, Oxford

Maxwell, GS, 2003, The Roman Penetration of the North in the Late First Century AD', in Todd, M (ed), *A Companion to Roman Britain,* Oxford

Maxwell,GS, and Wilson, DR, 1987, Air Reconnaissance in Roman Britain 1977–84', *Britannia*, **18**, 1–48

Philpott, RA, 1998, New Evidence from Aerial Reconnaissance for Roman Military Sites in Cheshire, *Britannia* **29**, 341–53

Pitts, LF, and St Joseph, JKS, 1985, *Inchtuthil,* Britannia Mono **6**, London

Royal Commission on the Ancient and Historical Monuments of Scotland (RCAHMS), 1978 *Lanarkshire: an Inventory of the Prehistoric and Roman Monuments*, Edinburgh

Richmond, IA, 1940, The Romans in Redesdale, *Victoria County History of Northumberland*, **15**, Newcastle

Richmond, IA, 1962, 'The Roman Siege-works of Masada, Israel', *J Roman Stud* **52**, 142–55

Richmond, IA, and McIntyre, J, 1934, The Roman Camps at Rey Cross and Crackenthorpe, *Trans Cumberland Westmorland Antiqu Archaeo. Soc* ser 2, **34**, 50–61

Roy, W, 1793, *The Military Antiquities of the Romans in North Britain,* Soc of Antiqu of London, London

St Joseph, JKS, 1951, Air Reconnaissance of North Britain, *J Roman Stud* **41**, 52–65

St Joseph, JKS, 1973, Air Reconnaissance in Roman Britain, 1969–72, *J Roman Stud* **63**, 214–46

St Joseph, JKS, 1976, Air Reconnaissance in Roman Scotland, 1939–75, *Glasgow Archaeol J* **4**, 1–28

St Joseph, JKS, 1977, Air Reconnaissance in Roman Britain, 1973–6, *J Roman Stud* **67**, 125–61

St Joseph, JKS, 1978, The Camp at Durno and *Mons Graupius*, *Britannia* **9**, 271–88

Welfare, H, and Swan, V, 1995, *Roman Camps in England: the Field Archaeology,* Royal Commission on the Historical Monuments of England, London

Wilson, DR, 2000, *Air Photo Interpretation for Archaeologists*, Stroud

# Les mortiers Drag 45: leur place dans l'étude des céramiques d'époque romaine

*P-H Mitard*

***Summary***

*The samian mortarium form Drag 45 was first produced in the last third of the second century AD, and lasted throughout the third century into the fourth. The applied decoration of the moulded spouts was frequently copied, so that it is possible to obtain a dated sequence by arranging these copies in their order of production.*

*The description of Drag 45 in the standard work of Oswald and Pryce, 1920, treats it as a plain form, ignoring its decorative component; this in spite of the great variety of lion masks to be seen from say, Niederbieber and Arentsburg, all made in East Gaul. This problem will be rectified in a forthcoming publication by the author (in press).*

*This research has been pursued in France, Britain and the Low Countries through to Switzerland. It has revealed a rich variety of decorative details on Drag 45, not only on samian, but on metallic-slip wares. The decoration reveals pure copies and retouched copies, which has necessitated the production of a catalogue, proving that this form should really be considered as a decorated vessel.*

*The other important dating medium is that of potters' stamps, sometimes applied to the rims, which can be used to give greater precision to the typology of the applied decoration. For Central Gaul this typology comprises some 50 types, which with copies and retouched examples results in over 200 variants. By extension, dates and sequences of the decorative elements can be applied to other morphological features of the form as a whole. Comparison with vessels in metallic-slip wares (Symonds, 1992) suggests that the dating there is incompatible with the development of the series made at Lezoux.*

*There is evidence from the work of Geminus of Lezoux that certain of his moulded spouts derive from types originating in the Argonne and Rheinzabern, although this point needs to be pursued further. In East Gaul, in contrast to Lezoux, it is only possible to see the way in which models were derived one from another, when a full series of the moulded spouts are compared together.*

*Fellow students of ceramics are reminded that the small details of decoration allow accurate ascription, and these need to be shown in published examples. Further advances in knowledge are dependent on co-operation among the archaeological community, and the author will be placing his archive in an archaeological institution, as a basis for future studies.*

La forme, qui a reçu le no 45 dans la classification de Dragendorff (1895) pour la céramique sigillée (en abrégé Drag 45) est, cela va de soi, bien connue de tous les archéologues de terrain se consacrant à l'époque romaine, en Europe occidentale non méditerranéenne. Elle appartient à la famille des mortiers et se caractérise principalement, outre le revêtement quartzeux de sa panse, par son bord en bandeau, plus ou moins vertical, percé d'un déversoir orné d'un masque de lion en relief (ou d'un motif plus ou moins dégénéré en tenant lieu).

Apparue dans le dernier tiers du II ème siècle, elle prend rapidement de l'importance et poursuit sa carrière au III ème siècle, en survivant de façons diverses jusqu'au IV ème. Si son usage a pu paraître un peu incertain, compte tenu des polémiques ayant concerné celui des mortiers en céramique en général (ou plus spécialement en céramique commune; voir en dernier lieu Baatz 1977, article qui nous parait clore le débat), son principal intérêt pour les archéologues réside bien entendu, comme pour les autres formes de céramique sigillée, dans les éléments de datation et la connaissance des ateliers d'origine qu'elle peut fournir. Intérêt renforcé, peut-on ajouter, par une certaine raréfaction, pour la période en cause, des autres formes de céramique sigillée relativement bien datées.

Curieusement cependant, les mortiers Drag 45, sans être ignorés des grands auteurs: Déchelette, Oswald, auxquels les études de cette céramique doivent tant, n'ont pas bénéficié de la part de ceux-ci de l'intérêt qu'aurait dû justifier leur élément caractéristique propre: le déversoir orné. Celui-ci, en effet, du moins initialement et pour la période principale de production de cette forme, a été réalisé par la technique du relief d'applique: il est issu d'un moule dont on peut retrouver tous les détails sur les exemplaires qui en sont sortis, de même que l'on retrouve sur une monnaie tous les détails des coins avec lesquels celle-ci a été frappée. Caractéristique complémentaire: la pratique du sur-moulage pour l'obtention de nouveaux moules à partir des reliefs ainsi réalisés, qui établit des liens d'une 'génération' à l'autre, comme dans un véritable arbre ou tableau généalogique (Mitard 1973, 97–102, en particulier le 'Tableau théorique de filiation des variétés d'un type'). Tout cela fait qu'un vase portant un relief-

déversoir d'un certain type appartient à une famille déterminée, dont tous les membres sont à prendre comme tels, avec les conséquences que cette parenté implique et les recoupements qu'elle permet pour la détermination de la datation et de l'origine.

Ces observations rapprochent, à l'évidence, cette forme de celle présentant une panse entièrement ornée (Drag 29, 30, 37 et autres), dont l'abondance des décors et la multiplicité des poinçons grâce auxquels ceux-ci ont été réalisés, rendent l'étude beaucoup plus complexe.

En dépit de ces remarques – que chacun peut faire – dans l'ouvrage de base qu'est en la matière celui de Oswald et Pryce (1920), les mortiers Drag 45 sont, avec les mortiers d'autres formes, réunis aux formes dites 'lisses' ('plain forms'); le déversoir, orné d'un masque de lion ('*appliqué* lion-faced spout'), dûment mentionné, apparaît ainsi comme pouvant être complètement négligé.

Malgré la diversité d'aspect de ces masques de lion que révélaient déjà les publications de certains sites: Niederbieber (Oelmann 1914, fig 8), Arentsburg (Holwerda 1923, pl XXXIV), respectivement 7 et 36 exemplaires (tous issus d'ateliers de Gaule de l'Est), cette négligence demeura longtemps la règle. Pour enfreindre valablement celle-ci, il fallait entreprendre un travail de documentation systématique à l'égard de ces reliefs-déversoirs.

Qu'il me soit permis de rappeler que c'est ce que j'ai fait à partir de 1963… Cette contribution, en hommage à une très estimée collègue, spécialiste de mortiers d'un autre type, marque donc un anniversaire; mais elle se justifie surtout par la publication, en cours de réalisation, d'un premier aboutissement de cette longue recherche (Mitard à paraître).

A l'issue de cette recherche, la documentation sur laquelle se fonde l'ouvrage annoncé porte sur l'ensemble des territoires inclus dans l'Empire Romain ayant connu ce type de mortiers: France et pays voisins au Nord et au Nord-Est (à l'intérieur du *Limes* rhénan, des Pays-Bas jusqu'à la Suisse) et Grande-Bretagne. Recherche menée lors de visites systématiques de principaux musées et dépôts archéologiques concernés, complétée par les bonnes relations établies avec nos collègues fouilleurs et prospecteurs, en particulier de centres de production importants – collègues essentiellement français, ceux-là – mais aussi, pour les sites de consommation étrangers, belges et britanniques principalement, mais aussi suisses, la barrière des langues rendant plus difficiles les relations suivies avec les collègues des autres pays intéressés.

Cette recherche directe aux sources mêmes s'est, bien entendu, complétée par une certaine recherche dans la littérature, mais moins systématique, étant donné son caractère moins fructueux pour les raisons indiquées précédemment; même si les publications récentes, précises sur les contextes de découverte, présentent le plus souvent une certaine illustration, celle-ci reste généralement peu utilisable dans ce domaine, en raison de son imprécision et d'une échelle de représentation trop faible.

La documentation rassemblée, qui s'étend d'ailleurs aux éléments en céramiques autres que la sigillée connaissant cette forme (métallescente et imitations diverses), confirme la grande diversité typologique des reliefs-déversoirs et l'importance du nombre des variétés dues à des surmoulages, simples ou avec 'retouches', qui nécessitent la mise au point de catalogues détaillés. Les déversoirs ne sont d'ailleurs pas la seule ornementation de ces mortiers: des 'décors secondaires' se rencontrent aussi parfois – bien que plus rarement – sur le reste du bord, décors faisant appel aux diverses techniques que permettait la céramique antique: excision ('cut glass technique'), relief d'applique, barbotine, estampage; et décor à la molette ou même peint, au IV ème siècle. Ces décors secondaires permettent d'autres recoupements pour l'étude et justifient un peu plus, s'il en était besoin, de ne pas ranger la forme Drag 45 purement et simplement dans la sigillée lisse. Des catalogues détaillés en ont été établis comme pour les reliefs-déversoirs.

Dernier élément caractéristique pouvant accompagner parfois le relief-déversoir: une estampille, élément précieux bien sûr, pour la datation et la détermination de l'origine du mortier considéré, mais aussi pour celles du type de relief-déversoir qui s'y trouve associé, sur le plan général de cette étude. Le catalogue qui en a été dressé, qui avait bénéficié au départ de diverses indications intéressantes de la part de l'éminent auteur du nouvel *Index of potters' stamps* tant attendu, sera probablement un peu moins complet que ce dernier, pour les exemplaires connus sur cette forme, mais le complétera pour les exemplaires estampillés comportant aussi le relief-déversoir, par la mention de la typologie de celui-ci.

Que peut-on attendre de ce premier travail d'ensemble, même limité, en ce qui concerne la documentation publiée, aux productions de la Gaule Centrale? D'abord, bien sûr, une meilleure compréhension des problèmes intéressant cette forme céramique sur le plan général; mais surtout sur le plan pratique et pour les productions de la région en cause, la possibilité de se référer désormais à une typologie précise, fondée sur leur ornementation, pour l'identification des mortiers Drag 45.

Pour la Gaule Centrale, donc, cette typologie comporte une cinquantaine de numéros de types, d'importances très diverses par le nombre d'exemplaires recensés, mais aussi par le nombre de variétés qui en relèvent, du fait de surmoulages simples (se traduisant par une diminution de dimensions), ou parfois avec des 'retouches' (introduisant des détails nouveaux); ce qui donne au total pour l'ensemble des types plus de 200 variétés. C'est peut-être beaucoup, mais dès lors qu'on adopte cette méthode de classement, il paraît préférable de s'y tenir, sans réunir des variétés proches, qui peuvent correspondre à des datations plus ou moins différentes, d'après des contextes de découvertes susceptibles de se révéler ultérieurement.

Quant à la détermination des ateliers d'origine, en Gaule Centrale certes Lezoux a une position dominante, mais non exclusive; il sera donc satisfaisant de pouvoir reconnaître, à l'occasion, des productions d'autres ateliers sur de sites de consommation.

Les apports les plus importants de l'étude de ces représentants de la forme Drag 45 concernent leur datation que permettent de mieux appréhender dans le détail les recoupements fournis par leurs caractéristiques propres: type de relief-déversoir (en soi et dans son évolution typologique), estampille, décor secondaire, forme du bord, qualité de la matière ('fabric'), apparition d'exemplaires en céramique métallescente. Même si certaines des datations avancées – parfois peut-être un peu trop précises – appellent des confirmations, il paraît préférable de les présenter, plutôt que de se borner à la formule classique: 'fin II ème – 1ère moitié du III ème siècle'.

Quelques exemples empruntés à l'archéologie britannique montrent l'intérêt qu'auraient pu présenter depuis longtemps dans ce domaine, en tant que repères chronologiques, certaines découvertes ponctuelles. A *Margidunum,* Oswald a bien observé une évolution dans la forme du bord entre les mortiers attribuables à sa phase VII ('Antonine period') et ceux attribuables à sa phase VIII ('third century') (Oswald 1948, pl L.3 et LIII.2). La forme la plus ancienne se caractérise par une tendance concave et un épaississement de la base du bord; ces caractéristiques se retrouvent à des degrés variables sur des exemplaires au relief-déversoir datable de façon précoce pour d'autres motifs. Il aurait donc été intéressant de connaître les types des reliefs-déversoirs correspondants: la figuration sommaire de profil qu'en donne Oswald (*op cit)* ne permet malheureusement pas de les identifier. Et je n'ai pas pu en obtenir de reproductions.

Cramond, en Ecosse (au nord-ouest d'Edimbourg), présente – on le sait – l'intérêt particulier d'une brève occupation séverienne (208–10) (Hartley 1972, 42). A l'occasion de la publication de la fouille de divers sites romains (Holmes 2003), un inventaire général de la céramique sigillée qui y a été découverte a été établi, dans lequel figurent cinq exemplaires de la forme Drag 45, dont quatre – m'avait-il semblé, à lecture trop rapide – avec le relief-déversoir: deux de Gaule de l'Est, deux de Gaule Centrale (*op cit,* 45 et 47; les photos obtenues grâce à l'aimable intervention de M. Fraser Hunter, Iron Age and Roman Curator at the National Museum of Scotland, si elles confirment bien ces origines respectives – par l'aspect de la matière et la forme du bandeau – m'ont montré l'absence totale du relief).

Bien que l'auteur de l'étude indique bien qu'une part de cette céramique provient certainement d'une période postérieure à l'occupation principale de l'Ecosse, la datation avancée pour les Drag 45 de Gaule Centrale s'en tient à la période traditionnelle: 170–200. Il est cependant tout à fait possible, nous semble-t-il, que celle-ci atteigne 208–10; en fait l'absence du relief ne permet malheureusement pas d'en juger.

Autre observation fondée sur des découvertes d'Outre-Manche. Lors de la fouille des quais romains de Londres (1975–8), fouille très difficile, a-t-il été dit, mais publication exemplaire (Miller *et al* 1986), 17 mortiers Drag 45 ont été découverts et publiés de la meilleure façon (reproduction photographique des reliefs-déversoirs à l'échelle 1/1 et relevés des coupes). J'avais été consulté sur photos – avec indication des dimensions – par la spécialiste de la céramique sigillée qui en avait la charge, Mrs J Bird, mais sans précisions alors sur les contextes de découverte (voir Bird dans Miller *et al* 1986, 139–85; pour les Drag 45: 173–85). Neuf de ces mortiers étaient originaires de Lezoux; je les avais datés: fin II ème – début III ème siècle, sauf un (no 2210) que je datais de la 1ère moitié du III ème siècle.

La publication a montré que celui-ci était d'une provenance différente: phase 6 (avec trois autres de Gaule de l'Est, no 2215–17), alors que les premiers provenaient essentiellement des phases 4 et 5. Quelles que soient les incertitudes pesant sur le mode de constitution de cette phase 6, il me paraît satisfaisant que ma datation, qui reposait alors sur des critères différents se recoupant, se soit trouvée confirmée par le contexte de découverte.

Quant aux datations avancées pour les autres exemplaires provenant de cette fouille, très classiques, elles étaient très compatibles avec celle fournies par les contextes, les exemplaires de Gaule Centrale, d'excellente qualité, me paraissant finalement devoir dater du début du III ème étant donné l'absence totale d'exemplaire estampillé et la forme du bord (à profil d'épaisseur constante, à une exception près: no 2207).

Sur un plan plus général – je l'ai déjà indiqué – mon étude ne se cantonne pas aux seuls éléments de céramique sigillée mais s'étend aux éléments de même forme et décors en céramiques autres. Cela m'a permis de montrer que la datation envisagée pour certains de ces mortiers à décor excisé en céramique noire métallescente, dans un ouvrage d'ensemble sur les céramiques de ce type aux contours encore mal définis jusque-là (Symonds 1992), n'était pas compatible avec ce que l'on connaît de l'évolution des productions de Drag 45 de Lezoux. (Par rapprochement avec des vases de formes différentes, mais de décorations voisines, certains éléments de mortiers Drag 45 en céramique métallescente noire à décor excisé avaient été classés dans cet ouvrage dans un groupe 4 dont l'auteur estimait improbable une datation plus tardive que le milieu du second siècle. En fait, ces Drag 45 de Lezoux n'apparaissent qu'à une période tardive du III ème siècle, comme l'ont bien vu les spécialistes de l'atelier eux-mêmes – Bet et Gras 1999, 35. De toutes façons, les reliefs-déversoirs figurant sur les pièces en cause ne pouvaient eux-mêmes être antérieurs au 2ème quart du III ème siècle de par leur typologie même).

D'autre part, le rapprochement de certains exemplaires de mortiers Drag 45 de Lezoux portant une des estampilles de *Geminus* et comportant le relief-déversoir, montre que celui-ci est issu de surmoulages – avec retouches soignées importantes, incontestables – d'un relief argonnais de variété initiale. Il en est de même d'exemplaires portant également une estampille de *Geminus*, mais du second type, avec un relief-déversoir issu du surmoulage d'une variété déjà assez évoluée (b") d'un type d'un atelier de l'Est autre (Rheinzabern pour

cette variété). S'il est vrai que les exemplaires estampillés sont normalement les plus anciens, cela porterait à penser que les ateliers de l'Est ont eu une certaine priorité dans ce domaine. Contrairement à ce qu'on pense généralement pour Lezoux. En fait, il faut encore rester prudent à ce sujet, le problème étant un peu moins simple. On y reviendra quand tous les éléments en seront rassemblés. Mais la question nous a paru mériter d'être évoquée ici.

La présentation des productions des ateliers de l'Est: Argonne, Rheinzabern, Trèves, plus quelques autres, réservera bien des surprises par l'évolution de certains de leurs reliefs-déversoirs, beaucoup plus accentuée qu'en Gaule Centrale. Au point qu'en voyant côte à côte le modèle initial et le modèle le plus évolué connu, on douterait à coup sûr qu'ils puissent dériver l'un de l'autre (alors que les variétés successives le montrent bien). Cette présentation frappera aussi par le caractère foisonnant des types de reliefs-déversoirs, issus de moules de plus en plus sommaires ou dégénérés, peu encourageants pour l'étude, mais qu'il conviendra de prendre en compte dans la mesure où ils seront suffisamment caractéristiques pour permettre de déterminer des origines et des datations. (Ce caractère peu encourageant a peut-être contribué au manque d'intérêt à l'égard de cette forme de la part de nos collègues allemands, à l'exception de l'une d'entre eux dont l'étude d'un ensemble provenant d'un site du *Limes* a donné lieu à des observations fort intéressantes – Pferdehirt 1976, 58–67. Suscitée par une de mes premières publications sur le sujet, cette étude n'est malheureusement parvenue à ma connaissance que 25 ans plus tard, alors qu'elle n'aurait pas manqué de constituer pour moi un précieux encouragement lors de sa publication).

Quant aux mortiers de même forme mais de céramiques diverses: métallescente, 'à revêtements argileux', sigillée luisante et autres imitations tardives, ils feront l'objet de développements et répertoires particuliers, mais par le caractère plus régional de leur diffusion, ils n'intéresseront nos lecteurs britanniques que de façon plus lointaine. Les ateliers britanniques tardifs de Nene Valley, New Forest, Oxford, ne manqueront pas, cependant, d'y figurer à leur place.

Ce qui précède tend à justifier la place que l'auteur voudrait voir occupée par les mortiers Drag 45 en tant que céramique ornée dans les études intéressant les céramiques romaines. Les considérations et catalogues que présente le premier volume annoncé faciliteront – on peut l'espérer – l'acquisition de cette place. Mais au fond tout dépendra de l'intérêt que voudront bien y apporter nos collègues céramologues, de leur attention pour les petits détails caractéristiques des pièces qu'ils auront entre les mains, permettant de parvenir à des déterminations précises; de la qualité qu'ils voudront bien s'efforcer de donner à leurs publications pour contribuer à enrichir la documentation existante, chaque fois que la pièce leur paraîtra en valoir la peine. (Le meilleur type de reproduction est naturellement la reproduction photographique à l'échelle 1/1, en particulier pour un motif inédit; le simple dessin – en dehors du profil-coupe – est généralement insuffisant pour permettre la reconnaissance précise de la variété – ou même simplement du type de relief, à moins d'un réel talent que n'a pas toujours l'archéologue; la mention de l'échelle est en tout cas indispensable).

Comme dans d'autres domaines, les progrès en la matière seront fonction du degré de collaboration entre les membres de la communauté archéologique, sur un plan qui se doit d'être international. (Dans l'immédiat – date de sortie de la publication annoncée – tous les exemplaires autres que de Gaule Centrale, seront encore inédits, à moins de figurer dans certains inventaires d'atelier ou de site, déjà publiés, figurant dans la bibliographie. L'auteur continuera d'accueillir volontiers, comme il l'a toujours fait, toute demande d'expertise d'exemplaires nouveaux, appuyée de photos ou de moulages et de l'indication des conditions de découverte et de conservation. L'intérêt sera réciproque). L'auteur envisage d'ailleurs, le moment venu, de remettre l'ensemble de sa documentation à un musée ou un service archéologique à déterminer (la documentation actuellement réunie comporte 4800 fiches, appuyées de 4000 moulages en plâtre, environ), pour en permettre la conservation, la consultation et bien entendu, autant que possible, l'enrichissement progressif.

## Bibliography


Baatz, D, 1977, Reibschale und Romanisierung, *Rei Cretariae Romanae Fautorum Acta* **17/18**, 147–58

Bet, P et Gras, D, 1999, Parois fines engobées et céramique métallescente de Lezoux, dans Brulet R, Symonds, RP, et Vilvorder, F, *Céramiques engobées et métallescentes gallo-romaines. Actes du colloque organisé à Louvain-la-Neuve, 1995*, *Rei Cretariae Romanae Fautorum*, Supp **8**, Oxford, 13–38

Déchelette, J, 1904, *Les vases céramiques ornés de la Gaule Romaine*, Paris

Dragendorff, H, 1895, Terra Sigillata, *Bonner Jarbûcher*, **16**, 18–155

Hartley, BR, 1972, The Roman occupations of Scotland, the evidence of Samian Ware, *Britannia* 3, 1–155

Holmes, N, 2003, *Excavation of Roman sites at Cramond*, Edinburgh, Soc of Antiqu of Scotland Mono **23**

Holwerda, JH, 1923, *Arentsburg, een Romeinsch militair vlootstation bij Voorburg*, Leiden

Miller, L, Schofield, J, Rhodes, M, and Dyson, T (ed), 1986, *The Roman Quay at St Magnus House, London: Excavations at New Fresh Wharf, Lower Thames Street, London 1974–8*, London and Middlesex Archaeol Soc Spec Pap **8**

Mitard, P-H, 1965, Les têtes de lion-déversoirs sur terrines Drag 45 de l'officine céramique de Terre-Franche (Vichy Rive Gauche), *Revue archéologique du Centre*, **14**, 141–52

Mitard, P-H, 1973, La terrine à déversoir orné d'un mufle de lion (Drag 45), dans Duval, P M et ses élèves de l'EPHE (IVème section), *Recherches d'archéologie celtique et gallo-romaine*, Librairie Droz, Paris-Genève, 97–102

Mitard, P-H, à paraître, *Les mortiers Drag 45 et leur ornementation, étude d'une forme céramique gallo-romaine*, *Tome 1, Généralités, Gaule Centrale*, Cahiers du Centre archéologique de Lezoux **4**

Oelmann, F, 1914, *Die Keramik* des *Kastells Niederbieber*, Frankfurt-am-Main

Oswald, F, and Pryce, TD, 1920, *An introduction to the study of terra sigillata treated from a chronological standpoint*, London

Oswald, F, 1948, *The Terra Sigillata (Samian Ware) of* Margidunum, Nottingham

Pferdehirt, B, 1976, *Die Keramik des Kastells Holzhausen, Limesforschungen* **16**

Symonds, RP, 1992, *Rhenish Wares. Fine dark coloured pottery from Gaul and Germany*, Oxford Com for Archaeol Mono **23**, Oxford

# The Roman Pottery Industry of West-Central Leicestershire

*Richard Pollard*

The *civitas* capital of the *Corieltauvi* at Leicester was the nearest large market for the Mancetter-Hartshill pottery industry, and as such it features frequently in Kay Hartley's reports on the distribution of mortarium stamps (eg Hartley 1994). The production of pottery at *Ratae Corieltauvorum* has been documented since at least 1902 (*cf* Freer, 1901–2, 462), but a full synthesis of the industry, from its origins in Leicester to the development of rural production in the second to fourth centuries, has never been attempted. Liddle (1982, 42–3) and Swan (1984, 55–67 and microfiche Gazetteer frames 426–30) incorporated brief surveys of the evidence, and archive reports on finds in the city itself by the present author are held by Leicester City Museums Service (accession nos L.A77 and 78.1975 (Great Holme Street) and L.A39.1988 (The Shires, Little Lane)). This paper attempts to summarise the evidence for the early years of the industry, in Leicester, and its relocation to the countryside around the city.

Leicester's inhabitants at the time of the Roman Conquest were using pottery of 'Belgic' type, supplemented by imports of Gaulish and other fine wares (Clamp 1985, Pollard 1994). Their rural kinsmen were, however, largely employing Scored Ware, a style with an unbroken tradition going back some four centuries or more. Within a generation, fully developed grey wares were the dominant type in use in both the town and, so far as can be judged from the very limited stratified evidence available, the farms around it.

No pottery production sites of Iron Age date have been positively identified in Leicestershire, but some of the Scored Ware contains rock fragments that are thought to be of local, Charnwood Forest, origin. Indeed, this material is found in vessels dating back to at least the later ninth to *circa* the fifth centuries BC. A possible waster in Scored Ware was found at Wanlip, just north of Leicester (for a discussion of Scored Ware and rock tempered prehistoric pottery in the Leicester area see Marsden 1998 and 2000).

The establishment of a Roman presence at Leicester in the years immediately after the Conquest, be it military or purely civilian, was rapidly followed by the construction of pottery kilns on a site just to the west of what was to become the defended area. The Great Holme Street excavations of the mid-1970s have not been, and in the foreseeable future are unlikely to be, published (see Mellor 1975–6, and Lucas 1976–7, for interim notes). Two kilns were found, along with a 'large amount of kiln debris' (Swan, 1984, Gazetteer: Leicester (1)). These have been phased provisionally to the first period on the site, and dated to *circa* AD 60–70. Waste pottery was not much in evidence, but the smaller kiln has been interpreted as a 'test kiln', and the diverse range of fabrics and forming techniques is suggestive of potters getting to grips with unfamiliar methods, and perhaps with variable aptitude (Fig 1, nos 1–15).

Sand is the most common inclusion, with grog and calcite in only a small minority of sherds. Grog, and sand, tempers were used for vessels destined to be either wheel thrown or coiled. The majority of vessels are wheel thrown, with some evidence of coiling particularly of 'native' jars in both grogged and sandy fabrics (Fig 1: nos 1–4). The carinated bowls, everted-rim jars, plates, and lids (including Fig 1: nos 8–10, 13-15) seem all to be wheel thrown. The necked jars (Fig 1: nos 3-7) include vessels in each mode, as may the storage jars. The combed jars may all be coiled (e.g. Fig 1: nos 1-2).

Decoration comprises, primarily, multiple horizontal grooves on everted/ledge rim jars, and pairs of incised wavy lines on the upper body of necked bowl-jars (Fig 1: nos 5 and 6). Less common are shoulders with burnished or incised wavy lines, lattice or oblique lines (Fig 1: nos 7-8), oblique slashes as alternatives to wavy lines (sometimes in opposed rows), and crescent-shaped stamping possibly using the end of a bone (Fig 1: no 3). Fine scoring is a feature of carinated (and S-shape?) bowls, in both chevron and wavy patterns (Fig 1: nos 10 and 11), as well as of 'native' everted/ledge rim jars (Fig 1: nos 1-2). A 'Drag 24/25 derivative' waster carries vertical deep burnished lines in place of the samian form's rouletting (not illustrated). An under-fired vessel has barbotine rings (not illustrated), and spalling suggestive of a waster, and there are possible waste plates with stamps emulating `Gallo-Belgic' terra nigra (Fig 1: no 13). Rusticated jars with bloating and squatting in evidence are known from Leicester, but there is no evidence for the production of rusticated vessels at Great Holme Street.

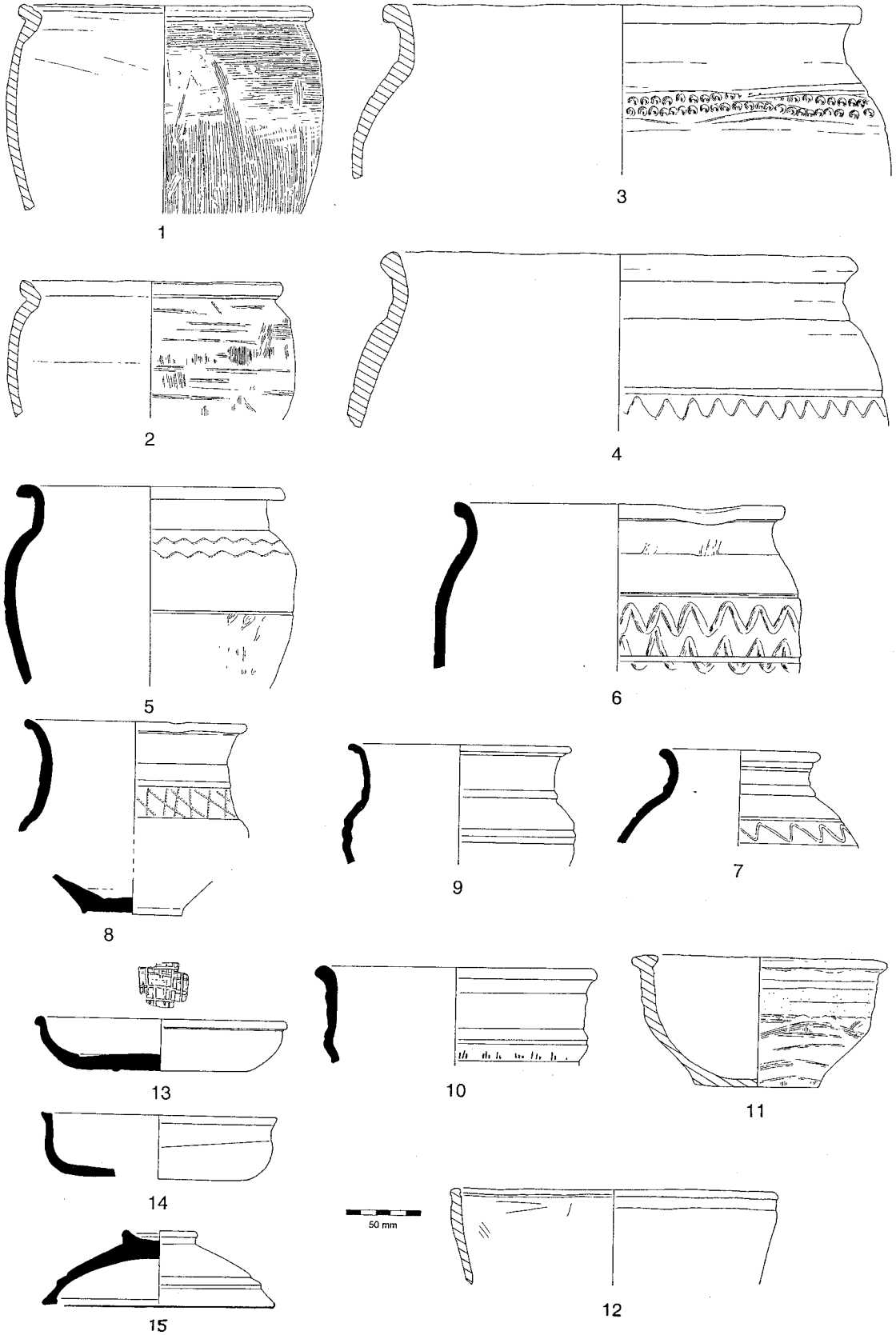



*Fig 1: Pottery from Great Holme Street, Leicester (Leicester City Museums Service accession L.A77.1975): nos 1, 2, and 4 transitional sand-and-grog grey fabrics (GT5-6) (Pollard 1994, 112-14): no 3 transitional sandy grey fabric (SW5); nos 5-15 grey ware (GW). Nos 1-4, 11 and 12 coiled (certain/probable); nos 5-10 and 13-15 wheel-thrown (certain/probable) (drawn by Chris Lawson). Scale 1:4*

The pottery thus shows both local and imported ('native' and '(Gallo-)Roman') traits, and a diverse range of potting skills. Vessels of 'local' type are distinguished from pre-Conquest wares by the degree of firing , most vessels are harder, and their consistent grey colouration. The use of coiling for the largest jars may have been a simple practicality, but for the combed jars it leads to the suggestions that the community had not mastered the wheel entirely from the outset, or that it contained conservative elements: other vessels of similar size are wheel thrown. The continued use of grog presents another argument for maintaining that the potters were indigenous, adhering in part to traditional practice whilst coming to grips with new technology and vessel types.

The context of the industry's establishment is unclear. The case for a military presence in Leicester at some time(s) in the later first century has not been proven, though it has eminent advocates (Wacher 1995, 343). Lincoln and Longthorpe provide contrasting instances of army-oriented or 'Legionary' potteries in the East Midlands. A small group of Northamptonshire-style grey wares (fabric GW10: Pollard 1994, 114; Clark 1999 fig. 61.1, 14) from the forum may indicate an expanding market for coarse pottery in the town, but it probably post-dates the establishment of the Great Holme Street pottery.

The second confirmed kiln site in the city is on the High Street, just inside what was to become the east gate of the walled town, on the north side of the Fosse Way (Swan 1984, Gazetteer: Leicester (3)). The City of Leicester SMR records a local newspaper report of the discovery of 'three Roman kilns containing half baked pottery' during construction of Lloyd's Bank in 1902 (Freer, 1901–2, 462, reports this even more prosaically as 'a quantity of fragments of Roman pottery of the usual kind has been found. Some Roman kilns were discovered on the same site'). Wasters were recovered from a builder's test hole at the Bank in 1992, including a necked jar and a reeded rim bowl, along with other grey ware and white slipped ware (fabric WS3) sherds (Fig 2: nos. 16–22).

A small group of grey ware seconds and wasters was found during excavations at Little Lane, 100m north west of the Bank (Lucas and Buckley 1989, Lucas 1990), dating typologically to *circa* AD 80–130. Their contexts suggest disposal around the end of the first century. No certain kilns were found, but the excavator (John Lucas) describes two hearths from the same period as the waste deposition as 'like small kilns' (note in archive, Leicester City Museums Service accession L.A39.1988). The wasters are mostly from jars, including bead-rim, everted-rim and necked forms. One spalled flake has two holes in the body, pierced prior to firing, indicative of a strainer or cheese press, and a blistered cheese press rim is also present.

The white slipped ware WS3 is unusual in having a grey fabric, as most white slipped wares are oxidised. The slip is clearly visible from drip trails on the interior, and in section also. It can vary in colour from white through pale-grey to very dark-grey on a single vessel. Observation of the Little Lane assemblage suggests that not all slipped grey wares of the WS3 group were intended to be of 'white' finish, and indeed most pieces exhibit patchy colouration.

White slipped ware (WS3) sherds are generally of closed forms, including flagons (Fig 2: no 23) and flasks. Grey ware two handled flagons are also a feature of early assemblages in Leicester (eg Kenyon 1948, fig. 39.4) but it is white wares and to a lesser extent oxidised fabric white-slip wares that make up the great majority of flagons in the first and second centuries. There are no oxidised ware wasters from Little Lane, from which it may be inferred that the Bank site potters restricted themselves to firings in a reducing atmosphere, perhaps of mixed loads of slipped and unslipped pots.

Wasters and seconds, usually jars, are found in ones and twos on many sites in and around the city. Types are broadly mid-first to mid-second century (eg MacRobert 1987, figs 31.12, 32.30; Pollard 1994, figs 54.65, 88, 69.317). The Great Holme Street kilns were operated in the third quarter of the first century; the High Street kilns represent a subsequent phase of production, but there may have been an interval of a generation between the two.

The evidence for rural pottery production in the hinterland of Leicester comes from two principal sources: salvage excavation of kilns, and field scatters of sherds and kiln furniture. Kilns have been recorded at three sites: Swan 1984, Gazetteer: Desford (1) (Leicestershire Sites and Monuments Record LE2742) and Earl Shilton (1) (Leicestershire SMR LE2855), and Western Park, Leicester (Clark 2000). Fieldwalking has recovered furniture, notably reduced bars (*cf* Fig 2, nos 24–8), from fourteen other locations. Seven of these, and an eighth that lacks furniture, have each yielded possible wasters and 'seconds', in each case a single sherd. Ten of these fourteen scatters have been found since Swan compiled her 1984 gazetteer: the four listed by Swan are her Desford (2) (Leicestershire SMR LE2722), Enderby (1) (Leicestershire SMR LE101), Groby (1) (Leicestershire SMR LE2771) and Narborough (1) (Leicestershire SMR LE239) sites.

The overall distribution of the eighteen kiln and scatter sites is similar to that mapped by Swan (1984, maps 4–8) with the addition of a group to the north-west of Leicester (Newtown Linford and Thurcaston parishes) (Fig 3). They all lie within eighteen kilometres of the Roman city. Some lie within a kilometre of a known Roman road, but others, notably the north-western group are as distant as five kilometres from one. Unsurprisingly, water sources tend to be close by (data

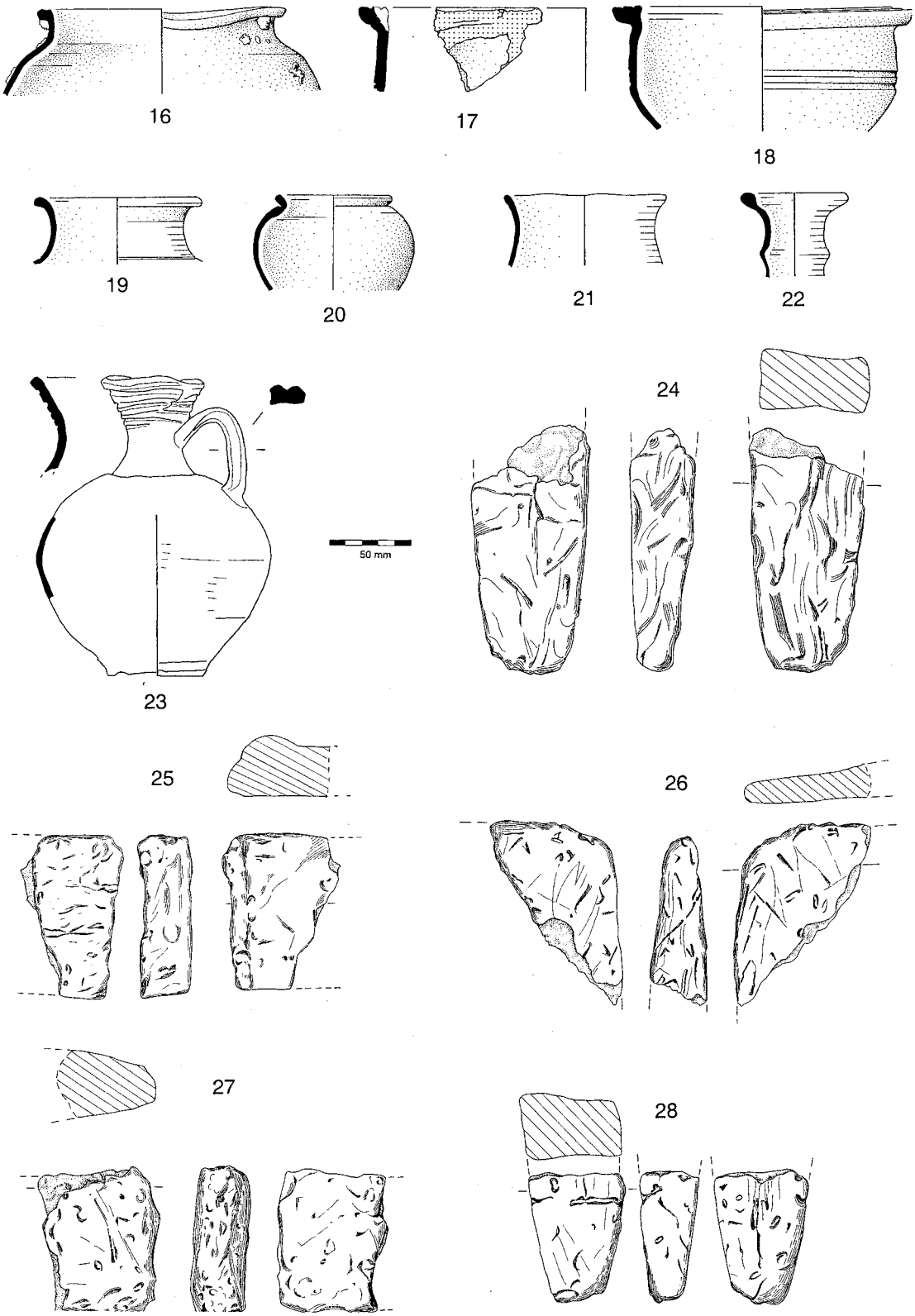



*Fig 2 : Pottery from Lloyds Bank site, High Street, Leicester (LCMS L.A68.1992): nos 16–22 all grey ware (drawn by Dave Hopkins); no 23 White slipped grey ware flagon from Leicester (LCMS L.A583.1962.1) (drawn by Richard Pollard); nos 24–28 Reduced kiln bars from Normanton Turville (private collection) (drawn by Wendy Scott). Scale 1:4*

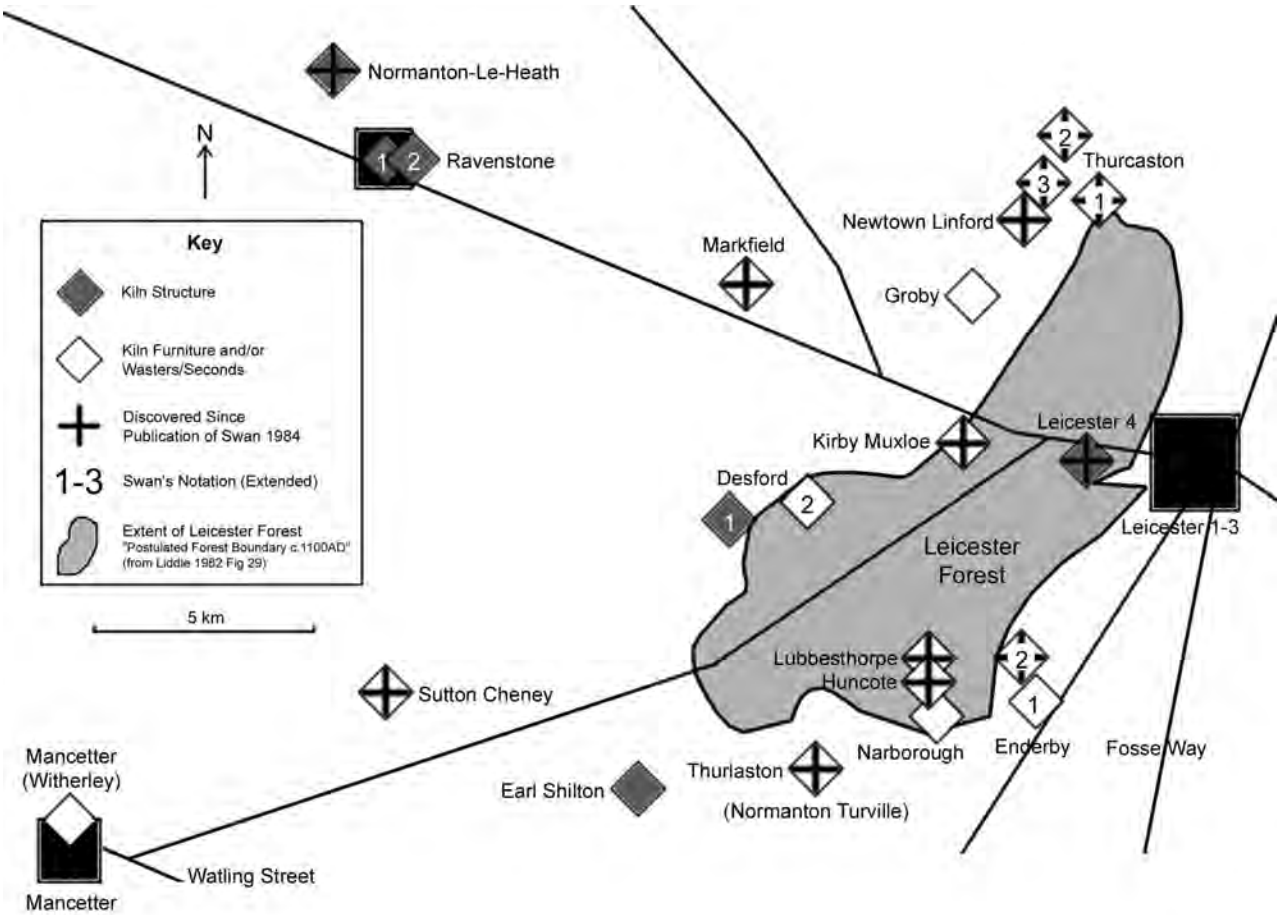



*Fig 3: Roman pottery production sites in west-central Leicestershire (drawn by Peter Goodhugh)*

from Swan 1984, Verity (1996–7), and the Leicestershire and Leicester SMRs). There is a broad correlation with the boundaries of the Charnwood and Leicester Forests in the twelfth century (Liddle 1982, 42–3; Verity 1996–7), but all of these geographical associations require statistical analysis for their significance to be assessed.

The characterisation of the rural industry around Leicester is fraught with difficulty. The excavated kilns at Earl Shilton and Western Park, Leicester, together with the Enderby (2) scatter and that at Kirby Muxloe, may all have seen production limited to the late-first to mid-second century. The latest site may be Thurcaston (2), activity at which may have been within the mid-third to mid-fourth century. The evidence, though far from conclusive, suggests that production in west-central Leicestershire peaked in the second to third centuries, at least in terms of the number of functioning sites.

The lack of wasters makes definition of products uncertain, and in many cases the associated pottery spans the whole of the Roman period. The fact that all kiln furniture is reduced would seem to indicate a concentration on grey ware production, which matches the situations at Leicester (above) and Ravenstone (Lucas 1980–1). A distorted and vitrified bowl/jar (Thurcaston (1)), a carinated bowl(?) with bloating (Normanton Turville), a bloated and spalled bowl/jar (Desford (1)), and a bloated narrow-mouthed jar or butt-beaker (Enderby (2)) may be added to the published footring vessel, a possible plate (Earl Shilton: Clarke 1952, no 11). Other examples of dinted or warped jars, bowl/jars and carinated bowls may have been discarded at their production sites or simply have been serviceable vessels acquired elsewhere. The presence of at least four barbotine-decorated short-everted-rim jars at Earl Shilton suggests production there, but none are definite discards. The Western Park site is thought to have produced jars and lids (Clark 2000).

The Roman pottery industry in Leicester and its hinterland is poorly understood. Detailed typological study and comparison with other assemblages in the region, in the hope of identifying local idiosyncrasies, may develop our ideas of what was being produced, and when and to where it was being distributed. The

visibility of the industry in the field is largely dependant upon its kiln bars, which, unlike fragments of kiln lining or dome, are easily recognised. Sites with bars need to be examined in more detail, using geophysical and invasive techniques and excavation. This should be combined with field-walking targeted upon the areas around these sites. Its relationship with the Mancetter-Hartshill industry, itself a major producer of grey wares, needs to be investigated. It is fitting, in this festschrift, to record that Kay Hartley's work on *this* industry has an important role to play in research on that which is the subject of this paper.

## Appendix: Gazetteer of kiln sites not recorded in Swan (1984).

Swan's numbering system of sites within each parish has been adapted, and developed, here. Details of each site can be found in the Leicestershire (LE) and Leicester (LC) SMRs.

| *Parish* | *NGR* | *SMR* | *Verity 1996–7 no* |
|---|---|---|---|
| Enderby (2) | SK 542 002 | LE84 | N6 |
| Huncote | SP 520 997 | LE9575 | |
| Kirby Muxloe | SK 530 050 | LE192 | N2 |
| Leicester (4): Western Park | SK 560 043 | LC542 | |
| Lubbesthorpe | SK 521 004 | LE8347 | |
| Markfield | SK 483 085 | LE2946 | N1 |
| Newtown Linford | SK 547 098 | LE735 | N10 |
| Sutton Cheney | SP 400 001 | LE9187 | N9 |
| Thurcaston (1) | SK 563 102 | LE1036 | N5 |
| Thurcaston (2) | SK 553 117 | LE1037 | N4 |
| Thurcaston (3) | SK 550 106 | LE1046 | N3 |
| Thurlaston (Normanton Turville) | SP 495 979 | LE9769 | |

## Bibliography


Clamp, H, 1985, The Late Iron Age and Romano-British Pottery *in* Clay, PN, and Mellor, JE, *Excavations in Bath Lane, Leicester*, Leicester, 41–59

Clark, R, 1999, The Roman Pottery, in Connor, A, and Buckley, RJ,, *Roman and Medieval Occupation in Causeway Lane, Leicester. Excavations 1980 and 1991*, Leicester, 95–164

Clark, R, 2000, Eco House, Hinckley Road, Leicester, *Trans Leicestershire Archaeol Hist Soc* **74**, 231

Clarke, DT-D, 1952, Earl Shilton. Roman Kiln, *Trans Leicestershire Archaeol Hist Soc* **28**, 43–6

Clay, PN, and Pollard, R , 1994, *Iron Age and Roman Occupation in the West Bridge Area, Leicester. Excavations 1962–71,* Leicester

Freer, VD, 1901–2, An Account of Recent Discoveries of Roman remains at Rothley Temple, Leicestershire, and in Leicester, *Assoc Architectural Soc Reps and Papers* **26**, 457–62

Hartley, K F, 1994, Stamped Mortaria, *in* Clay, and Pollard, 1994, 66–7

Kenyon, K M, 1948, *Excavations at the Jewry Wall Site, Leicester*, Rep Res Soc Antiq London **15**, Oxford

Liddle, P, 1982, *Leicestershire Archaeology. The Present State of Knowledge Vol 1, To the end of the Roman Period*, Leicester

Lucas, JN, 1976–7 (1978), Excavations at Great Holme Street, Leicester, *Trans Leicestershire Archaeol Hist Soc* **52,** 86–7

Lucas, JN, 1980–1 (1982), 'A Romano-British Settlement at Ravenstone, Leicestershire, *Trans Leicestershire Archaeol Hist Soc* **56**, 104–7

Lucas, JN, 1990, Leicester: The Shires watching brief, *Trans Leicestershire Archaeol Hist Soc* **64**, 95–7

Lucas, J , and Buckley, RJ, 1989, The Shires Excavation: An interim report, *Trans Leicestershire Archaeol Hist Soc* **63**, 105–6

MacRobert, E, 1987, The Roman Pottery (excluding samian), *in* Buckley, RJ, and Lucas, JN, *Leicester Town Defences*, Leicester, 65–75

Marsden, P, 1998, The prehistoric pottery, 44–62 in Beamish, M, A Middle Iron Age Site at Wanlip, Leicestershire, *Trans Leicestershire Archaeol Hist Soc* **72**, 1–91)

Marsden, P, 2000, The prehistoric pottery, 170–86 in Charles, BM, Parkinson, A, and Foreman, S, A Bronze Age Ditch and Iron Age Settlement at Elms Farm, Humberstone, Leicester, *Trans Leicestershire Archaeol Hist Soc* **74**, 113–220

Mellor, JE, 1975–6 (1977), Great Holme Street, Leicester, *Trans Leicestershire Archaeol Hist Soc* **51**, 59

Pollard, RJ, 1994, The Iron Age and Roman Pottery, in Clay, and Pollard, 51–114

Swan, VG, 1984, *The pottery kilns of Roman Britain*, Royal Commission on Historical Monuments for England, supp ser **5**, HMSO, London

Verity, BD, 1996–7, *A Study of New Kiln Evidence from the Charnwood and Leicester Forest Areas and its Implications for the Location of Pottery and Tile Production in Roman Leicestershire*, unpublished BA dissertation, School of Archaeological Studies, University of Leicester

Wacher, J, 1995, *The Towns of Roman Britain* (2nd edn) London

# ‘A glass vessel of peculiar form’: a late Roman mould-blown bottle found with a burial at Milton-next-Sittingbourne in Kent

*Jennifer Price*

As a long-time admirer of Kay Hartley’s unique contribution to Romano-British ceramic studies, I am delighted to offer her this note about a glass bottle found with a burial at Milton-next-Sittingbourne in Kent, and hope that she will enjoy it.

## *Discovery of the burial*

In February 1869, Charles Roach Smith reported the recent finding of a lead coffin in a field called Bexhill sloping down towards the creek to the east of Milton (Smith 1868a, 225–6). This field, which was owned by Mr Alfred Jordan, had already produced two similar coffins, discovered in September 1866 and March 1867 by workmen excavating brick-earth (Smith 1868b) and was to produce three others in the next three or four years (Payne 1874, 164). The lead coffin was 6 feet 5 inches (1950mm) long and 2 feet 10 inches (86mm) wide, formed from one sheet of lead for the bottom and two sides with separate pieces welded on for the two ends. The sides of the coffin and the lid were decorated with bars of beading and medallions with Medusa masks (Fig 1). A long, slender glass phial 5¾ inches (146mm) long was found inside the coffin, and a glass vessel ‘of peculiar form’ which is the subject of this note was found outside the coffin (Fig 2).

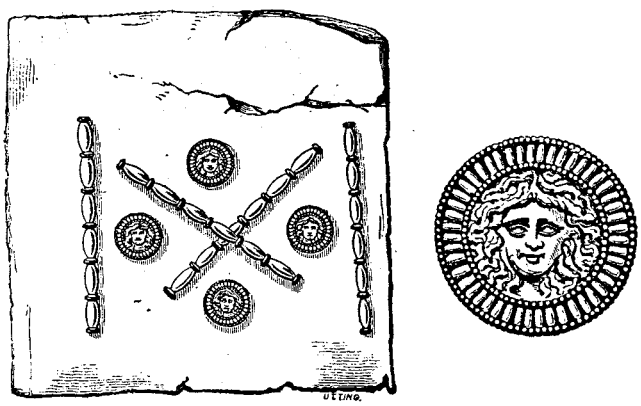


*Fig 1: Decorative elements on the lead coffin (Payne 1874)*

The dimensions of the coffin suggest that it contained an adult inhumation, but no details of the body were recorded in the initial or later accounts of the find (eg Payne 1874, 165–68; Smith 1880, 182–84; Payne 1893, 24) except for a reference to the left shoulder on which the phial rested. The coffin and lid were presented by Mr Jordan to the Maidstone Museum, and have been studied on several occasions (eg Toynbee 1954; Toller 1977, 36, 56 no 101), but there is no record of the fate of the skeleton. Toller (*ibid*, 56) noted the presence of lime in the coffin, which suggests that the treatment of the body may have been similar to that of the bodies in the two lead coffins found earlier at Bexhill.

Nothing is known about the survival of the glass vessel in the coffin, which may have been a fourth-century pipette-shaped unguent bottle (Price and Cottam 1998, 187; Cool 2002, 136), or of the whereabouts of the vessel outside the coffin in the half-century following its discovery, until in 1912 it was donated to Rochester Museum by Miss Juliet Sutton. The entry in the museum register (1912/924) records that it was ‘found at the head of a Roman leaden coffin, outside. 1869 at Milton’.

This vessel is a thin-walled bottle with two handles and horizontal corrugations on the more or less cylindrical body, blown into a two-part body mould with a separate base piece (Fig 3). The height is 224mm, the rim diameter is 62mm, the body diameter is 102mm and the base diameter is 98mm. The capacity of the body is approximately 1.3 litres. It was made in pale greenish, bubbly glass, with small round bubbles in the body and elongated bubbles in the neck and handles, and there are patches of iridescent weathering and contents staining on the inside surface of the body. It has a wide rim with the edge rolled up and in, a short funnel mouth, a narrow cylindrical neck and wide convex shoulder, a cylindrical body with a central undecorated zone, five corrugations at the top and bottom, and a concave base with a central pontil scar, two concentric circles and five letters in very low relief. Two angular ribbon handles with small edge ribs were applied to the edges of the shoulder and drawn up to folded attachments on the mouth and rim. The five letters – I [with an angular mark in front] R O N I – are arranged outside the outer circle in a ring running

*Fig 2: The glass bottle (Payne 1874)*

clockwise with the tops of the letters facing in towards the centre of the base. There is a ring of wear on the edge of base and the lower parts of the letters.

The vessel was discussed and illustrated on several occasions in the decades following its discovery, by Payne (1874, 166 fig 2), Smith (1880, fig on 184) and Payne (1893, 25 Pl IIA), who included a colourless example in the Museum of Boulogne-sur-Mer and a vessel with one handle found at Faversham in Kent as comparanda. It has received less attention since then, except in Thorpe (1935, 6, Pl IIb) who referred to it as a product of Frontinus and Sons, glassworkers based in Picardy, though it has been cited in various more recent publications (eg Cool and Price 1995, 205; Price and Cottam 1998, 211); The basal inscription has also been discussed by several writers, and the design has been illustrated at least once (RIB II.2, 115 no 2419.123). Payne, Smith and RIB accepted that the five letters were arranged outside the outer circle in a ring running clockwise with the tops facing out towards the edge of the base and read the inscription as IBONI, while Wheeler (1932, 97) recorded it as OBINI, and Thorpe (1935) as FRONI, which is the reading accepted here.

To establish a wider geographical, technological and chronological context for the Milton bottle, the evidence for the distribution, production and dating of similar bottles found in Gaul, the Rhineland and Britain is outlined below.

## *The Bottles in Gaul and Germany*

**Distribution**

Cylindrical mould-blown bottles with two corrugated bands on the body are vessels characteristic of the northwest provinces. They are found in large numbers in burials in northern Gaul between Brittany and the Rhine (eg Morin-Jean 1913, 169–76; Isings 1957, forms 89 and 128; Chassaing 1961), and are particularly common in north-west France, where more than 250 examples are known in Normandy, Pas de Calais, Picardy, Aisne and Île-de France (Arveiller-Dulong *et al* 2003, 155, fig 22) and in eastern France, where more than 40 examples are known in Champagne, Burgundy and Lorraine (Cabart 2003 162–3, fig 4, 172, fig 10). They are also found in the regions of the Rhine (eg Arveiller-Dulong and Arveiller 1985, 95 99, 169–70; Rütti 1991, 74–5; Follman-Schulz 1999, 2003) and the Moselle (eg Goethert-Polaschek 1977, 202–4, 234–5), and a few occur further south in France and Switzerland, at Poitiers (Simon-Hierand 2000, 137–9, nos 67–71) and Avenches (Borel 1997, 53 AV V 143, pl 26), and in Jura (Comte 1998, 25, fig 2) and Isère (Aoste: Veyrat-Charvillon 1999, 11 fig 9); In addition they are known in Britain (see below) but not in other parts of the Roman world, except for one thought to have been found at Olbia on the north coast of the Black Sea (Kunina 1997, 288, no 172, pl 101).

**Production**

These bottles were produced as containers, and their narrow necks and sizes indicate that they were designed for relatively small quantities of liquids rather than semi-solid substances. They range in height from less than 100mm to more than 250mm and in capacity from less than 0.1 litre to around 2.0 litres, and were less robust than other glass containers. It is generally accepted that their corrugated bodies were imitations of wooden barrels, though it is also possible that this technological peculiarity provided additional strength and rigidity for the thin-walled bodies; In transport and household use they would presumably be protected by a casing, though direct evidence for this is sparse.

The bottles were made in various colours; blue-green and pale yellow-green or greenish are overwhelmingly dominant, although colourless, dark green and light green examples are also known. Virtually all of them have either one handle (Isings 1957, form 89) or two handles (*ibid*, form 128), though examples with three handles (Morin-Jean 1913, 170) and also without handles (Chassaing 1961, fig 8) have been recorded, and one has a body with the rim finished as a jar with a wide mouth (Morin-Jean 1913, 170 fig 227).

The bodies and bases were always mould-blown, while the upper parts (neck, rim and handles) were formed outside the mould, which may have been made in metal or clay or stone. A great deal of variation in the

production details is recognisable in both the mould-blown and the free-blown elements. The two halves of the body mould generally ended at the top of the body but on some vessels the mould also enclosed the shoulder, as the mould seams continue to the base of neck (eg *ibid*, fig 223; Stern 2001, 182–3). Two vertical mould seams are always visible on the body which is either cylindrical or slightly convex (barrel-shaped); the corrugations at the top and bottom of the body are sometimes neatly separated, but in many instances the intervals between the ridges are not clearly defined, and there may be an equal number of corrugations in the two zones, or an extra one at the bottom. The two halves of the body mould frequently joined the base mould at the edge of the base, but some turned under the base, as the mould-seams are visible on a narrow strip inside the edge of the base (eg Sennequier 1985, nos 259–60, 264; *Verre et Merveilles* 1993, 13). In a few cases, a separate base mould was not used; the mould seams either join across the centre of the base (eg Cabart 2003, fig 10 bottom left) or the two parts of the body mould included portions of the base joining asymmetrically to leave a curved seam inside half of the base and no marking on the other half (eg Sennequier 1985, no 271; Follmann-Schulz 1999, abb 7–8, 9b; Stern 2001, 182).

Although a few undecorated bases have been found, virtually all have designs in low relief. These designs comprise various combinations of concentric circles, generally with three or more letters arranged in a clockwise or anticlockwise ring with the tops facing in towards the centre or out towards the edge of the base; A wide range of basal inscriptions have been listed in Kisa (1908, 943–7), Chassaing (1961, 7, 14–18, 95–103) and other publications. A large percentage of these inscriptions are accepted as versions of the name FRONTINUS although comparatively few contain all the elements of the word. For example, FRO, FRON, FROT, FRONT, FROTI, FRONTI, FRONINO, FRONTIN and FRONTINIANA, often with other groups of letters, have been recorded in northwest France (Sennequier 1985, 169–82; Dilly and Maheo 1997, 72–80), and many more are known in the other regions. Additional names are also found, such as CARANTIUS (Arveiller-Dulong and Arveiller 1985, 96–8, nos 169–70), DACCIUS (Sennequier 1985, 181, nos 278–9), NOCTURNUS (Cabart 2003, 162–3, fig 4), CEBEIUS YLLICUS (Follmann-Schulz 1999) (or ATTICUS – see Arveiller-Dulong and Arveiller 1985, 169) and ECVA (Follmann-Schulz 1999; 2003), and these are often concentrated in limited geographical areas. Some inscriptions present the name in the nominative case with F or FE or FECIT, but the majority do not.

**Chronology**

These bottles were a very long-lived form, which appears to have been made, either continuously or intermittently, for approximately three centuries from the late-first century until the mid- to late-fourth century, and this extended period of production makes them quite exceptional among glass vessels in the Roman world. Many examples cannot be closely dated, but it is possible to construct a sequence based on changes in the colour, thickness and quality of the glass, the rim and handle formation, the number of handles and the formation of the body and the base, though it is very general. For example, it is widely recognised that bottles made in blue-green glass with one reeded handle were in circulation at an earlier date than bottles made in pale greenish bubbly glass with two plain handles, but whether the two versions were also contemporaneous is uncertain.

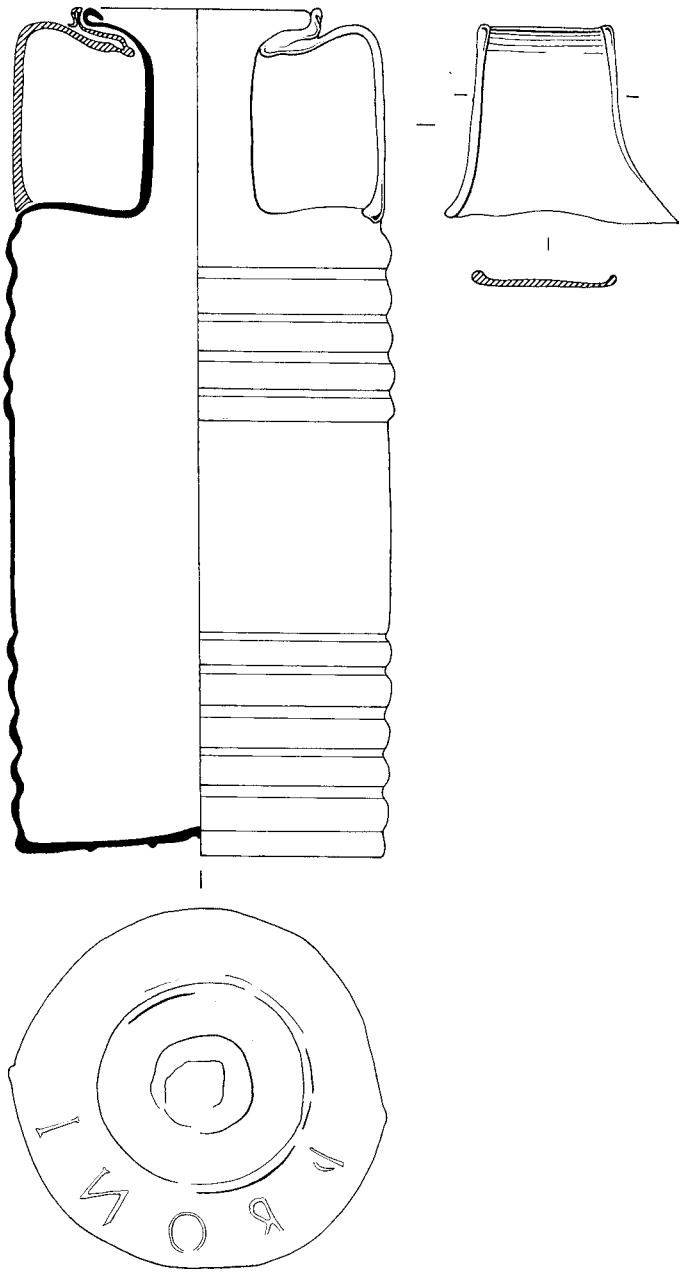


*Fig 3:The bottle and base (Scale 1:2)*

The origins of this vessel form are uncertain, although it is likely that they developed in parallel with the early production of cylindrical and prismatic bottles (Isings 1957, forms 50, 51; Price and Cottam 1998, 191–94, 194–8). The earliest examples are known in late-first-century contexts; several fragments came from deposits of this date at *Augst* (Rütti 1991, 74–5, tab 10, tafn 139–40) and *Vindonissa* (Berger 1960, 83 no 212, tafn 14, 22) and a complete example with FELIX FE on the base was found in a burial at Nijmegen dated to around AD 100 (Isings 1957, 107). These bottles were comparatively thick-walled and made in good quality blue-green or dark or light green glass with neatly separated corrugations on the body. The small folded rim and single reeded handle are comparable with those on the contemporary cylindrical and square bottles.

This small group appears to be distinct from the bottles which appeared at the end of the first or beginning of the second century, early examples being known in Normandy and Burgundy (Sennequier 1994, 64). These were produced in great numbers, and have been found very frequently in cremation and inhumation burials, particularly in the middle- and later-second century and into the third century. The majority of the examples from central France and Normandy, and many of those in Picardy and eastern France, belong to this period of production. The bottles were made in various sizes, in blue-green glass with a folded rim and a single handle, sometimes with reeding but more frequently with broad ribs (for examples of both, see Sennequier 1985, 177–81 nos 275 and 277). Most examples had more or less cylindrical bodies and many were comparatively thin-walled. A very wide range of basal inscriptions has been recorded from this period, as in Upper Normandy where 35 different ones are represented on 87 bottles (Sennequier 1994, 59, 64 note 6). Some are detailed and elaborate, arranged in one or more rings with leaf stops, and they may be an indication of commercial competition or regional interests.

Blue-green bottles were also in circulation in the late-third and early-fourth century, but it is not clear whether these are survivals from the second to early-third-century group discussed above or belong to a new phase of production, and their chronological relationship to the late Roman group of bottles which emerged in the late-third century and continued for much of the fourth century is also uncertain. The late Roman bottles were made in various shades of pale yellow-green, greenish and occasionally colourless, bubbly glass. At this time, some bottle rims were similar to those of the earlier group, but many were wide with a narrow, rolled-in edge, and these bottles generally had two plain or ribbed handles, and a body that was sometimes barrel-shaped rather than cylindrical (for details, see Follmann-Schulz 1999, abbn 1, 5–6, 9a, 10–12). Abbreviations of Frontinus are known among the basal inscriptions, but in some cases these inscriptions are quite different from those on earlier bottles, with names such as ECVA, CEBEI.YLLICI (or ATTICI) and EQVALUPIO. The distribution of these bottles is also rather different from that of the earlier groups, with concentrations in northern and eastern France and the Rhineland and much smaller numbers in western France (Sennequier 1994, 66).

**The bottles in Britain**

By contrast with the many hundreds of finds in burials recorded in northern France and the Rhineland, only a handful of examples in Britain have come from funerary contexts, and virtually all the pieces are small fragments found in settlements. For a long time the vessels were thought to be scarce in Britain and to belong only to the third and fourth centuries (eg Price 1978, 76, fig 61), but it is now obvious that they were widely distributed and that they belong to the same phases of production as the bottles found elsewhere in the northwest provinces; Nonetheless, the variation in the patterns of deposition indicates that they may have been used rather differently by social groups in Britain.

The only vessel thought to belong to the earliest group is an intact small bottle made in good quality light green glass, which was found at Faversham in Kent in 1878, presumably in a burial (Painter 1968, 62, no 79). It is 151mm high and 92mm in body diameter with a capacity of approximately 0.7 litre, and has a small diagonally folded rim, a single reeded handle, neatly separated corrugations on the body and a concave base with two concentric circles enclosing FELIX FECIT separated by a diagonal bar and arranged in an anticlockwise ring facing inwards. There is no pontil mark on the base. The rim and handle are very similar to the ones found on early small square and cylindrical bottles, and while the colour and quality of the glass is uncommon among bottles, a square bottle with the figure of a gladiator on the base found in Caersws *vicus* in a deposit dated to the first quarter of the second-century was made in very similar glass (Cool and Price 1989, 34 no 89, fig 22). The basal inscription is closely similar to the one from Nijmegen dated to AD 100 and another on a bottle from Worms (Kisa 1908, 943, no 35), and is also comparable with the inscription CHRESIMUS FECIT separated by triangular stops and arranged in a clockwise ring with the tops of the letters facing outwards on a small square bottle found in a late Neronian/early Flavian deposit at Usk (Price 1995, 186–8, no 124, fig 48). The presence of the unabbreviated form of FECIT is rare on both corrugated cylindrical bottles and prismatic bottles and may be an early feature.

Fragments of blue-green bottles have been found at more than 25 military, urban and high-status rural settlements in many parts of Britain (Fig 4), but only one has been noted in a funerary context. This is complete and it was found in the eastern cemetery of London in an

adult female inhumation burial, B525, dated to the later second or third century (Shepherd 2000, 203–5, fig 92). It is 240mm high and 104mm in body diameter, with a capacity of approximately 1.45 litres and has a folded rim, one handle with four ribs, six corrugations at the top and bottom of the body and a concave base with a central pontil mark, a single circle and FRONTSEXTIN arranged in a clockwise ring with the tops of the letters facing out. It is very similar to numerous bluish-green bottles found in burials in Upper Normandy and Picardy, and Shepherd cites an exact parallel for the inscription from Vieil Atre, near Boulogne, as well as very similar ones from Dieppe, Brionne and Lillebonne in Normandy *(ibid*, 205). Chassaing (1961, 98) noted other versions of the same names in Normandy and Picardy, and it seems likely that the London bottle originated in northwest France.

Close dating for most of the blue-green fragments in Britain is scarce, but some were in circulation in the second century, as a fragment from Canterbury was found in a context dated to AD 150–200 (Charlesworth and Price 1987, 225, no 25, fig 89), and larger numbers occur in the late-third and fourth centuries. A piece at Birdoswald was found in a context dated *c* AD 290–350 (Price and Cottam 1997, 353, no 76), a base fragment at Greyhound Yard, Dorchester in Dorset came from an early-fourth-century context (Cool and Price 1993, 164, no 135; Cool 1995, 17), and others in fourth-century contexts are known from the General Accident site, York and Wolvesey Palace, Winchester (both unpublished), Caister-on-Sea (Price and Cool 1993, 147, no 125), Catterick Bridge (Cool and Price 2002, 252, no 19), Lion Walk, Colchester (Cool and Price 1995, 206 no 2262) and other sites.

Fragments of late-Roman pale-yellow-green, greenish and colourless bottles have been found in Britain somewhat more frequently than the blue-green ones, and their distribution is rather different (Fig 5). They have been noted in at least thirty settlements, mostly towns, high-status rural settlements and ritual sites, in southern Britain, and are rare in northern and western Britain, as well as in military contexts. A fragmentary small yellow-green two-handled bottle without provenance (RIB II.2, 114 no 2419.118) may perhaps come from a funerary context, but only three vessels have certainly been found in burials. One is the vessel from Milton-next-Sittingbourne, and the other two are from Graves 174 and 620 in the Butt Road cemetery at Colchester (Cool and Price 1995, 204–6, nos 2259 and 2261).

The Milton bottle is described in detail at the beginning of this note, where the basal inscription is accepted as FRONI: there is no evidence for a horizontal bar at the top of the last letter. This abbreviated form is not otherwise recorded in Britain and is not commonly found in other areas of the north west provinces, although Chassaing (1961, 18) noted it on a bottle at Neuville-le-Pollet in Normandy (not in Sennequier 1985); The formation of the first letter is unusual, but comparable detached angular marks in front of the first letter were recorded by Chassaing (1961, 16–17, fig 3.10,13) who also commented that the letter F was sometimes replaced by other letters, including P or I. A basal inscription interpreted as FRONT with similarly formed letters in low relief and is known on a two-handled blue-green bottle with a folded rim from a fourth-century burial of a child in a lead coffin at Amiens (Dilly and Maheo 1997, 47, 79, 123, no 73, Pl 7), and another, lacking the first letter and also interpreted as .RONT is recorded on a greenish two-handled bottle with a wide rolled rim and funnel mouth very similar to the Milton example which was found at Porte Blanche, Strasbourg (Arveiller-Dulong and Arveiller 1985, 170, 222, 277, no 373). This points towards the inscription being a late-Roman form, but the sample is too small to be certain.

In the Butt Road cemetery, 250 tiny fragments of a colourless bottle (Cool and Price 1995, 204–6, no 2261) were found with an adult inhumation in Grave 620, which post-dates *c* AD 320, and a complete pale green two-handled bottle (no 2259) was found with an adult female inhumation in Grave 174, which is dated to the last third of the fourth century (for details of the burials, see Crummy *et al* 1993, 152–4, appendix 1). This vessel is closely comparable to the Milton bottle but is smaller in size and has a prominent oval ring pontil mark rather than a round scar on the base. It is 182mm high and 81mm in body diameter with a capacity of approximately 0.65 litre, and it has a wide rim with rolled edge and short funnel mouth, two angular ribbed handles, a cylindrical body with four corrugations at the top and five at the bottom, and a concave base with a pontil mark, a single circle and F R O arranged in a clockwise ring with the tops of the letters facing inwards, the R touching the outer edge of the circle (Cool and Price 1995, 206, no 2259, fig 11.17). Basal inscriptions with similarly formed letters have been noted on fragments from Colliton Park, Dorchester in Dorset (RIB II.2, 124, no 2419.166) and Wanborough in Wiltshire (Monk 2001, 171, no 141, fig 67). Both belong to the fourth century, but the same form of inscription is also found on a blue-green bottle with one handle from a cremation burial probably dating from the first half of the second century at Ourville-en-Caux, Seine-Maritime (Sennequier 1985, 179–81, no 277).

The significance of the basal designs and inscriptions on glass bottles is often difficult to interpret. They were not readily visible, but they have frequently been accepted as records of the names of the glassblower or, more realistically, the proprietor of the workshop producing the bottle. Nonetheless, other interpretations are possible; for example, they may have belonged to the producers or distributors of the contents, or perhaps have served to identify the contents. In the case of the cylindrical bottles under discussion, it has been

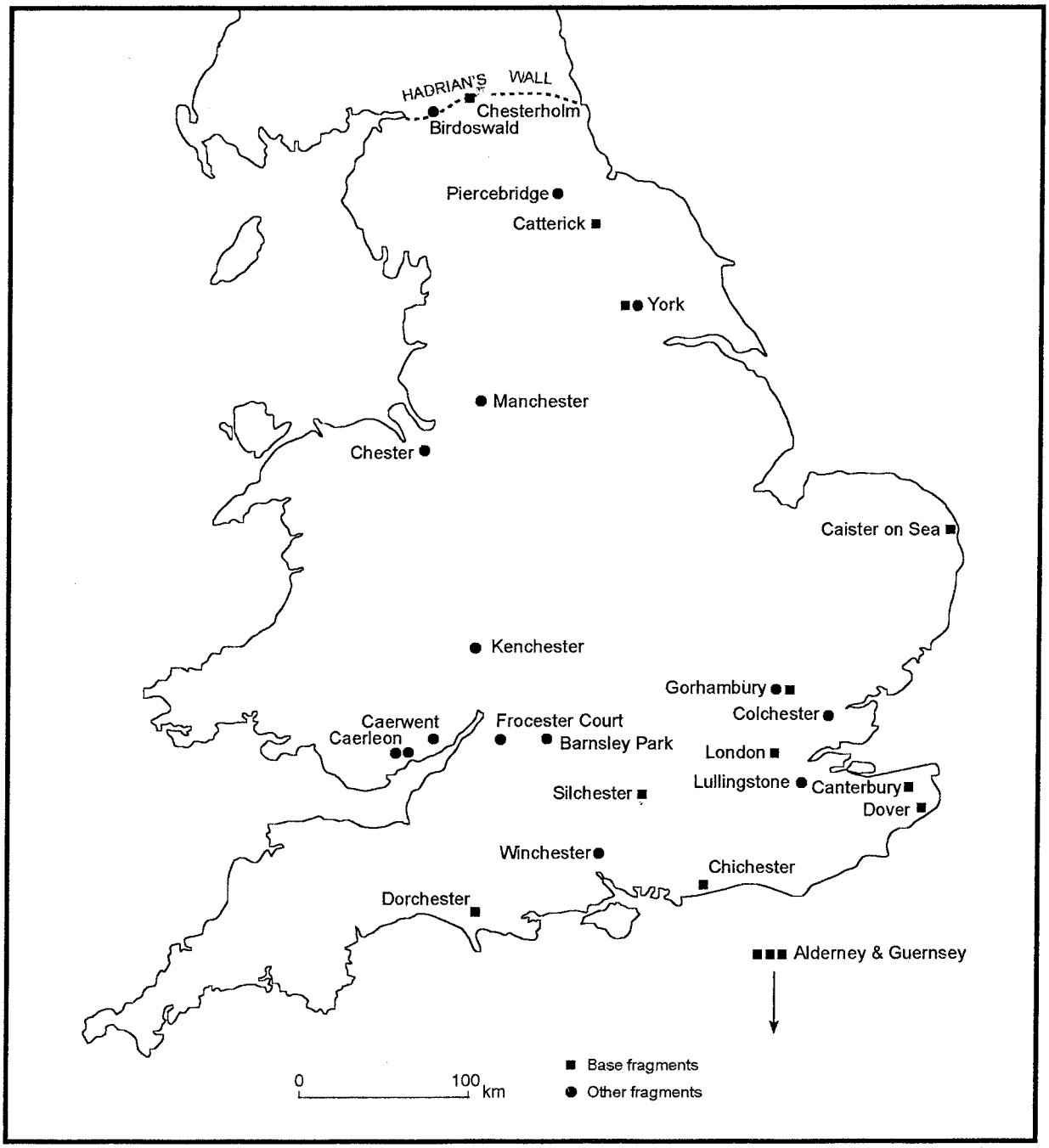



*Fig 4: Distribution of blue-green bottle fragments in Britain*

customary to recognise 'Frontinus and Sons' as the principal bottle makers although, as has already been noted, comparatively few inscriptions include F, FE, or FECIT these are generally associated with names other than Frontinus (Cool and Price 1995, 204–5).

The realisation that bottles with a similar form of FRO inscription may occur in dated contexts between 200 and 250 years apart has led to a re-assessment of this customary assumption, as this would have been an extremely long period of time for one family of glassworkers to have produced the bottles. In 1995, Cool and Price (*ibid*, 204–5) considered whether the name might relate to the contents rather than to the bottle maker, and Shepherd (2000, 204–5) suggested a comparison with the production of FORTIS lamps, where generations of provincial copying resulted in a type of ceramic lamp made in northern Italy around AD 70 being widely distributed from Britain to the Black Sea between the late-first and early-third century. There are, however, some problems with this line of argument.

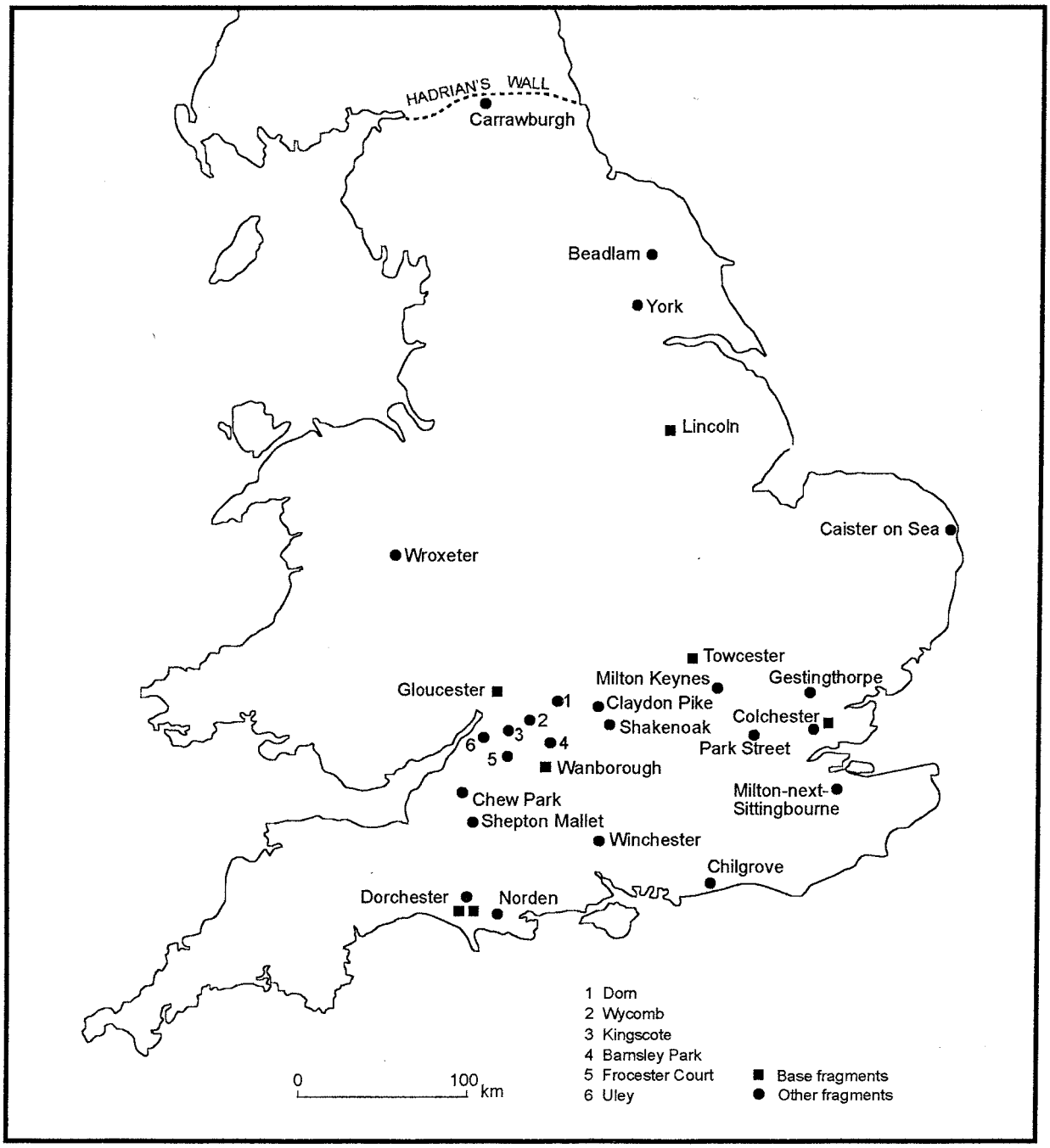



*Fig 5: Distribution of yellow-green, greenish and colourless bottle fragments in Britain*

Shepherd himself pointed out that existing mould-blown bottles probably would not have been copied to make new ceramic moulds for later bottles because the mould seams of the earlier bottle would have been visible in the new moulds (*ibid,* 204–5). In addition, the 'Frontinus/Fortis' comparison is unconvincing because the mould-blown bottles remained concentrated within a comparatively small geographical area throughout their period of production, the second-century bottles being distributed more widely than the fourth-century bottles.

**The contents of the bottles**

Very little is certainly known about the contents of these bottles, but it is worth bringing various strands of the available evidence together to highlight some general points. In the first place, the limited geographical region in which they are found suggests that the bottles themselves were locally made in western and northern France and the Rhineland, perhaps at several centres. Secondly, they were designed to contain and transport a liquid substance or substances that were probably

produced fairly close to where the bottles were made. The archaeological evidence demonstrates that these substances were distributed beyond their immediate area of production since they reached Britain, although they did not reach many other parts of the western provinces. This may indicate that they were required, desirable, or acceptable in Britain but not elsewhere, though it is more likely to be a reflection of administrative and social constraints controlling inter-provincial exchange.

The substances were distributed in various quantities for consumption in daily life and also appear to have been acceptable as an accompaniment for the burials of children and adults, both male and female, although this may be illusory, as the original contents may not have been present in the bottles when they were placed in the burials. Lastly, the substances were probably distributed in much larger amounts than has hitherto been recognised. Most studies of these bottles have concentrated on finds in funerary contexts, but this approach must have severely underestimated the number of vessels in circulation. The evidence in Britain indicates that many bottles were supplied to settlements and that the majority of them did not enter the funerary record.

Various suggestions as to the nature of the contents of the bottles have been made in the literature, including foodstuffs such as wine, mead and beer; cosmetic preparations or medicaments are further possibilities. It is interesting to note that the name Frontinus is thought to be a diminutive form of Fronto which refers to a broad or prominent forehead (Kajanto 1965, 236) but it would be foolhardy to use this as a base for speculation that the bottles were containers for facial preparations or hair restorer! In another speculative direction, it is possible that 'little forehead' may have been a powerful brand name for something quite different and unguessable, in rather the same way that Bird's Eye or HP or Marmite are today!

Finally, to return to the Milton bottle; It came from northern France or the Rhineland, and was a larger than average example of the fourth-century phase of production of these bottles, which might be interpreted either as the final flowering of the vessel form, or as a re-introduction in imitation of an earlier successful venture, a 'classical revival' among glass containers. It was used in life before it was deposited in association with the burial of an individual belonging to a wealthy community in Kent, and by this time, it is at least thinkable that it may not still have held its original contents.

**Acknowledgements**

I would like to record my thanks to the curatorial staff in the Guildhall Museum, Rochester for making the Milton bottle available to me for study and giving me permission to write about it, to Denise Allen (Andover, Hampshire), Hilary Cool (Barbican Associates) and John Shepherd (Museum of London) for answering my questions and providing unpublished information about bottles, and to Yvonne Beadnell, Department of Archaeology, University of Durham for her drawings of the Milton bottle and base and the distribution maps.

Since preparing this note, the catalogue of Frontinus bottles in the museum at Boulogne-sur-Mer (Canut 1993) has come to my attention. This includes a fragmentary base in greenish glass with three letters interpreted as IBO.... and compared with the Milton bottle (*ibid*, 115 no 21, fig 10a).

## Bibliography

Arveiller-Dulong, V, and Arveiller, J, 1985, *Le Verre d'époque Romaine au Musée archéologique de Strasbourg*, Paris, Editions de la Reunion des Musées Nationaux

Arveiller-Dulong, V, Sennequier, G, Vanpeene, N, 2003, Verreries du Nord-Ouest de la Gaul: productions at importations, in Foy and Nenna, (eds), 147–60

Berger, L, 1960, *Römische Gläser aus Vindonissa,* Basel, Birkhäuser

Borel, FB, 1997, *La verre d'époque romaine à Avenches – Aventicum: typologie générale,* Documents du Musée romain d'Avenches **3**, Avenches

Cabart, H, 2003, Productions et importations de verreries romains dans l'Est de la France, in Foy and Nenna, (eds), 161–76

Canut, V, 1993, Les barillets frontiens de la collection d'archéologie Gallo-Romaine du Château-Musée de Boulogne-sur-Mer, *Revue de Nord-Archéologie* **75**, 103-28

Chassaing, M, 1961, Les barillets frontiniens, *Revue Archéologique du Centre et du Centre-Est* **12**, 7–33; 89–104

Charlesworth, D, and Price, J, 1987, The Roman and Saxon glass, in Frere, SS, Bennett, P, Rady, J, and Stow, S, *The Archaeology of Canterbury Volume 8, Canterbury Excavations: intra- and extra-mural sites 1949–55 and 1980–84*, Maidstone, Canterbury Archaeol Trust/Kent Archaeol Soc, 220–31

Comte A 1998 La verrerie Gallo-Romaine dans le Jura, *Bulletin de l' Association Française pour l'Archéologie du Verre 1997–8*, 25–8

Cool, HEM, 1995, Glass vessels of the fourth and early fifth century in Roman Britain, in Foy, D (ed), *Le verre de l'Antiquite Tardive et du Haut Moyen Age,* Guery en Vexin, Musée archéologique departemental du Val d'Oise, 11–23

Cool, HEM, 2002, Bottles for Bacchus?, In Aldhouse-Green, M, and Webster, P (eds), *Artefacts and Archaeology: Aspects of the Celtic and Roman World,* Cardiff, University of Wales Press, 132–51

Cool, HEM, and Price, J, 1989, The glass vessels in Britnell, J, *Caersws vicus, Powys, Excavations at the Old Primary School, 1985–6*, BAR British ser **205**, 31–43

Cool, HEM, and Price, J, 1995, *Roman vessel glass from excavations in Colchester, 1971–85,* Colchester Archaeol Rep **8**, Colchester

Cool, HEM, and Price, J, 1993, Roman glass, in Woodward, PJ, Davies, SM, and Graham, AH, *Excavations at Greyhound Yard, Dorchester 1981–4*, Dorchester, Dorset Nat Hist and Archaeol Soc Mono **12**, 150–67

Cool, HEM, and Price, J, 2002, Glass from Catterick Bridge (Site 240), in Wilson, PR, *Cataractonium – Roman Catterick and its hinterland, Excavations and Research 1958–97 part II,* York, CBA Res Rep **129**, 251–3

Crummy, N, Crummy, P, Crossnan, C, 1993, *Excavations of Roman and later cemeteries, churches and monastic sites in Colchester, 1971–88,* Colchester Archaeol Rep **9**, Colchester

Dilly, G, and Maheo, N, 1997 *Verreries antiques du Musée de Picardie*, Amiens, Musée de Picardie

Follmann-Schulz, AB, 1999, Quadratisch, practisch, gut – aber es geht auch zylindrisch, in Klein, MJ (ed), *Römische Glaskunst und Wandmalerei*, Mainz, Philipp von Zabern, 106–12

Follmann-Schulz, AB, 2003 Die Produkte der Glashütten in Hambacher Forst, *Annales du 15e Congrès de l'Association Internationale pour l'Histoire du Verre* (New York-Corning

2001), 62–7
Foy, D, and Nenna, M-D (eds), *Échanges et commerce du verre dans le monde antique*, Montagnac, Monographies Instrumentum **24**
Goethert-Polaschek, K, 1977 *Katalog der römischen Gläser des Rheinischen Landesmuseums Trier,* Mainz, Philipp von Zabern
Isings, C, 1957, *Roman Glass from Dated Finds*, Groningen, Wolters
Kajanto, I, 1965, *The Latin Cognomina,* Helsinki
Kisa, A, 1908, *Das Glas im Altertume*, Leipzig
Kunina, N, 1997, *Ancient Glass in the Hermitage Collection,* St Petersburg
Monk, L, 2001, Glass, in Anderson, AS, Wacher, JS, FitzPatrick, AP, *The Romano-British 'small town' at Wanborough, Wiltshire*, Britannia Mono**19**, 162–72, London
Morin-Jean, 1913, *La verrerie en Gaule sous l'Empire Romain*, Paris, librairie Renouard
Painter, KS, 1968, Roman glass, in Harden, DB, Painter KS, Pinder-Wilson R, Tait H, *Masterpieces of Glass,* British Museum, London, 36–90
Payne, G, 1874, Roman coffins, of lead, from Bex Hill, Milton-next-Sittingbourne, *Archaeologia Cantiana* **9**, 164–73
Payne, G, 1893, *Collectanea Cantiana, or archaeological researches in the neighbourhood of Sittingbourne and other parts of Kent*, London
Price, J, 1978, Trade in glass, in Taylor, J du P, and Cleere, H (eds), *Roman Shipping and Trade: Britain and the Rhine provinces*, CBA Res Rep **24**, London, 70–78
Price, J, 1995, Glass vessels, in Manning, WH, Price J, Webster J, *Report on the Excavations at Usk, 1965–76; The Roman Small Finds*, University of Wales Press, Cardiff, 139–91
Price, J, 2000, Late Roman glass vessels in Britain and Ireland from AD 350 to 410 and beyond, in Price, J (ed), *Glass in Britain and Ireland AD 350–1100*, British Museum Occ Pap **127,** London, 1–32
Price, J, and Cool, HEM, 1993, The vessel glass, in Darling, MJ, *Caister-on-Sea Excavations by Charles Green 1951–55*, East Anglian Archaeol **60**, Norwich, 141–52
Price, J, and Cottam, S, 1997, Roman glass, in Wilmott, T, *Birdoswald, Excavations of a Roman fort on Hadrian's Wall and its successor settlements: 1987–92,* English Heritage Archaeol Rep **14**, London, 341–55
Price, J, and Cottam, S, 1998, *Romano-British Glass vessels: a handbook,* Practical Handbook in Archaeology **14**, CBA York
RIB II.2, Frere, SS, and Tomlin RSO (eds), 1991, *Collingwood, RG, and Wright, RP, The Roman inscriptions of Britain, Volume II Instrumentum Domesticum, Fascicule 2, weights, gold vessel, silver vessels, bronze vessels, lead vessels, pewter vessels, shale vessels, glass vessels, spoons (RIB 2412–420)*, Alan Sutton, Stroud for the Administrators of the Haverfield Bequest, University of Oxford
Rütti, B, 1991, *Die römischen Gläser aus Augst und Kaiseraugst*, Forschungen in Augst **13**, 1–2, Augst
Sennequier, G, 1985, *Verrerie d'Époque Romaine, Collections des Musées départementaux de Seine-Maritime,* Rouen
Sennequier, G, 1994, Roman glass found in Upper Normandy, *J Glass Stud* **36**, 56–66
Shepherd, J, 2000, Glass, in Barber, B, and Bowsher, D, *The Eastern cemetery of Roman London, Excavations 1983–90*, Museum of London Archaeol Service Mono **4**, London, 125–30, 144–5, 147, 153–5, 170, 186–8, 203–6, 209–11, 215, 254–60, 355
Simon-Hiernard, D, 2000, *Verres d'époque Romaine; Collections des Musées de Poitiers,* Poitiers, Musées de la Ville de Poitiers et de la Societé des Antiquaires de l'Ouest
Smith, CR, 1868a, Antiquarian notes, *Gentleman's Mag*, 220–28
Smith, CR, 1868b, Bexhill, near Milton, Kent, *Collectanea Antiqua* VI, Privately printed; 263–4
Smith, CR, 1880 Roman leaden coffins and ossuaria, *Collectanea Antiqua* VII, Privately printed; 170– 201
Stern, EM, 2001, *Roman, Byzantine and Early Medieval Glass, 10BCE–700CE, Ernesto Wolf collection,* Ostfilder-Ruit, Hatje Cantz
Thorpe, WA, 1935, *English Glass,* London
Toller, H, 1977, *Roman lead coffins and ossuaria in Britain*, BAR British Ser **38**
Toynbee, JMC, 1954, The lead sarcophagus, 34–46, in Jessop, RF, Excavation of a Roman barrow at Holborough, Snodland, *Archaeologia Cantiana* **68**, 1–61
Wheeler, REM, 1932, Towns; Sittingbourne, 96–8, in Haverfield, FJ, and Taylor, MV (revised by Wheeler, REM), Romano-British remains, in Page, W (ed), *The Victoria History of the Counties of England: Kent Volume 3*, London, 1–175
*Verre et Merveilles, Mille ans de verre dans le nord-ouest de la Gaule*, Exposition 17 Octobre 1993 – 31 Janvier 1994, Musée Archéologique Départemental du Val-d'Oise
Veyrat-Charvillon, A, 1999, Aspects de la verrerie Gallo-Romaine au Musee d'Aoste (Isere), *Bull de l'Association Française pour l'Archéologie du Verre 1999*, 7–12

# Why save anything?

*Richard Reece*

Some time ago (on May 16th 1991 to be precise) there was a gathering to chew over one of those periodic crises that are caused by attempting to justify the existence of our colleagues in various pointless councils and committees, associations, institutions and boards. It was held at the Society of Antiquaries and Hugh Chapman, then the Secretary asked me along, as I suspect, to cause trouble. Apart from there being a crisis the subject under consideration was, as usual, unclear, but it was something to do with the question of what parts of the archaeological endeavour should be saved, where, and by whom. I mention this because it caused me to think about excavators and specialists, sites and material, and I suspect those are subjects close to the heart of Kay Hartley. She has gathered over the years a unique knowledge of Roman pottery in spite of all the trials and tribulations of a life in archaeology, and has freely passed on her store of information to everyone who asked.

The meeting happened. A later meeting was suggested, and 'it was hoped' to put most of the contributions into more permanent form. Since I had been rather honest I would have been surprised to be told of the next meeting, or to be asked for my text; basic ideas were not on the agenda.

My complaints were as follows:

The problem stems from the fact that the past generation of archaeology has been high jacked by the mediocre excavator. Archaeology used to consist of people with ideas setting out to investigate them through sites and material, and excavation was part of the process. The muddle we are now in comes from the fact that many sites are dug by people without ideas, simply because someone somewhere said that the site needed to be dug. When such people have been through a site, and recorded it meticulously, and produced a barn-full of material, then it is the site record and the barn-full of material that is the justification for their existence and the money that has been spent. The site produces no ideas, hence no one wants to publish it unless bribed by a publication grant; the material is scrappy and comes from thousands of incomplete contexts, hence no museum wants to give it houseroom unless bribed by a storage grant.

Although the work was routine, a tiny summary publication and the knowledge that their precious finds are consigned to oblivion is not glory enough, for did not Hawkes and Frere, Wainwright and Cunliffe get Society of Antiquities Research Reports to their names? So the archive is created to the glory of the diggers. When the whole thing ought to be admitted, in retrospect, as a waste of time and effort. There ought to be a half page publication circulated as an English Heritage typescript to say that although five hectares were stripped and two tons of assorted finds were gleaned from unsealed deposits, the only feature worthy of comment was a post-medieval wicker-lined pit with an interesting group of seeds which will be published in Post-Medieval Archaeology. The context of that pit should be saved in the original documents, and the seeds should be saved, even the wicker-lined pit, if appropriate, and all the rest – paper, pot, iron and all – should be chucked.

This highlights a second high jacking, of the material and the structures by the excavation. These mindless diggers do not deal with material. They hand out what they regard as largesse for piecework to other people. The specialist reports are then put in suitably small print at the back of the 'Real Report', and read only by other specialists. The diggers deal with features and deposits and phases and hence the importance of the dig, to them, lies in these disembodied entities, when in fact what should and will live on (given the opportunity) are the material and the structures in their contexts. If the site does not produce well stratified results worth reporting on, not necessarily gold or silver, but structural or material, then there need to be very good reasons for keeping even the primary records, never mind making an archive or publishing anything.

Good excavation reports recognise this: Fishbourne is useful because it gives the plan of a large blot on the landscape and records in fair detail a lot of material earlier than the mid-third century; Portchester is useful because it fills in a little detail inside the walls, and describes a good amount of material of the late-third-century onward. It may well live through its pottery

report, which takes up more than half of the Roman volume. These two reports are useful, not so much as records of excavations, but as records of early and late structures and material.

So an excavation may be of a structure, in which case it is good to save enough of the basic record to describe the structure well and thoroughly, including its relationship to the material found and to the surroundings. It may come across useful deposits of material in which case it is useful to keep well-stratified groups, or some good groups and some well-stratified groups. What should be kept is now clear: the basic record of specific structures and coherent material. The idea of keeping everything is nonsense, unless the site is unique or has been brilliantly dug. As Professor S Frere has often said, *Verulamium* was far too important to be published according to what he refers to as 'the Cunliffe Report' (Cunliffe, 1983), and he is right. The best deserves judgement and an afterlife; the mediocre deserves judgement and the pit.

'But this is to go back fifty years to the bad old days'. 'Judgement consigns some information to oblivion, and that must be bad'. 'We do not know what to save and what not to save. We must avoid the besetting sin of pride in our own judgement'. So the committee-minded think. But to go back from a mess in order to find a way round what will later be seen as a slough of muddled thinking will no bad thing. To avoid any form of judgement, which is the present malaise, is not a virtue, but the result of frightened, and frightening, insecurity.

There is at present no attempt at judgement in archaeology or even assessment in anything other than a bureaucratic mode – 'they did not follow the procedures'. Sites went wrong in the digging; large scale sites never came to an end; sites cannot be written-up because the records are too full to allow summary; sites are written-up but the results are said to be unpublishable; sites are published and there seems to be general agreement that they ought not to have been, or not in that place, or that form, or that time. Yet never a criterion is heard and we learn from none of the mistakes. Why did those sites go wrong? Surely it is worth paying someone sensible to find out rather than waste more money on similar mistakes in the future. Why did the site never come to an end? Why did the site take twenty years to write-up? What are the criteria for publication there, or then, or that way?

If much of this criticism has to be accepted then it is just possible that we are failing to take other decisions and make other judgements about what matters, what should be saved and what should be chucked. Such ideas, when set out bluntly here, may contain a kernel of truth. To avoid them we hide, as always, behind a smoke-screen of humility and open-mindedness.

I have not mentioned, except in passing, the archive and whether it should be saved. It depends what you mean by the archive. It may be necessary in reducing the basic field record to intelligibility, and in the process of testing the field record to get answers to questions that were not asked in the field, for extra material to be added to the field-record in the form of lists, indexes, tables and plans, before publication is undertaken. In this sense the field-record is kept and enriched by annotation and explanation. This is good and useful, and if the site is judged worthy of salvation then the archive in this form is a self-evident good. The production of a full paraphrase, and transcription and annotation and re-drawing of the field-records to form an edited alternative to the original is a totally unreliable abortion which ought never to be countenanced.

Perhaps I should end with the simple reminder that the totally open mind is a blank mind, and leave it there.

## *Postscript*

There is nothing that I wish to remove from that report. I find it a simple and direct statement of a very reasonable point of view. But there are a few points that can be added with particular material and a particular specialist in mind.

Excavated material probably has a hierarchy when considering its use as evidence, in which we could take the examples of coins, pots and bones. More information comprehensible by the general reader is usually derived from animal bones than from either coins or pots so I am not grading either the 'importance' of the material or the information that can be derived from it. My hierarchy concerns those aspects of the material that make them suitable for preservation and further study.

Coins usually come with their own dates of production, so a coin of Hadrian which seems to be genuine, has a good chance of having been struck in the early years of the second century AD. There is an industry for studying Roman coins and something can be got out of them regardless of their find-spot or their context. A *denarius* of Hadrian is useful for study, as a *denarius* of Hadrian, whether it comes from a 19thC sewer or a third-century rubbish-pit. It has a date of production, but not a date of loss or deposition.

Pots do not come with dates of production other than in rather general terms. More detailed dates of production have been argued out over the years by inference from find-spots and dated contexts. But there is seldom any doubt about the general date of a piece of pot and there are few Roman wares which can be confused with medieval wares. But there is not the same potential interest in a totally disembodied featureless piece of Black Burnished ware that there is in a disembodied coin of Hadrian. It is a piece of pottery, which is of Roman production date and comes from a (probably) recognised industry, but I think no one would use it for further research or investigation when so many other pieces are available with full details of context.

The sherd itself is of minimal interest, but the finding of the sherd on a particular site, even in an unstratified deposit, might well be of interest and should probably be recorded. If it was interesting enough to be recorded 'we have never found BB1 in Denmark before' then it probably ought to be kept for future reference. If it was not interesting enough to be recorded 'we already have three tonnes of BB1 from sites in the area' then it can probably be chucked.

Human bones come in a particular category because they are usually purposeful deposits of complete skeletons. These are probably worth keeping even if they have been found in unmarked and unsealed graves with no material dating evidence. Sometime in the future it might be worth giving them a full examination because they can be C14 dated, and their peculiarities can then be set in a chronological sequence – 'the earliest Inca DNA pattern in Britain is firmly radio-carbon dated to AD 1067 which demonstrates that William the Conqueror's invasion force was recruited from a wide area'.

Animal bones can usually be identified to species, but they carry with them no date unless C14 methods are to be used. It is becoming standard practice not to spend time and effort on bones without reasonable contexts because the majority of interest that can be derived from the bones depends on the bone in context. Even Kangaroo bones will only provoke intense interest if found in otherwise 'early' contexts. Since substantial numbers of animal bones will properly be saved because they come from good contexts, time, effort and storage space should not be wasted on the rest.

There is one point that can be developed from the original complaints because, so far as I know, it has not been properly examined in print. This concerns the 'largesse for piece-work' which the 'Great and the Good' hand out to us specialists. This developed, I suppose, from the disbanding of comfortable cosy archaeological units in favour of lean mean competitors in the open archaeological market. There may well have been some units who were a little too cosy, but that is not a good reason to disband them all. At least the local unit with a set of clients and work assured for the future could afford a specialist or two who could build up an expertise on a set income and relatively assured future. But lean mean competitors cannot usually afford specialists – they are surplus to requirements – and work can always be farmed out or bought in when needed. But this means that many specialists who have much to offer move out of the field of irregularly funded piece-work into computers, or teaching, or even less attractive jobs which at least have a regular wage. Their knowledge is lost to the subject, and the pool of knowledge that remains grows even more slowly if at all.

This is not the fault of the modern units – it is the fault of those who have insisted on modernisation. To them, the vital thing is to get the job done, and 'the job' is the visible task of moving on to a site and clearing it of annoying ancient remains so that lucrative development can take place. What happens after the last site-hut has been removed is out of sight, and therefore out of mind. A small number of excavators can be retained to write up the structures; some specialist can usually be found from somewhere to write a note on some of the finds. But the full potential of the site may well lie sleeping in the finds bags which need examination by specialists who have a firm enough economic basis to develop detailed knowledge and expand it by continuous work.

This rather dull survey should make what appeared to revolutionary proposals rather less radical. If the barn-full of material came from a site with virtually no sealed contexts apart from the wicker-lined pit with its seeds then all that is needed is a single plan to show any features that there were, and this can be published with the seeds; the coins might as well be kept because they have an interest simply as coins; the pottery should perhaps be looked over quickly by a specialist. A list of fabrics with a rough guide to quantity (+, ++, and +++) might be helpful, and unexpected sherds could be saved. It might be worth asking a specialist to spend a morning looking over the bones, just in case there is something exotic, but most can be disposed of with most of the pottery, in a marked pit somewhere on the original site. Other finds should be dealt with on their merits; the featureless shaft of a bronze pin should not be saved, there are already more than enough of these in all museums, a brooch untypical of the area should be kept. All other records can and should be shredded or otherwise decently disposed of. The finds go to the local museum, which should add them to New Accessions on the Web, the skeleton records go on the shelf. And with the spare space created by this policy of common sense there need be no more crisis meetings for a few years yet.

## Biblography

Cunliffe B W, 1983, *The Publication of Archaeological Excavations*. Report of the Joint Working Party of the Council for British Archaeology and the Department of the Environment. London: DoE

# The latest ceramic mortaria in Bulgaria?

*Vivien G Swan*

Kay Hartley's fine and characteristically perceptive paper (1998) on the incidence of stamped mortaria in the Roman Empire provides a graphic reminder that the coarse ware mortarium, an essentially mainstream specialist vessel in Roman Britain and in most of the north-western provinces, was often quite rare in other parts of the Empire (both stamped and unstamped). This discussion of some very late mortaria from one of these 'other parts', inevitably raises more questions than it answers (particularly without Kay's advice), but it is offered as a very small token of my gratitude to her for her friendship, companionship in our travels, hospitality, and generous help and encouragement over the past 40 years.

## *Dichin (Bulgaria) a late Roman to early Byzantine military site*

The central point of this discussion is two mortaria (Fig 1, nos 1–2) found at the Late Roman/Early Byzantine military establishment of Gradishte, Dichin, in North Central Bulgaria (Poulter 1999b; 2000; 2005 forthcoming, and in prep). The site lies some 11 km west of the major Roman town of *Nicopolis ad Istrum* (Poulter 1995; 1999a) on the south bank of the River Rositsa, a tributary of the Yantra, a river which flows into the River Danube about 50 km to the north, at the extensively excavated late-Roman to early-Byzantine fort of *Iatrus* (Krivina). Between 1996 and 2002, large-scale excavations were conducted at Dichin by the University of Nottingham, the Archaeological Institute of the Bulgarian Academy of Sciences, and the Veliko Turnovo Museum. The fortified military supply-base of Dichin was established in about AD 400, on a hilltop previously unoccupied in the Roman period. Heavily defended, with walls, towers and a *proteichisma*, its first phase of occupation terminated in violent destruction by enemy action, sometime between AD 474 and 518 (most probably within the first three decades of that period). It is impossible to be more precise due to a near absence of bronze coinage issued within this period (Guest 2005 forthcoming), but AD 474 is the *terminus post quem* from coins in deposits relating to the destruction. Though re-occupation and reconstruction at Dichin was immediate, the next coins date from AD 518, a period when bronze coinage had become more readily available again, but they could have been in use a while before they were lost; a date certainly before AD 525, and more probably before the reign of Anastasius (AD 491–518), is preferred by Prof Poulter (personal comment). At that time, the interior of this compound had contained numerous mud-brick store-buildings, some with upstairs living-quarters, while other buildings had granary-like storerooms with raised timber floors. In the devastation of the site, many of the provisions, stock-piled in these burning store-rooms, dropped through the raised wooden floors into the cavities below and were not retrieved before the subsequent levelling up and rebuilding. They comprised large quantities of grains, pulses, lentils and millet (Grinter 2002; 2005 forthcoming; in prep), numerous Eastern Mediterranean, and Black Sea transport-amphorae, (many containing wine and oil, and stacked side by side (Swan in press; 2005 forthcoming; Swan *et al,* in prep), coarse ware *dolia* presumably containing other food provisions (most probably local), agricultural and military equipment, as well as stocks of pottery for the storage, preparation, cooking and serving of food, presumably intended for issue to the garrison. Although very small quantities of imported fine red-slipped tableware are present, the pottery (amphorae aside) is dominated by utilitarian vessels in coarse gritty quartz and limestone-tempered wares. At least some, and perhaps many of these pots, such as the large lidded storage-jars, had probably been made specifically for the establishment. Among these coarse wares in the stores, were the two mortaria discussed here (Fig 1, nos 1–2), the only examples of ceramic mortaria found on the site.[1]

**Dichin mortaria: forms and fabrics**

Both mortaria have unusually thick walls and their fabrics and diameters are generally similar, though their forms differ significantly from one another. The first, a coarse flanged vessel (Fig 1, no 1; site code DIC 99E 54244 #235), is not unconventional in its general profile for a late Roman mortarium. Though only part of the body survives, the wall was evidently curved, probably forming a shallow basin shape. The prominent rim,

which leans slightly inwards, is rounded on the top and swelling internally, with a marked concavity below. The thick and stubby flange has a very shallow discontinuous groove on its semi-flattened tip and a slight concavity on its underside at the junction with the wall of the vessel. No spout survives. The fabric is hard, coarse and rough-textured, with a hackly fracture; dark grey in colour and lightly smoothed on the exterior, it has a pinkish-grey core with mid-grey margins. The tempering comprises abundant sub-angular quartz grits (poorly sorted and of medium to coarse size), moderate quantities of angular limestone (moderately-well sorted and medium-sized) and sparse amounts of what appears to be black sand (rounded grains of medium size, moderately well sorted). The same range of minerals occurs in the sparsely applied, small to medium trituration gritting. There is little sign of wear, though certainty is impossible, because of the absence of most of the lower part of the vessel.

The second vessel (Fig 1, no 2; site code: DIC 98E 54134, #141) appears to be wholly unconventional in profile, though as coarse and thick-walled as the first. It has a flat-bottomed, truncated conical shape, with the wall more or less straight externally, but internally, forms a smooth curve at the wall-base junction. The rim is small and rounded with a vague external groove (it is unclear whether or not this was intended to hint at a flange), an under-groove at the junction with the wall, and two roughly incised very shallow discontinuous grooves on the interior. The 'spout' is no more than 'an apology'. Although it does not survive *in toto*, it is clear that it once comprised just two nipple-like blobs of clay luted to the top of the rim; in fact, the top of the rim was not even cut-away or depressed between the 'blobs'. Clearly this feature could never have served as a functional pouring-spout, but seems to represent a vague (and probably uncomprehending) 'apology' of a device, which had once been commonplace on mortaria.[2] The very coarse fabric of this Dichin vessel resembles that of the other mortarium in its lumpy, semi-smoothed surface, granular texture and dark-grey colour, and contains a similar range of inclusions, though limestone grits are less common, and there are voids and a little mica visible in the break. The ill-sorted trituration grits (quartz with a little limestone and red haematite), are not densely or uniformly applied to the interior, but particularly sparse immediately below the rim; they appear scarcely worn.

When viewed in their regional context, the fabrics of both vessels clearly fall within the coarser end of a broad spectrum of gritty, quartz and limestone-tempered fabrics typical of the North Balkans, and probably of relatively local origin, though no local kiln sources are known for this period. Such local fabrics were descendants of the pre-conquest, so-called 'Thracian pottery'. In the second and third centuries AD, coarse reduced wares such as these had been made at the relatively local potteries of Pavlikeni, Hotnitsa and probably also Butovo (better known for their widely traded red-slipped table wares; Falkner 1999, 108–10). However, these workshops had probably ceased production by the early to mid-fourth-century, and the sources of similar later coarse fabrics are unknown. The unevenly fired surfaces of such gritty wares suggest that they could have been fired in surface-built bonfires, which leave little archaeological trace (*cf* Swan 1984, 53–4). In very general morphology and technique, the flange of the first mortarium is not wholly unlike the rim of the second, and this could perhaps suggest that two vessels had been made by the same potter or workshop, or at least in the same general industry. Subjectively, the general impression is that the potter who made them was not confident with the job in-hand, uncertain exactly what form these mortaria should take, and was perhaps unfamiliar with vessels of this class.

**Dichin mortaria: the archaeological context**

The contexts of these mortaria invoke particular interest. Both vessels were found in the same building (Building E2), a provision-store with a raised timber floor, and their stratigraphic associations may perhaps provide clues to their particular role. The first vessel was recorded in the north east quadrant of this store in the upper part of a burnt demolition deposit (Context 54244), which comprised redeposited destruction material that had almost certainly derived from the interior of the same building. The associated ceramic assemblages had evidently included food provisions in transit containers (such as Late Roman 1 Peacock and Williams 1986, Class 44 wine amphorae) and in large dolia in similar coarse fabrics (perhaps for locally produced comestibles). From the paleobotanical evidence it seems that rye (*Secale cereale*), free-threshing wheat (*Triticum sp.*), lentils (*Lens culinaris*), barley (*Hordeum sp.*) and millet (*Panicum miliaceum*) were being stored in the same building (Grinter 2005 forthcoming; in prep). The second mortarium occurred in the south west corner of the same store, in a sealed so-called 'demolition' context (Context 54134), a deposit composed entirely of material that had been present in that particular part of the building, when it was burnt down in the late fifth/early sixth century. This layer included much burnt and un-burnt mud brick from the superstructure of the building, abundant charcoal, amphorae (including Late Roman 1 amphorae), carbonised barley, wheat and bitter vetch (*Vicia ervilia*); presumably the food provisions in storage at the time of the destruction (Grinter in prep), and also coarse ware storage-vessels (perhaps containers of relatively local produce), as well as ceramic dishes, bowls and jugs for table use (probably intended for issue to the troops). In addition, the same deposit in the south-west corner of

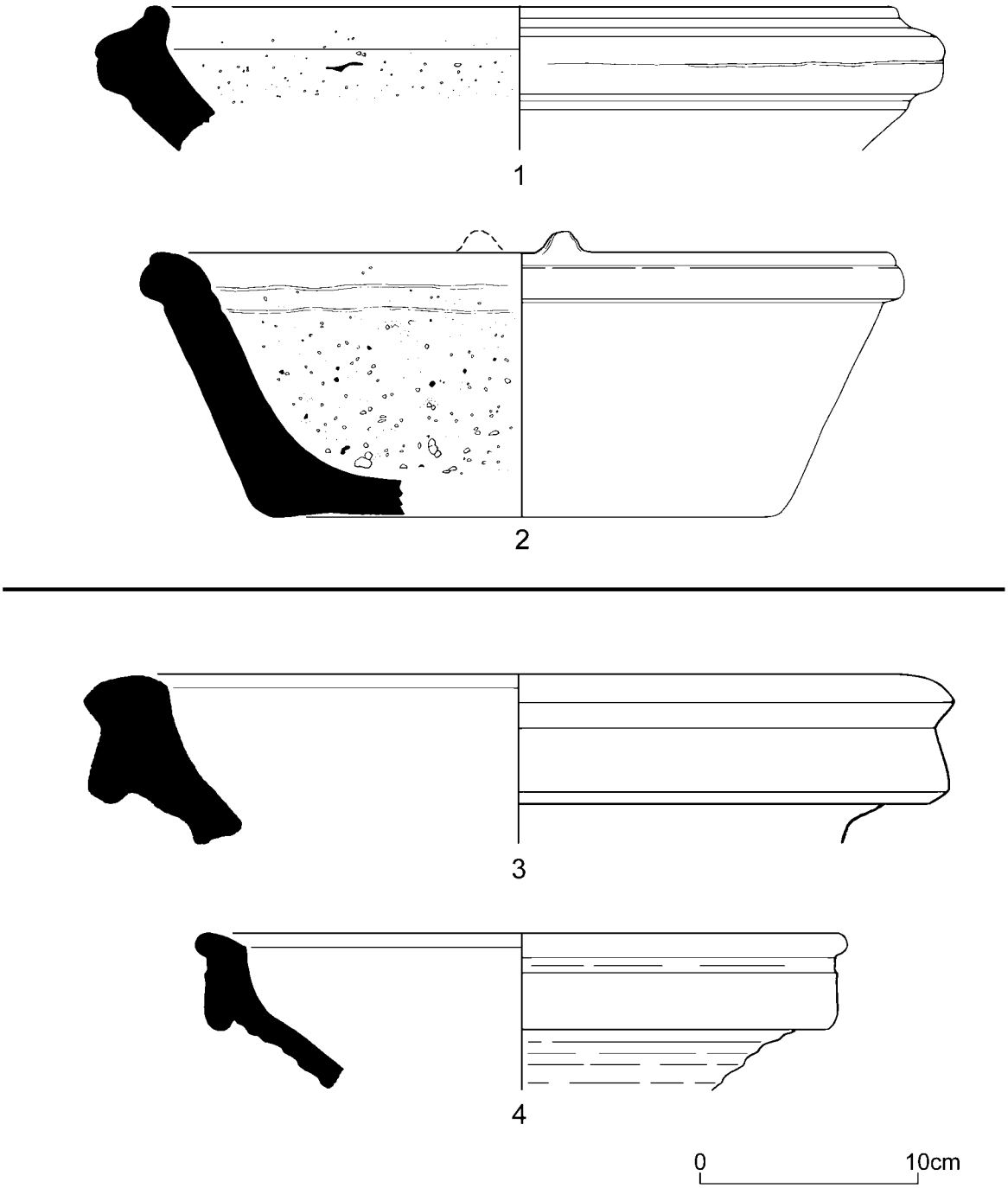



*Fig 1: Nos 1 and 2: Dichin (Bulgaria): mortaria, probably locally made, from the destruction deposits of c 474/520 (drawing: C Jamfrey). Nos 3-4: sixth-century green-glazed mortaria: from Halmyris fort, Danube Delta, Romania (after Opaiţ 1991a); from Saraçhane, Istanbul, Turkey (after Hayes 1992)* Scale 1:3

Building E2, produced part of a large, stone mortar (*c*190mm high and 350mm in diameter), with a smooth interior and a nicely finished plain flattened rim, morphologically more like a stone bowl than a mortar and one of only two found on the site. (Watts in prep).

The association of grain and pulses with mortaria and a mortar in the store may not be unconnected. Although stone mortars were used for pulping and blending a variety of soft foodstuffs, they were also effective for pounding grain (in the manner of a quern) and might have been used for pulverising millet. A traditional Bulgarian beer-like drink derived from millet, and either home made or produced relatively locally, was offered to several members of the project team living in the village of Niciup (near *Nicopolis ad Istrum*). It is technically possible to hull small quantities of grain with

a mortarium, but Pam Grinter (archaeobotanist to the project) kindly informed me that when the destruction occurred, the grain in the Dichin store-buildings had been relatively clear of weeds and at the final stage of processing; there was no evidence that this processing had been carried out in the site itself. It is not impossible that these relatively large and sturdy ceramic mortaria (almost too heavy to be easily portable) were also being kept in this repository, because they were functionally connected with its food contents. As already mentioned, these were the only two pottery mortaria recorded on the whole site and vessels of this class were notably absent from the living quarters which had been engulfed in the same late-fifth to early-sixth-century destruction-episode. If they had been intended for processing dry cereals and other staples, the lack of a functional spout would have been of no import; indeed, the non-functional spout would not have been particularly helpful for more sloppy liquid or semi-liquid foodstuffs, prepared on a domestic basis, in the manner recommended by Roman authors such as Apicius, and needing to be poured (Fowler and Rosenbaum 1958, 35, *passim*). An alternative possibility (perhaps to be preferred in the light of the discussion which follows) is that these mortaria were not intended for general issue to the whole garrison, but had been set aside in the store-building, because they were specially reserved for a particular member of the establishment, such as an officer (or his cook), who was more *au fait* with their usage than his colleagues.

## *Roman mortaria on the Lower Danube*

From the first to the early fourth century AD, the mortarium never seems to have been a common item of equipment in the cuisine of the Lower Danube, either in Bulgaria or Romania (Andrei Opaiţ kindly confirmed my preliminary impression of the evidence for Scythia). Although there is a dearth of fully quantified ceramic data for sites in this region and its immediate hinterland, the general incidence of published Roman mortaria in Bulgarian and Romanian excavation reports is remarkably uniform; they are present, but far from abundant. This forms a marked contrast with the north-western provinces of the empire, and Roman Britain in particular, where mortarium usage by civilians had become the norm by the third century, in most levels of society in the Lowland zone, and even sporadically on civilian sites in the Highland zone south of Hadrian's Wall. In fact mid-to-late Roman mortaria occur in significant numbers even in quite basic Romano-British rural settlements in the Midlands and South (eg Swan 1973, fig 4).

As is well known, the mortarium (as a convenient and portable multi-purpose food-processor) had always been relatively popular with the army of the northern frontier provinces. In fact, the culinary use of the ceramic mortarium had been introduced or significantly promoted in many western and northern provinces though the agency of the army. Nevertheless, on the military sites on the Lower Danubian *limes*, first to early fourth-century mortaria are only slightly better represented than the rare examples on civilian sites in the region, and they were certainly far from abundant. This may be partly connected with sources of legionary recruitment at this period, the Lower Danube garrisons having normally been drawn (or transferred) from the Eastern provinces, where ceramic mortaria were not in particularly common use in the second and early third century AD, and where large basins often fulfilled similar roles (perhaps because culinary practices or traditional ingredients were different).[3]

## *Late Roman to Early Byzantine mortaria on the Lower Danube*

From the fourth to sixth century AD, in the Lower Danube region, mortaria were apparently no longer in use in civilian communities; for example, at Valea Morilor, Teliţa, in Tulcea region, near the Danube Delta, a fourth-century kiln in a rural location, which produced a very wide range of vessels for most functions (including amphorae), was, nevertheless, not making mortaria (Baumann 1996). Mortaria were very scarce even on military or military-related establishments. This too, may reflect changes in the composition of the local garrisons and adds particular interest to the occurrence of two mortaria in a single context at Dichin. A brief appraisal of the evidence from some of the major later Roman to early Byzantine sites in *Moesia Inferior* and *Scythia* serves to amplify these points.

In the 1985–92 excavations at the town of *Nicopolis ad Istrum* (some 11 km east of Dichin), of the 100,000 recorded sherds, there were only five mortarium rims and a few small mortarium scraps, all dating to the second or early-third centuries (Falkner 1999, 86, 244, fig 4.49, no 1006; for the potters' name-stamps, see, Reynolds 1995, 318–20, nos 6–8, pl xliii). Most had probably originated further up the Danube, in *Moesia Superior* and perhaps *Dacia* (Romania). The contemporary evidence from *Singidunum* (Belgrade), in *Moesia Superior* and from *Dacia* includes mortaria with potters' stamps, sometimes incorporating a palmette, examples of which have also been recorded at *Nicopolis* (*cf* Bjelajac 1994, 143–5, pls II–III; Nicolić-Dordević 2000, 40, tip 1/53, 236; Baluţa and Şerban 1979) In the second to early-fourth century, a major pottery industry had been in operation only 7 to 30km west-south-west and west-north-west of *Nicopolis ad Istrum* (with kiln sites recorded at Pavlikeni, Butovo and Hotnitsa). These workshops had produced a huge diversity of vessel-types appropriate for all functions and levels of society (Soultov 1985; Kabakčieva *et al* 1988), but never made mortaria, so far as we know. Moreover, in the numerous later assemblages at *Nicopolis ad Istrum*, mortaria were entirely absent. The publication of this rare quantified evidence for the fourth to sixth century helps to explain

why Kuzmanov (1985) had previously omitted mortaria in the publication of his extensive early Byzantine pottery type-series for the Lower Danube. In addition, mortaria do not feature in two recent papers on stratified Byzantine pottery (mostly utilitarian wares) from the extensively excavated Danube legionary fortress of *Novae,* Svishtov, Bulgaria (Klenina 1999; 2002).[4]

## *Late glazed mortaria on the Lower and Middle Danube*

The apparent disinclination of a number of excavators and pottery specialists working on the Lower Danube to illustrate or describe the roughening or trituration grits on the interior of mortaria (or to remark on their absence), and the occasional deliberate absence of such functional features on some examples (sometimes because the fabrics themselves were gritty), only serves to compound difficulties in the recognition and study of this class of vessel. However, it is the results of research on pottery from excavations in the adjacent provinces of *Moesia Superior* and *Dacia Ripensis*, particularly at *Singidunum* (Belgrade, Jugoslavia), where mortaria were slightly more common, that help to illuminate the chronology and sources of late Roman/early Byzantine mortaria supplied to at least parts of the Lower Danube (Bjelajac 1994; Nicolić-Dordević 2000, 41, type 1/55, English summary: 241–3: Cvjetićanin 1995; 1997). This evidence seems worth outlining here.

Following the initial importation of mortaria from Italy, it appears that in the late-second and third century, mortaria (never abundant at *Singidunum*, but now in steadily declining quantities) were mostly supplied from centres a little further down the Danube, in *Moesia Superior* and western *Dacia* (Baluţa and Şerban 1979). In a revival of glazing spanning the late-third and fourth century (and perhaps just into the early-fifth), mortarium-like vessels, with profiles essentially indigenous to *Moesia Superior* and *Dacia Ripensis*, featured more frequently in the repertoire, hastening (or at least coinciding with) the virtual cessation of the more traditional mortarium imports (Bjelajac 1994, 146–8, pl IV; Nicolić-Dordević 2000, 41, type 1/55, 241–3). They were made in reddish or dark grey fabrics with green, yellow or brown glazes, and the kiln sites (as yet unlocated) were probably sited both in the vicinity of *Singidunum* itself and in the adjacent regions of *Moesia Superior*, north-west *Dacia Ripensis* (probably on the Danube at *Diana* or elsewhere in the vicinity of the Iron Gates: Cvjetićanin 1995) and perhaps in *Dacia Mediterranea*. Though these glazed mortaria were generally spouted, their profiles often owed little to their predecessors, tending to be smaller, occasionally lacking any attempt at internal roughening, or sometimes with an over-glaze covering the internal roughening. Some of the latest products are so small that it has been suggested that they were functionally quite different from the earlier more standard mortarium forms. There are also examples where only the interior of the mortarium was glazed and the rim was left untreated, or coated with a reddish-brown slip or self-coloured slip. The production of these glazed mortaria, which evidently peaked in the fourth century, is unlikely to have survived the devastating Hunnic campaigns of the early fifth century, which culminated in the conquest of that region in AD 441, and had probably ceased by the end of the first quarter of the fifth century (Cvjetićanin 1995, n 2)

These glazed mortaria, and other glazed vessel-types from the same basic sources, were traded eastwards along the Danube and its tributaries to sites in northern Bulgaria. Though always relatively rare (less so in north-western Bulgaria nearer the production sources), they appear more consistently at fortresses, forts and other fortified establishments with probable military connections. In fact, Cvjetićanin (1997) has suggested that the military may have made or instigated the manufacture of such wares. Examples include a single 'fourth-century' vessel from the Danube fortress of *Novae*, Svishtov (Dyczek 2001, 194, not illus) and several mortaria from the 'late fourth to sixth century' fortified settlement of Pernik, in north-west Bulgaria (Changova *et al* 1981, 129, figs 42–5). It is difficult to assess the precise context of the latter mortaria, since their stratigraphic associations are not indicated and no ceramic quantification was carried out. However, the forms include some of the latest glazed products (Changova *et al* 1981, fig 43, top extreme left), dated to the last quarter of the fourth and first quarter of the fifth century (*cf* Cvjetićanin 1995, M3). In two similar papers discussing Late Antique glazed vessels of all types in Bulgaria, Kuzmanov (1998; 2000) illustrated a number of late-Roman to early-Byzantine lead-glazed mortaria from *Ratiaria* and *Castra Martis*/Koula, on the Danube *limes* (Upper Moesia); unfortunately, the chronological underpinning of their archaeological contexts is not specified. He defined four basic forms/types (almost certainly from sources in *Moesia Superior*, *Dacia Ripensis* and perhaps *Dacia Mediterranea*), and discussed published examples from other sites in Bulgaria, but with very little secure precise evidence for their dating, though none seem to be later than the early fifth-century AD.

Of particular interest is the fact that some of the glazed forms which he defined and illustrated can be exactly paralleled in unglazed mortaria from several sites (mostly with military associations) along the Danube and its tributaries, and this suggests such vessels may well have emanated from some of the same sources. At the fort of *Iatrus*, which has an extensive published ceramic type-series, four of only five illustrated mortaria belonged to this category. All are likely to date to the fourth century, and none should be later than the early

fifth century AD.[5] The profile of the fifth mortarium from the site (Böttger 1982, taf 44, no 204) resembles that of a fourth-century vessel from the fort of *Halmyris* (Romania) on the Danube Delta (see below; I am grateful to Andrei Opaiţ for discussing the mortaria from *Halmyris*) and had probably been brought to *Iatrus* from that region or even further to the East, perhaps with a soldier's baggage.

Golemanovo Kale (Sadovets) in north-west Bulgaria is a fortified early Byzantine hilltop 'settlement' (perhaps with some additional military function), which was occupied until at least AD 584 (Uenze 1992; Mackenson 1992). Of almost 850 illustrated fifth and sixth-century vessels, just three were classed as mortaria, though no trituration grits were indicated. Two of these, with a red or red-brown slip (Kuzmanov 1992, 204, taf 54, nos 11 and 12), grouped under the heading 'lokale Feinkeramik mit rotem Überzug' (local red-coated fine wares), are not dissimilar in form to glazed mortaria in Kuzmanov's (1998) Groups II–III; like them, they are probably of fourth-century date, perhaps from the same or related production centres further up the Danube.[6]

## *Late Roman to early Byzantine mortaria in Scythia*

Much further down the Danube in Scythia, few sites are known with well-recorded, securely stratified sequences of early Byzantine pottery, and even fewer have large quantified, published assemblages of that date. In every case, however, mortaria are absent or rare. There were none among the 250 vessels illustrated from the intensively studied assemblages from the fortified site of Topraichioi on Lake Babadag, in the Danube Delta, Romania (Opaiţ *et al* 1991). *Halmyris* (Murighiol, Romania), an important, Late-Roman to early-Byzantine military site in the Danube Delta, provides the best evidence. The pottery from these excavations has been published in some detail, with quantitative and stratigraphic information (Opaiţ 1991a). Of over 330 published vessels, there are three mortaria; two (ibid, 159, pl 36, nos. 210–11) are of fourth-century date.[7] The third (Fig 1, no 3), with a profile almost reminiscent of the Romano-British hammerhead type of mortarium (but clearly not derivative), is of particular interest (Opaiţ 1991a, pl 36, no 212). It has a reddish fabric, a maroon slip and an internal glaze where the trituration grits might be expected. At Saraçhane, Constantinople, a number of mortaria of identical or closely similar rim profile, with a conical wall, a red slip, and an internal glaze on the floor, were recorded (Fig 1, no 4; Hayes 1992, 9–10, fig 3, nos. 1, 2, 8; fig 34, 15.3; fig 35, 21.10; fig 36, 24.5, fig 37, 26.8; fig 39, 30.23–5 and 34; fig 50, 31.5). These vessels (unrelated to the earlier glazed products of the Lower/Middle Danube) were stratified in deposits dating to the sixth century and later, the earliest of which had a *terminus post quem* of AD 525. Though several different fabrics were represented, their sources are unknown, but as they share the same basic rim type, they are likely to have emanated from workshops in the same general region. Hayes (*ibid*, 10, n 13) also noted the presence of similar (unpublished) forms at Corinth, in a mid-sixth-century context, though none were local, and he suggested a general source somewhere in the Eastern Mediterranean. The fifth and sixth centuries AD was a period when large quantities of amphora-borne commodities were being shipped from the Eastern Mediterranean to the forts on the Lower Danube (Opaiţ 1996; Swan 2004a, in press), so the *Halmyris* mortarium could well have been imported in tandem with foodstuffs from the same region. The presumption, however, must also be that someone in the garrison of that fort (?an officer from the east or a person who had spent some time in the east), wanted, or had a servant who wanted to employ such a vessel for the preparation of food in the classical manner. Thus the mortarium might well have reached the fort as an item of personal baggage.

## *Dichin mortaria: possible mechanisms of introduction*

If the use of the mortarium was essentially extinct on the Lower/Middle Danube by the late fourth to early-fifth century AD, how should we explain the presence of two at Dichin within the period AD 480 to 518? Although their fabric suggests local products, their forms and their usage at this period are unparalleled. Presumably, they had been specially commissioned for use in the fort, and their *modus operandi* seems most likely to have been introduced to the site by someone from another region, with a different cultural background. So who could this have been and in what circumstances?

It has been suggested (on not unreasonable grounds) that Dichin's garrison had included at least some Gothic *foederati* (Poulter 2005 forthcoming; Swan 2005 forthcoming), but it is unlikely that these incomers would have re-introduced mortarium cuisine. Beyond the frontier in *barbaricum*, with the single exception of part of Thuringia, (Dušek 1992, taf 47–71 *passim*), there is no evidence for the production of mortaria among the Germanic or other tribesmen of Central and Eastern Europe. Even the distribution of Roman mortaria, exported to communities beyond the Danube and outside the Empire, is confined to sites in the immediate vicinity of the limes, or within easy access of it, and they are relatively rare. For example, only very small numbers of mortaria, spanning the whole Roman period, have been recorded beyond the frontier in Slovakia by Krekovič (1981, obr 2, nos 204; obr 3, nos 355–7 and 374; obr 19, nos 102; obr 21, no 2). All occurred on sites within easy access of the Danube *limes* (their probable zone of manufacture) and Krekovič thought that they were not being used in the classical manner in *barbaricum*, but

had served more universal functions. This near-absence of mortaria is despite unequivocal evidence, from further beyond the frontier, for the adoption of Romanised kiln technology, fabrics and vessel-types, by peoples ancestral to (or ultimately related to) the Gothic tribes, which settled in Bulgaria and adjacent parts of the Lower/Middle Danube from the late fourth century onwards (Vagalinski 2002; Opaiţ 1991b; Nicolić-Dordević 2000, 242). In Poland, for example, mortaria are absent among the products of the Roman-type kilns of the Przeworskiej culture, ancestral to the Sîntana de Mureş-Černjachov culture of the Goths (Dobrzańska 1980; Halina Dobrzańska personal comment). Further east and nearer to Bulgaria, in the fourth century, the ceramic traditions of the (Gothic) Sîntana de Mureş-Černjachov culture never included mortaria (Heather and Mathews 1991, 50–101, with references). Evidence from Bulgaria suggests that, these Gothic and related immigrants had included not only farmers and soldiers serving in the Roman army (*foederati*), but also potters (Swan 2005 forthcoming), who introduced to *Thracia* and elsewhere significant new traditions of fabric technology (the fine grey, so-called '*foederati* ware'), and copied many indigenous North Balkan forms, as well as introducing a number of their own native vessel-types. Crucially, despite the publication of a large corpus of forms in this tradition from Bulgaria, only one mortarium is known in '*foederati* ware', a hitherto unpublished vessel from the late Danube fort of *Iatrus*, dated by Vagalinski (2002, 140, 196, X339) to the second half of the fourth, or the beginning of the fifth century. The general profile of this mortarium, with its low bead-rim and horizontal flange cut in a scoop at the tip, is not dissimilar to Kuzmanov's lead-glazed mortarium, type II (1998, nos 69–74, particularly 74), and could indeed be a copy. Certainly, it would not be out of place on the Middle Danube at this period. The apparent absence of trituration grit, and presence of burnished stripes on the interior as well as on the exterior, may perhaps suggest that the pot had not been designed wholly for use in the manner traditional to mortaria.

After the death of the Emperor Theodosius I in AD 395, the Lower Danube was effectively cut off from the civil and military administration of the Western Empire, and the frontier armies of *Moesia Inferior*, *Scythia* and *Thracia* could no longer draw recruits, transfers and officers from more westerly provinces**.** The mortarium tradition was, in any case absent from the latter regions after about the AD 420s. So is it possible that whoever had introduced the mortaria to Dichin 60–100 years later could have come from much further to the east? Were mortaria being made and used in the eastern provinces at a time when they were absent on the Middle/Lower Danube? If so, where? And under what circumstances could this culinary tradition have been transferred to Dichin?

## *Late Roman to Early Byzantine mortaria in the Eastern Mediterranean and the East*

In the Eastern Mediterranean, ceramic mortaria were widely used in Classical and Hellenistic times, but after the first century AD, they had suffered a decline in favour of stone and marble mortars (complemented by large basin-like vessels). Nevertheless, some production continued, albeit at an extremely low level. In the third and fourth centuries AD, however, the ceramic mortarium appears to have undergone a minor revival in some Mediterranean regions and beyond.[8] Possibly at that period, the potential for wider coastal distribution was being facilitated by the steady expansion of production and trade in the regional amphora-borne commodities with which they could be shipped. Whereas in the west the ceramic mortarium is rightly viewed as an indicator of Romanising influences, in the east, this class of vessel should perhaps be seen as evidence for Hellenisation, as Blakely *et al* (1992, 207) have pointed out. In the current author's opinion, it may be no coincidence, that the increased use of mortaria in the region was very approximately concurrent with the emergence of the Byzantine Empire and the spread of its many distinctive Greek-derived traditions. However, it is worth recording here, that the divide between mortaria and large basins was not absolutely clear-cut. Some vessels without trituration grits, nevertheless seem to have functioned as mortaria because they had very gritty fabrics in lieu, or also because they were being used for a restricted range of functions. Vessels with glazing on the lower part of the interior, but of characteristic mortarium-like forms probably could not have performed all the same tasks as a standard mortarium with a gritty or gritted interior (Paul Reynolds has suggested to me that mortaria without grits may be associated with communities who were using them mainly for mixing garum-based sauces that did not require a grinding facility). The evidence for late mortaria has never been gathered together for the Eastern Mediterranean as a whole, and as such an undertaking is undoubtedly beyond the scope of the present paper, we have inevitably confined our attention to a selection of evidence from some of the more significant and accessible reports.

Mention has already been made of a range of glazed and other mortaria of unknown origin found at Saraçhane, Constantinople (Hayes 1992, 9–10), from which it is clear that, in the fifth to sixth centuries AD, this type of vessel was a relatively standard piece of cooking-equipment in the capital of the Eastern Empire, even though bowls with similar proportions and presumably analogous functions were much more abundant. A mortarium with internal glassy trituration grits and a profile related to the Saraçhane forms was recorded in a seventh-century context at the *Anemurium*,

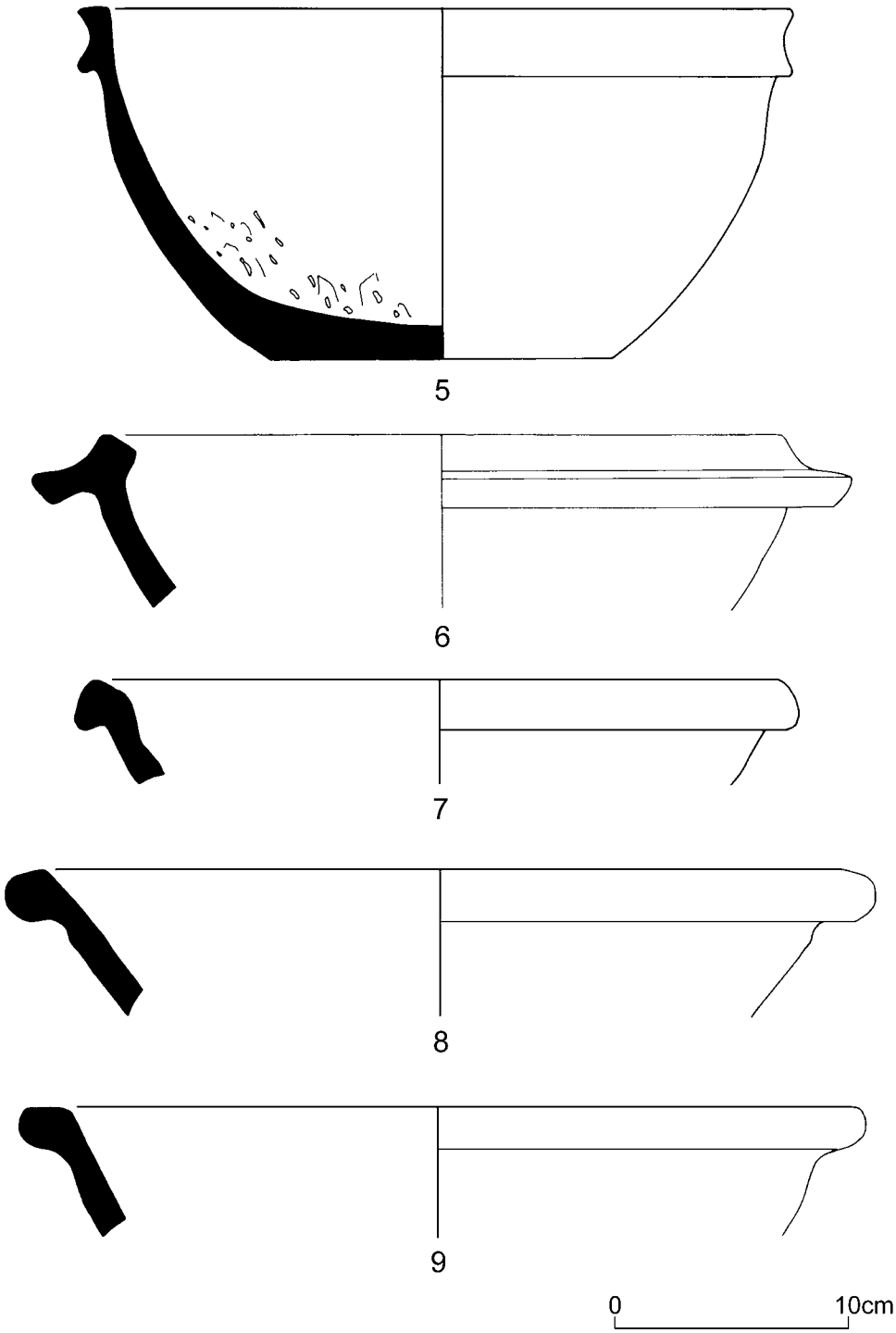



*Fig 2: Nos 5-6: Anemurium (Turkey): mortarium with glassy trituration gritting; common mortarium type (both after Williams 1989). Nos 7–9: Caesarea Maritima (Israel): mortaria with beaded rims in fabric similar to Late Roman 1 /Peacock and Williams Class 44 amphorae (after Blakely et al 1982) Scale 1:3*

Rough Cilicia (Eski Anamur, Turkey), on the southernmost promontory of Asia Minor, directly opposite Cyprus (Fig 2, no 5; Williams 1989, 77, fig 42, no 448; 1977, fig 2, nos 14–15). At this city too, Williams (*ibid*, 76–7) recorded that 'the mortarium with a flanged rim was a common form… in all groups containing material of the Late Antique and Early Byzantine periods', (eg *ibid* fig 42, nos 446–8). Out of just 30 vessels 'of recoverable form' found in a well at *Anemurium* that was in-filled after 631, two were

flanged mortaria (Williams 1977, fig 2, nos 14 and 15). One of the mortaria from the site in general (made in a fabric also used for the sixth and seventh-century basins, and therefore perhaps local), which is described as 'the standard form', has an inward-leaning rim with an internal concavity below and an outward-pointing, almost horizontal flange, which is not hooked (Fig 2, no 6). It is worth noting too, that in the same broad region, mortaria with a small rim and a chunky flange were made in the potteries at Sagalassos. This industry traded its fine wares beyond its immediate locality, though the precise date of the mortaria has yet to be defined (Lafli 2000, fig 3).

Also recorded at *Anemurium* (Williams 1989, 77, pls. 11–14, nos 449–53) were a number of examples of the so-called North Syrian mortaria (Hayes 1967; Vallerin 1994). First appearing widely in the early to mid-third century in a very hard granular fabric (with a broad hooked and often stamped flange, and a spout), they were produced at Ras al Bassit, just south of the mouth of the Orontes (in the same general region as Antioch), and perhaps at other sites in that area. They were widely exported over much of the Eastern Mediterranean, including Egypt, the Levant (where they constitute the dominant mortarium at Beirut), Cyprus, Syria and very occasionally Greece and the Aegean, not always confined to coastal sites. By the early fifth century, they had become more bowl-like, with the flange/rim distinctly square, and the fabric darker and containing large inclusions. Subsequently, the rims tended to have quite a hooked projection on the top inner face, and these were the pre-eminent mortaria at Beirut in the destruction deposits of 551 (I am grateful to Paul Reynolds for discussing his Beirut typological sequence with me). The overall production of Ras al Bassit mortaria is now thought to have continued until the seventh century (Williams 1989, 77; J Hayes and P Reynolds personal comments).

There is little evidence in Greece to suggest much late usage of ceramic mortaria, even in major towns, save for the occasional import. Only very small quantities of mortaria were found in the Athenian Agora excavations, mainly North Syrian mortaria (John Hayes, personal comment). However, in post-excavation research at *Caesarea Maritima*, Palestine, a petrological investigation of the possible areas of origin of the seven different groups of mortarium fabrics (Blakely *et al* 1992), suggested that all of these products had originated somewhere in the volcanic regions of the North and North-east Mediterranean (eg Syria, Turkey and Cyprus).

One of the fabric groupings at *Caesarea Maritima* was that of the North Syrian mortaria already discussed (the second most common mortarium fabric on the site). The most common fabric (Blakely *et al* 1992, Class 1, fig 2, nos. 5, and 18–29) was mineralogically like that associated with Late Roman 1 amphorae, which have a similar very granular texture, and are known to have been made in the same basic region (Cyprus and near Antioch). Indeed, the two might have been exported in tandem, though no mortarium of this ilk has yet been recognised on the Lower Danube (presumably because there was no demand). Dating to within the third to fifth century, these gritty mortaria (Fig 2, nos 7–9) have more-or-less conical profiles, and an out-splayed rim that was beaded, and sometimes facetted; a far cry from the heavy flanges usually associated with vessels of this class; they also lack trituration grits, but their coarse-textured (Late Roman 1 amphora-type) fabric may have obviated the need for such. That the unconventional second Dichin mortarium (Fig 1, no 2), could quite easily be viewed as a faltering, rather approximate copy of one of these Syrian products, may not be wholly coincidental.

From this brief survey, it is clear that within the late third to the seventh century AD, the mortarium was widely traded in most parts of the Eastern Mediterranean, particularly in Constantinople, Asia Minor and the Levant, though it seems to have been far less common than it had been in the West. The main areas of manufacture (and probably its most frequent employment) seem to have been concentrated in the north-eastern part of the region, particularly in Syria and Turkey, where the vessels were extremely varied. They could be conical or near hemispherical in profile, spouted or un-spouted, with a heavy flange or a small rim alone, and might or might not have had trituration grits. Nevertheless, most people who had been brought up, or who had spent some time in those regions, would have either used, or known someone who used this piece of equipment in the course of preparing a meal. So how could such a person have come to Dichin and re-introduced a class of vessel that had long ceased to be current on the Lower Danube?

## *Dichin: the wider historical background*

The period between the crossing of the Danube into Bulgaria by large numbers of Goths in AD 376 (probably sanctioned by the Roman authorities for pragmatic reasons), and the destruction of Dichin in the late fifth to early sixth century, was a time of considerable instability in that region. The initial Gothic immigrants (some involved in raiding, some settled on land, and others recruited into the Roman army) mostly departed for Italy by AD 410, but were followed by the more troublesome and destructive Huns. Nevertheless, from the 420s onwards, there were further arrivals of various Gothic tribal groups, and many of these were absorbed as *foederati* (ie part of the Eastern Empire's military establishment), being provided with pay and provisions (*annona*) comparable with those of regular Roman soldiers; in addition, members of the Gothic tribal nobility sometimes rose to high office in the Roman army.

With the death of Attila the Hun in AD 453, and the collapse of Hunnic domination in the following decade, the Goths were effectively left in charge of their own affairs (Heather 1991, 158–65), and the Byzantine state maintained precious little control over the region. Though the literary sources are patchy and at times confusing, there were evidently continuing political and military links between Constantinople and the major Gothic tribal groups (the former perpetually playing one off against the other). In AD 478, it is recorded that a treaty was signed by the Emperor Zeno, which agreed that the Empire would supply 'the allied Goths in Thrace who the Romans call '*foederati*'' with pay and food (ie *annona*), for 13,000 men chosen by their leader (*Malchus of Philadelphia*, 18.4). As Heather (1991, 253ff; 1996, Chap 5) has argued cogently, the wording of this agreement clearly reflected the continuance of the long-standing special relationship with the Byzantine state, whereby Gothic *foederati* were effectively treated like regular Roman troops. Gothic soldiers had, indeed, been stationed in Constantinople on occasions, as part of the imperial army, and at least one of the Gothic leaders had owned property in the city (Heather 1991, 290).

In AD 488/9, the departure from Bulgaria of the so-called Thracian (Gothic) *foederati,* together with the other main Gothic tribal group in the region, to found a kingdom in Italy under Theoderic the Great, paved the way for the restoration of direct military control by Constantinople, and the refurbishment of frontier installations under the Emperor Anastasius (AD 491–518). In Bulgaria, an increase in the presence of gold coins at some fortified settlements suggests a resumption or increase in cash payments for military service (Poulter 2004 forthcoming). Between AD 493 and 502, however, the contemporary sources indicate continuing military disasters involving units of *foederati*, (but followed by a decade with no evidence of serious trouble on the Danube). In AD 492/3 Julian, *magister militiae* (ie in charge of *foederati*) had been killed in a night battle with 'Scythians' (= 'barbarians') in Thrace (*Marcellinus Comes* ad a 493.2), and in AD 499 a disastrous invasion of Bulgars (tribal groups related to the Huns) had brought devastation to Thrace (*Marcellinus Comes* ad a 499.1). Another Bulgar incursion in *c* AD 502 had involved widespread plundering in the province (*Marcellinus Comes* ad a 502.1). That the official supply to the *foederati* of food (*annona*) had continued, is evident from the account of the revolt of Vitalian in 513–8 (Bury 1958, I, 297–300). As *comes foederatorum* in Thrace, he is said to have attracted support from the *foederati* under his command, who claimed that the *magister militum per Thracias* (based at *Marcianopolis*) had deprived them of the supplies (ie the *annona*) to which they were entitled. The presence in Dichin's devastated store-buildings, of large quantities of distinctive ranges of imported wine and oil amphorae (including Late Roman 2, a form convincingly associated with the operation of the *annona*: Karageorgiu 2001) certainly suggests that the garrison of the period had been receiving bulk deliveries of standard official provisions, similar to those at other forts on the Lower Danube. However, as already mentioned, we do not know whether the destruction of these supplies occurred before the departure of the Thracian Gothic *foederati* in AD 488/9, or in the reign of Anastasius (AD 491–518).

In the AD 470s and 480s, when the administration at Constantinople was playing one Gothic group off against another, and in the AD 490s and early 500s when restoration and rebuilding was taking place on the frontier and its hinterlands under Anastasius, there would, no doubt, have been close connections and regular contact between people of authority in the army on the Lower Danube and its hinterland, and the Byzantine state organisation. Thus it would be no great surprise to find at least one person within the Dichin garrison, most probably an officer, who had been to Constantinople, or to the north-eastern part of the Mediterranean on political, military or supply missions. Such a man might actually have been of eastern origin, had an eastern cultural background, or acquired eastern tastes or staff on his visits. He may well have brought back with him a servant, batman, cook, slave or other associate with eastern culinary habits, who insisted on having the appropriate equipment. Any of these factors would plausibly account for the occurrence in the Dichin stores of two locally made mortaria (apparently specially commissioned), which were totally out of place in the indigenous post-Roman culture of the region.

**Acknowledgements**

The research embodied in this paper forms just a small part of the post-excavation work currently in progress to publish the Dichin site and its finds, which (together with the Nicopolis environs field-survey programme) constitutes Prof Andrew Poulter's research project, '*The Transition to late Antiquity on the Lower Danube*; I am indebted to him for encouraging me to compose this paper in advance of the main specialist monographs on the site and its finds. We are grateful to the Arts and Humanities Research Board (AHRB) for the award of a major grant to support the publication of this programme, and also to the British Academy and the Bulgarian Academy of Sciences (through the Institute of Archaeology, Sofia) for supporting visits by this author to Bulgaria in 2002-4, through the British Academy's Eastern Europe Exchange Scheme. Thanks are also due to Caroline Jamfrey for the drawings of the Dichin mortaria, to Ray McBride for the revising some of the other drawings and for the scanning and production of the figures, to Pam Irving for editorial support, and to Pam Grinter, Peter Guest, Sue Watts and Ann Jones, for details of the Dichin seeds, coins, stone grinding-

equipment and stratigraphic contexts respectively. For their information, help and interest, I am indebted to my friends in ceramic and Byzantine studies, Andrei Opaiţ, Roberta Tomber, Halina Dobrzańska, John Hayes, Philip Kenrick and Jim Crow. Last but no means least, Andrew Poulter has been an unfailing source of knowledge, support and inspiration throughout, and read through an early draft of this text (to the author's benefit), though he should not be held responsible for the author's views expressed here.

## Bibliography

Baluţa, C, and Şerban, I, 1979, Sigilla Mortarorium Dacica, *Rei Cretariae Romanae Fautorum Acta* **29/30**, 203–13

Baumann, VH, 1996, La céramique utilitaire du IVème siècle fabriquée par l'officina romana de Valea Mortilor (Teliţa, Dep de Tulcea), *Rei Cretariae Romanae Fautorum Acta* **33**, 45–58

Bjelalac, L, 1994, Mortaria in the Moesia Danube Valley, *Starinar* **43/44** (1992–3), 139–48

Bjelalac, L, 1995, Late Roman glazed pottery in Singidunum, *Rei Cretariae Romanae Fautorum Acta* **34**, 33–8

Blakely, JA, Brinkman, R, and Vitaliano, CJ, 1992, Roman mortaria and basins from a sequence at Caesarea: fabrics and sources, in, Vann, RL (ed), *Caesarea Papers I*, J Roman Archaeol Sup **5**, Ann Arbor, USA, 194–213

Böttger, B, 1982, Die Gafässkeramischen aus dem Kastell Iatrus, in, Böttger, B, *et al, Iatrus-Krivina: Spätantike Befestigung und Frühmittelalterliche Siedlung an der unteren Donau, 2: Ergebnisse der Ausgrabungen 1966–73,* Berlin

Bury, J B, 1958, *History of the Later Roman Empire,* I, London

Changova, I, Radouncheva, A, and Lubenova, V, 1981 *Pernik. Poseliščen zivot na Chelma Kraka ot V Chil n e do Viv na n e* Band **1**, Bulgarian Academy of Sciences, Sofia

Carreras Monfort, C, and Williams, DF, 2002, 'Carrot' amphoras: a Syrian or Palestinian connection?, in Humphrey, JH (ed), *The Roman and Byzantine near East 3*, J Roman Archaeol Sup Ser **49**, 133–44

Cvjetićanin, T, 1995, Late Roman glazed pottery from the Iron Gate region (Dacia Ripensis), *Rei Cretariae Romanae Fautorum Acta* **34**, 27–32

Cvjetićanin, T, 1997, Late Roman glazed pottery as a military commodity (*Dacia Ripensis*), *Rei Cretariae Romanae Fautorum Acta* **35**, 17–25

Dobrzańska, H, 1980, Zagadnienie datowania ceramiki toczonej w kulturze przeworskiej, *Archeologia Polski* **24.1**, 87–152

Dušek, S, 1992, *Römische Handwerken im germanischenThüringen: Ergebnisse der Ausgrabungen in Haarhausen, Kreis Arnstadt,* Weimarer Monographien zur ur- und Frühgeschichte **27**, Stuttgart

Dyczek, P, 2001, Pannonian glazed pottery from *Novae*, *Rei Cretariae Romanae Fautorum Acta* **37,** 193–7

Falkner, RK, 1999, The pottery, in Poulter, AG, 1999a, 55–296

Fowler, B, and Rosenbaum, E, 1958, *The Roman Cookery Book: a critical translation of the Art of Cookery by Apicius*, London

Grinter, P, 2002, Paleobotanical research at Gradishte: a unique insight into the economy of a late Roman to early Byzantine defended site, in Slokoska, LR , Ivanov, RT, and Dinchev, V (eds), *The Roman and Late Roman City: International Conference, Veliko Turnovo 26–30th July 2000*, Sophia, 69–70

Grinter, P, 2005 forthcoming, Seeds of destruction: conflagration in the grain stores of Dichin, in Poulter, AG (ed), *The Transition to Late Antiquity: papers presented to a symposium held at the British Academy, May 2003,* British Academy, London

Grinter, P, in prep, The evidence of the seeds, in Poulter, AG (ed), *Dichin, Bulgaria: the excavations of 1996–2001*

Guest, P, 2005 forthcoming, Coin circulation in the Balkans in Late Antiquity, in Poulter, AG (ed), *The Transition to Late Antiquity: papers presented to a symposium held at the British Academy, May 2003*,, British Academy, London

Hartley, KF, 1998, The incidence of stamped mortaria in the Roman Empire, with special reference to imports to Britain, in, Bird, J (ed), *Form and Fabric: Studies in Rome's material past in honour of BR. Hartley*, Oxbow Mono **80**, Oxford

Hayes, JW, 1967, North Syrian mortaria, *Hesperia* **36**, 338–47

Hayes, J W, 1992, *Excavations at Saraçhane in Istanbul: 2: the Pottery*. Princeton, New Jersey, USA

Hayes, J W, 1997, *Handbook of Mediterranean Roman pottery*, British Museum, London

Heather, P, 1991, *Goths and Romans 332–489*, Oxford

Heather, P, 1996, *The Goths*, The Peoples of Europe Series, Oxford

Heather, P, and Mathews, J, 1991, *The Goths in the Fourth century,* Translated texts for Historians **1**1, Liverpool

Kabakčieva, G, Sultova, S, and Vladkova, P, 1988, *Ceramic centres in the territory of Nicopolis ad Istrum: 2nd–4th century,* Pleven, Bulgaria

Karagiorgou, O, 2001, Late Roman Amphora 2: a container for the military *annona* on the Danubian border? in Kingsley, S, and Decker, M (ed), *Economy and Exchange in the East Mediterranean during Late Antiquity: Proceedings of a conference at Somerville College, Oxford, 29th May, 1999*, 129–66

Klenina, E, 1999,Table and cooking pottery of the fourth to sixth century AD from the excavation of the Episcopal residence at *Novae*, in von Bülow, G, and Milčeva, A (eds), *Der Limes an der unteren Donau von Diokletian bis Heraklios*, Sofia, 87–93

Klenina, E, 2002, Some remarks about the Roman and early Byzantine pottery from *Novae* (*Moesia inferior*), in Freeman, P, Bennett, J, Zbigniew, FT, and Hoffmann, B (eds), *Limes XVIII: Proceedings of the XVIIIth International Congress of Roman Frontier Studies held in Amman, Jordan (September 2000), II Brit Archaeol Repts Int Ser 1084(ii), Oxford, 695–70.*

Krekovič, E, 1981, Rímska importovaná keramika na Slovensku, *Slovenská Archeológia* **29.2**, 341–76

Kuzmanov, G, 1985, *Céramique de la Haute époque Byzantine provenant de Thrace et de Dacie (IVème – le début du VII s),* Fouilles et recherches VIII (Académie Bulgare des Sciences, Institut d'Archéologie et Musée), Sofia

Kuzmanov, G, 1992, Die locale Gefässkeramik, in Uenze 1992, 201—21

Kuzmanov, G, 1998, Spätantike glazierte Keramik aus Bulgarien, *Archeol Bulgarica* **2**, 1998.1, 81–95

Kuzmanov, G, 2000, Late Roman glazed pottery from Bulgaria, *Rei Cretariae Romanae Fautorum Acta* **36**, 225–34

Lafli, E. 2000, Sagalassos table and common wares from Seleukeia Sidera in Psidia (South-western Turkey): a preliminary report, *Rei Cretariae Romanae Fautorum Acta* **36**, 43–7

Mackenson, M, 1992, Die Fundmünzen von Golemanovo Kale (Ausgrabung 1936/1937); zu den Schlussmünzen der Münzreihen und der Schatsfunde von Sadovsko Kale und Golemanovo Kale, in *Uenze 1992*, 339–54

*Marcellinus Comes* : Croke, B, 1995, *The Chronicle of Marcellinus Comes: a translation and commentary*, (Byzantina Australiensia **7**), Australian Assoc for Byzantine Stud, Sydney

*Malchus of Philadelphia* : Blockley, RC, 1983, *The fragmentary classicising historians of the Late Roman Empire: Eunapius, Olympiodorus, Priscus and Malchus, II: Text, translation and historiographical notes,* (Classical and Medieval Texts, Papers and Monographs), Liverpool

Nicolić-Dordević, S, 2000, Antička Keramika Singidunuma oblici posuda, in Popović, M (ed), *Singidunum 2,* Belgrade Fortress Report of Inst Archaeol, Belgrade, 11–244

Opaiţ, A, 1991a, Ceramica din aşezarea şi cetatea de la Independenţa (Murighiol) sec VI ch– VII p ch, *Peuce* **10**, 133–216

Opaiţ, A, 1991b, Elemente entice nord-dunărene în Scythia Minor (secolele IV–V p ch), *Peuce* **10**, 127–31, 159–63

Opaiţ, A, 1996, *Aspecte ale vieţii economice din provincial Scythia (secolele IV–VI .ch): producţia ceramicii locale şi de import*, Institutul Român de Tracologie Bibliotheca Thracologica **16**, Bucureşti

Opaiţ, A, Zahariade, M, Poenaru-Bordea, G, and Opaiţ, C, 1991, Fortificaţia şi aşezarea romană târzie de la Babadag-Topraichioi,

*Peuce* **10**, 211–60
Poulter, AG, 1995 *Nicopolis ad Istrum, a Roman, Late Roman, and early Byzantine city: excavations 1985–92*, J Roman Stud Mono **8**, London
Poulter, AG, 1999a, *Nicopolis ad Istrum: a Roman to early Byzantine City (2): the pottery and glass*, Soc Antiq London, London
Poulter, AG, 1999b, The transition to late antiquity on the Lower Danube: an interim report (1996–8), *Antiq J* **79**, 145–85
Poulter, AG, 2000, The Roman to Byzantine tradition in the Balkans: preliminary results on Nicopolis and its hinterland, *J Roman Archaeol* **13**, 347–58
Poulter, AG, 2004 forthcoming, Cataclysm on the Lower Danube: the destruction of a complex Roman landscape, in Christie, N (ed), *Landscapes of Change*
Poulter, A G, 2005 forthcoming, The transition to Late Antiquity on the Lower Danube, in, Poulter, AG (ed), *The Transition to Late Antiquity: papers presented to a symposium held at the British Academy, May 2003,* British Academy London
Poulter, AG (ed), in prep, *Dichin, Bulgaria: the excavations of 1996–2001, **1***
Reynolds, J, 1995, The Inscriptions, in Poulter 1995, 315–27
Robinson, HS, 1959, *The Athenian Agora V: pottery of the Roman period*, Princeton, New Jersey, USA
Soultov, B, 1985, *Ceramic production on the territory of Nicopolis ad Istrum (2nd–4th century)*, Terra Antiqua Balanica **1**, Sophia
Swan, VG, 1973, Aspects of the late Roman New Forest pottery industry, in Detsicas, AP (ed), *Current Research in Romano-British Coarse Pottery* CBA Res Rep **10**, 117–34
Swan, VG, 1984, *The Pottery Kilns of Roman Britain*, Royal Comm Hist Mons Supp Ser **5**, London.
Swan, VG, 2002, The Roman pottery of Yorkshire in its wider historical context, in Wilson, P and Price, J (eds), *Aspects of Industry in Roman Yorkshire and the North*, Oxford, 35-79
Swan, VG, 2004a, in press, Dichin (Bulgaria) and the supply of amphorae to the Lower Danube in the late Roman-early Byzantine period, in Eiring, J, and Lund, J (eds), *Transport and amphora-borne trade in the Eastern Mediterranean: papers presented at a symposium at the Danish School in Athens, Sept 2002* Athens
Swan, VG, 2004b, in press, The historical significance of 'legionary ware' in Britain, in, Vermeulen, F, and Saas, K (eds), *Archaeology in Confrontation; papers in honour of Hugo Thoen*, University of Ghent, Belgium
Swan, VG, 2005 forthcoming, Dichin: interpreting the ceramic evidence in its wider context, in Poulter, AG (ed), *The Transition to Late Antiquity: papers presented to a symposium held at the British Academy, May* 2003,, British Academy, London
Swan, VG, McBride, RM, and Mills, P, in prep, *Dichin, Bulgaria: the excavations of 1996–2001*: ***2**: the pottery*
Uenze, S, 1992, *Die Spätantiken Befestigungen von Sadovec (Bulgarien),* Münchner Beiträge zur Vor- und Frühgeschichte Band **43**, Munich
Vagalinski, LF, 2002, *Burnished pottery from the first century to the beginning of the seventh century AD from the region south of the Lower Danube,* Archaeologia Bulgarica, Sophia
Vallerin, M, 1994, *Pelves* estampillés de Bassit, *Syria* **71**, 171–204
Watts, S, in prep, The querns and stone mortars, in, Poulter, in prep
Williams, C, 1989, *Anemurium: the Roman and early Byzantine* pottery, Subsidia Mediaevalia **16**, Pontifical Institute of Mediaeval Studies, Canada
Williams, C, 1977, A Byzantine well deposit from *Anemurium* (Rough Cilicia), *Anatolian Studies* **27**, 175–90

## Notes

1 The processing of the pottery from the Dichin excavation and from a programme of intensive field-walking on rural sites in the hinterland of *Nicopolis ad Istrum* (both part of Prof Poulter's *Transition to Late Antiquity* research programme) has been undertaken by Ray McBride, Philip Mills, Barbara Hurman and the author (Swan 2004a in press; 2005 forthcoming; Swan *et al,* in prep).

2 In a fourth-century context at the late Roman fort of *Iatrus* on the Danube, a very deep steep-sided conical 'bowl' in a fine reddish fabric, described as a 'Räucher schalen' ('smoking-vessel'), had a similar pair of 'nipples' attached to the inner edge of the rim, but in this case, the outer tip of the rim had corresponding finger impressions (Böttger 1982, 101–2, fig 44, no 81).

3 In contrast to the Lower Danube, the legions of the north-western provinces (and probably many units within their spheres of command) from at least *Aquincum* (Budapest) to *Eburacum* (York), continued to exhibit some Italianate customs in their modes of eating and drinking (evidenced by several items of pottery in the repertoire), until the early third century AD. The use of the mortarium constituted just one of these Italian-derived practices. After AD 212, Caracalla's extension of the citizenship radically widened the nature of legionary recruitment. For Britain this meant fewer intermittent transfers from outside the province of vexillations, which in the past, had often introduced or reintroduced Italianate traditions (*cf* Swan 2002, 52, 65–7; 2004b in press).

4 It is just possible that a vessel masquerading as a 'bowl' (with no drawn internal grits) might, from its profile, represent a mortarium (Kuzmanov 1985, Tab. 25, bowl-type VII. П. 37). It is similar to lead-glazed mortaria occurring at *Singidunum*, in deposits dated to the second third of the fourth century (Bjelajac 1994, pl IV, fig 2/8; 1995, fig 1, no 1)

5 The first *Iatrus* mortarium, in an unglazed red fabric and probably residual in its context (Böttger 1982, taf 44: no 468 = approx Kuzmanov 1998, glazed mortarium type I, no 66) is not dissimilar to glazed forms in Serbia dated to the late-third and first-half of the fourth century (Cvjetićanin 1995, M1); the form of the second, also in an unglazed red fabric and probably residual in its context (Böttger 1982, taf 44, no 80) approximates to Kuzmanov's (1998) glazed type II, no 71; the third Iatrus mortarium (Böttger 1982, taf 44, no 205, in an unglazed grey fabric and from a fourth-century context), and the fourth (*ibid*, taf 44, no 579, in unglazed red ware, and residual in its context), both belong to Kuzmanov's (1998) type IV, nos 80 and 81.

6 Doubts must be expressed over the validity of the attributions of Kuzmanov's groupings. Included in exactly the same grouping as the mortaria (local red-coated fine wares) are two amphorae (Kuzmanov 1992, taf 54, nos 14 and 15) recognisable as a late Syro-Palestinian date-amphora (Carreras Monfort, and Willams 2002, fig 4; Agora M-334), and a third amphora, which may be an import from Crete (Kuzmanov 1992, taf 54, no 13). The profile of a third Sadovets vessel classified as a mortarium, in fine grey burnished ware, also with no trituration grits indicated (*ibid*, taf 59, no 5), closely resembles several medium to large bowls in the same 'un-slipped grey burnished' fabric grouping (eg *ibid,* taf 58, nos 2–5), and is probably a bowl not a mortarium.

7 Opaiţ subsequently suggested (1996, 237, pl 43) that a small cup-like vessel might have served as a mortarium, but it could scarcely have processed more than very small quantities of spices and herbs. Opaiţ 1991a, no 210 was in a fourth-century context; *ibid* no 211 was residual in a later context (information from A Opaiţ), but as already mentioned, is similar to a mortarium in a fourth-century context at *Iatrus* (Böttger 1982, taf 44, no 204).

8 Philip Kenrick kindly informed me that at Zeugma, on the Euphrates, mortaria occur almost exclusively in the mid-third-century destruction deposits, being absent both earlier and later. The typology of these mortaria is 'westward-looking', as Paul Reynolds has pointed out to me. I suggest that such mortaria may ultimately have been introduced by incoming troops (eg transfers from the west), who were garrisoned in an unexcavated part of the Zeugma site.

# A collection of samian ware found close to the first bridge at Piercebridge

*Margaret Ward*

The final report on major excavations carried out at Piercebridge between 1969 and 1981 remains unpublished. A recent publication of the Roman bridge contains no finds reports (Fitzpatrick and Scott 1999) and finds from the fort and civil settlements also remain unpublished. It seems helpful, therefore, to offer here a paper putting into print a small collection recovered from a neighbouring location, to which mention has been made previously (Ward 1993, 18).

Peter R Scott, director of excavations for Durham University, had asked the present writer to catalogue not only the samian ware from the main excavations at Piercebridge, but also a small group recovered in 1983 from River Field, south of the first bridge over the River Tees. His intention in 1984 was to publish this assemblage in three years' time. Meanwhile, English Heritage had taken over the main Piercebridge report and archive for completion. Sadly, Peter passed on in 1987.

The location of the first (wooden) bridge lies in the river 200m to the west of the second bridge. In private correspondence of 1983–4, Peter Scott wrote that the site in River Field from which these finds came lies 'astride the early Dere Street, south of the first bridge.' Excavations in 1988 confirmed the route followed by Dere Street south of the river (Fitzpatrick and Scott 1999, 115 and figs 1–2). The material under discussion was found in an area 'rather more than 10m by10m,' an area which Scott, in 1983 was excited to say 'appeared to be on the very beaten up foundations of a timber structure by the side of Dere St, perhaps some form of guard house or control point at the south end of the bridge.' This first bridge is thought to have passed out of use near the end of the second century, perhaps in the widespread flooding of northern England c160–180 (*ibid*, 129).

*The contextual information given below is Peter Scott's.*

## *Catalogue of the samian ware*

Table 1 summarises all forms and fabrics represented in the collection. Maximum numbers of vessels are given, as the estimation of minimum numbers is difficult and probably misleading in the case of assemblages which contain a large proportion of indeterminate fragments: almost half of this collection comprised fragments of indeterminate form. Selected pieces are detailed below.

Date-ranges such as *c* AD 70–110 and *c* AD 120–200 have been given rather than the more traditional epochs such as 'Flavian-Trajanic' and 'Hadrianic-Antonine.' The use of numerical dates should not be thought more precise than that of epochs; they are employed solely to facilitate statistical analysis in the future. Terminology includes Déchelette and a figure-type number: Déchelette, 1904; Oswald and a figure-type number: Oswald, 1936; Ricken-Fischer and a type number: Ricken, Fischer, 1963; Rogers and a type number: Rogers 1974. For forms, see Oswald and Pryce 1920, Webster 1996 (both *passim*).

*Illustrated examples (Fig 1) are marked **

**Context 8: a thin layer of small pebbles representing plough disturbance, above (9)**

**1** Central Gaulish form 37. A battered fragment of ovolo Rogers B231 above bead-row A2, probably representing the style of Cinnamus, *c* AD 150–170.

**2** Central Gaulish form 37. A badly battered fragment of ovolo (probably Rogers B156) above a corded border as

*Table 1: Summary of all forms of vessel by fabric (maximum nos)*

| *Form* | *Curle 15* | *18R* | *18 or 18/31* | *18/31(R) or 31* | *31 or 31R* | *27* | *32* | *33* | *36* | *38* | *44* | *45* | *79* | *80* | *SMc* | *Tb* | *Tg* | *beaker* | *ind* | *30 or 37* | *37* | *Total* |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **SG** | - | 1 | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 4 | - | 2 | **7** |
| **CG** | 1 | - | 1 | 38 | 26 | 3 | - | 15 | 6 | 6 | 1 | 15 | 6 | 1 | - | - | - | 1 | 139 | 3 | 45 | **307** |
| **EG** | - | - | - | | 7 | - | 2 | 1 | - | - | - | 2 | - | - | 1 | 2 | 1 | 2 | 20 | - | 9 | **47** |
| **Total** | **1** | **1** | **1** | **38** | **33** | **3** | **2** | **16** | **6** | **6** | **1** | **17** | **6** | **1** | **1** | **2** | **1** | **3** | **163** | **3** | **56** | **361** |

*Abbreviations:*
*SG: South Gaulish, CG: Central Gaulish, EG: East Gaulish workshops. Ind: vessels of indeterminate form. 18/31(R) or 31: scraps identifiable only as dish forms, 18/31, 18/31R or 31.*

used by Iullinus, *c* AD 160–190. Re-worked as a rough counter, *c* 25 mm across.

The eight other sherds in context 8 were produced at Lezoux in the later-second century and included part of a Central Gaulish mortarium of form 45, produced *c* AD 170–200.

**Context 9, below context 8: c 20cm of lighter brown soil on top of and between various cobbling, in places 'courtyarding,' in others heavy river cobbles and chunks of dolomite**

**3** South Gaulish form 18R, *c* AD 70–110. A rim sherd through which a small, round rivet-hole was drilled.

**4** Central Gaulish form 18/31R or 31R. A small basal sherd, stamped ]LIM[ by an unidentified Lezoux potter working in the period *c* 140–200.

**5** East Gaulish form 31R group, produced at Rheinzabern or Trier in the range *c* AD 170/180–260. A wallsherd, re-worked as a counter of diameter 20mm.

**6** Central Gaulish form 80. A badly battered basal sherd, stamped ]AL[ by a Lezoux potter, *c* AD 160–200.

**7** East Gaulish form SMc. A burnt wallsherd from Rheinzabern or Trier, *c* AD 170/180–260, with a fragment of decoration *en barbotine* above the flange.

**8** East Gaulish form Tb variant, *c* AD 170/180–260. A battered fragment of a down-turned rim (cf Oelmann 1914, taf 1.3 from Niederbieber) in a clear buff fabric with a dull orange slip, probably produced at Trier, *c* AD 170/180–260.

**9** Central Gaulish enclosed form (form 72 or similar). A fragment only of an unidentifiable *appliqué* figure, *c* AD 160–200.

**10–12** Central Gaulish, forms indeterminate, produced within the range *c* AD 120–200. Three battered fragments of three vessels, each broken at a round rivethole drilled through the wall.

**13** Central Gaulish, form indeterminate, *c* AD 150–200. A basal sherd, re-worked as a large disc of diameter *c* 50mm.

**14** Central Gaulish, form indeterminate, *c* AD 150–200. A basal sherd, incompletely fashioned into a spindle-whorl or counter of diameter *c* 30mm, with a partially drilled hole at its internal centre.

**15** Central Gaulish form 37. A small sherd from Les Martres-de-Veyre: a row of rings lies above a bead-row (Rogers A1) and griffin (probably Oswald 866 rather than 864). Rings used in place of the ovolo suggest the style of potters such as X–11 and X–13, *c* AD 100–125.

**16** Central Gaulish form 37. A badly battered fragment of decoration above a double basal ridge, probably *c* AD 120/125–145. A round rivethole was drilled through the upper ridge.

**17** Central Gaulish form 37. A fragment of badly blurred ovolo appears to represent Rogers B97 above a wavy-line border (A26), as used by Cettus *c* AD 135–160. The internal surface had been worn away in use.

**18** Central Gaulish form 37. A fragment showing the same large stag (Oswald 1720) and corn-stook (Rogers N15) as used on bowls bearing the large advertisement stamp of Cinnamus (eg Stanfield and Simpson, 1990, pl 158.21 from Chesters). *c* AD 150/155–180.

**19** Central Gaulish form 37. A battered fragment: ovolo Rogers B106 and bead-row A2 above a small hound (Déchelette type 919 lacking the end of the tail shown on Oswald's type 1940). The style may be that of Albucius *c* AD 150–180, or Paternus v (Stanfield and Simpson, 1990, style II) *c* AD 160–195.

**20** Central Gaulish form 37. A small sherd: ovolo Rogers B206 and bead-row A2 above a leaf-and-bud motif (G159) and leaf (K37) together suggest the style of Laxtucissa, *c* AD 145/150–175.

**21** Central Gaulish form 37. A small fragment of panelling with a vertical border (Rogers A10) beside Bacchus (Oswald 577) may suggests the style of Censorinus *c* AD 160–190.

**22*** Central Gaulish form 37. Two sherds with a fragmentary ovolo (probably Rogers B206) above the bead-row A2 and panels with astragaloid borders (A10) enclosing Pan (Oswald 709) and a dancer (Oswald 360). Cf Stanfield and Simpson, 1990, pl 108.33–36 for the style of Paternus v (II), *c* AD 160–195, rather than the earlier Antonine potter Laxtucissa or Paternus' contemporary, Censorinus.

**23** Central Gaulish form 37. Panels bordered vertically by bead-rows (Rogers A3) with blurred terminals include a double medallion above a leafy motif (H117). This motif is recorded with these borders in the work of Do(v)eccus (eg Stanfield and Simpson, 1990, pl 150.43 from York). *c* AD 165–200. The footring was very worn from use.

**24*** East Gaulish form 37. A battered fragment with a dark orange-red slip on a brittle, bright orange fabric, probably produced at Chémery. Fragments of a winding scroll survive above an indistinct horizontal border and two rosettes forming part of a basal wreath used by Satto and Saturninus (Fölzer 1913, taf 27 type 282, cf 3.28, 5.16 and 6.2). The Piercebridge sherd was probably produced at their workshop in Chémery in the first half of the second century. One such bowl from Chémery was carried as far north as Birrens (Wild 1975, 170 no 93).

**25*** East Gaulish form 37. Four battered sherds, (three illustrated) of which the larger two adjoin, with a dull orange-red slip on a pinkish fabric produced at La Madeleine. The ovolo is rather blurred but represents that shown on Ricken 1934, taf 9.9 and 9.13–14 (*cf ibid,* taf 7 type C), above a bead-row superimposed on a guideline. Below and between double festoons containing a spiral (*ibid*, taf 7.33) are two inverted leaf-and-bud motifs (*ibid*, taf 7.11 and 7.14) and an astragaloid ornament (*ibid*, taf 7.8) above a basal bead-row. The ovolo is type C at La Madeleine. It is probably that recorded at South Shields (Dore *et al* 1979, fig 31.102), and conceivably that noted on another bowl from Birrens. The latter (Wild 1975, 158, fig 59.56) displays most of the other motifs on the Piercebridge bowl. Wild notes that ovolo C does not occur in the Saalburg Erdkastell, but that the earlier wares which display ovolo C must have begun before the end of that phase there. Their manufacture may be considered to have occurred within the range *c* AD 130–160.

**26** East Gaulish form 37, perhaps from Heiligenberg rather than Rheinzabern, but with a matt brown slip on a fairly coarse, red fabric with yellow inclusions similar to some South Gaulish ware produced at Banassac in the early second century. Two small sherds, probably from one bowl: one shows the forefeet only of a small animal, and the other displays a small fragment only from a row of leafy motifs, Ricken-Fischer R 4 set on a guideline. The use of R 4, composed of the individual motif P 154, suggests the style of the potter Reginus vi (I). One bowl of

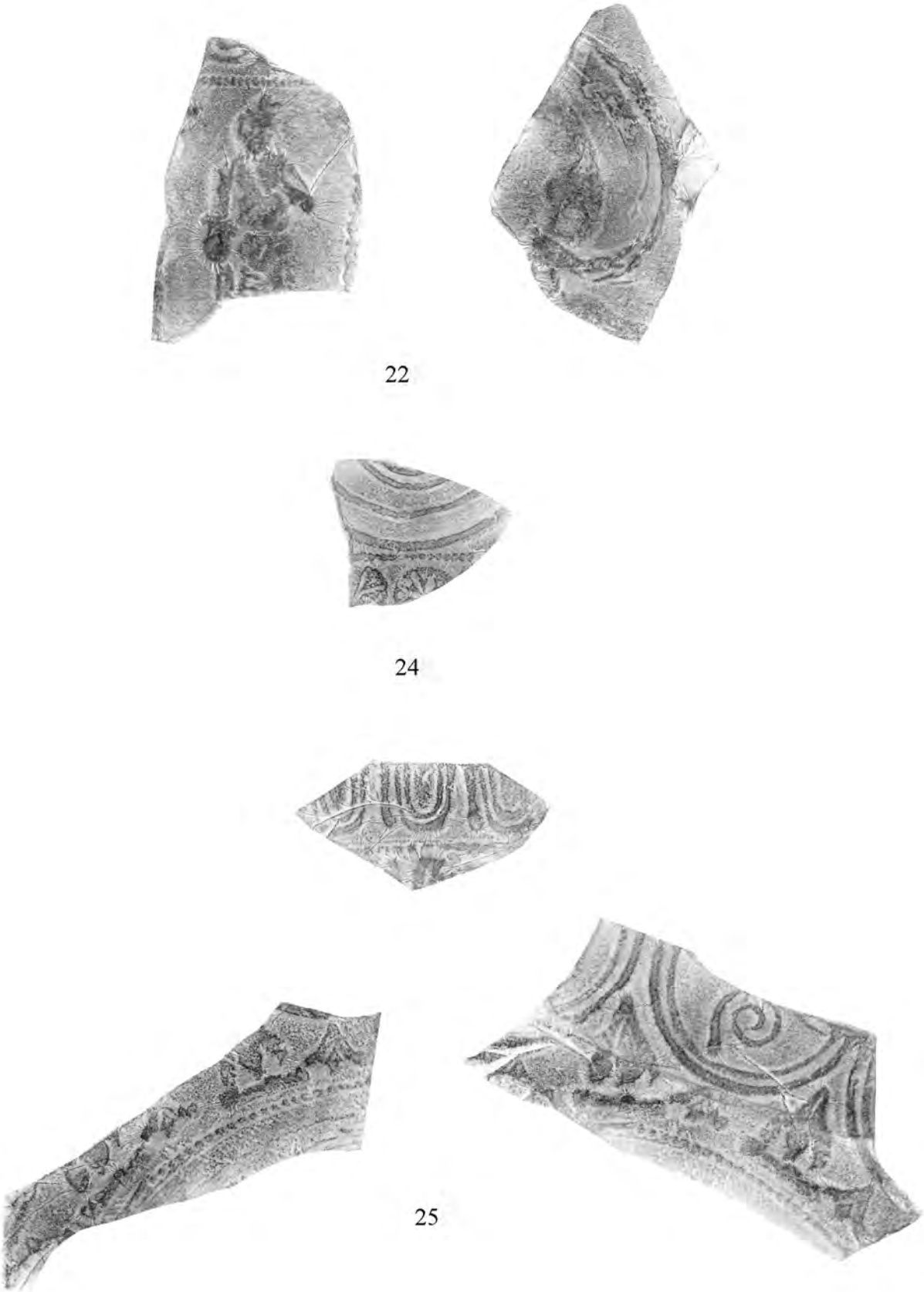



*Fig 1: Drag 37 vessels from Piercebridge (cat nos 22, 24 and 25). Scale 1:1*

his from Heiligenberg shows ovolo Ricken-Fischer E 66a with P 154 (Forrer 1911, taf 37.3). Reginus worked at Heiligenberg in the late Hadrianic- to early Antonine period before moving to Rheinzabern just after the middle of the second century.

**27** East Gaulish form 37. A small sherd with a dull brown-red slip on an orange-red fabric, probably from Rheinzabern, *c* AD 170/180–260. Only an unidentified fragment of decoration survived.

358 of the 370 sherds found in River Field 1983 were recovered from context 9. They included at least 40 fragments produced in later-second or third-century East Gaul. Several vessels had seen considerable wear in use (eg nos 17, 23). There were several instances of reuse and repair (see nos 2–5, 10–14, 16) and at least 30 pieces were burnt (8%). Among the decorated fragments not listed above were one or two more pieces probably in the style of that most prolific of Antonine potters, Cinnamus (including ovolo Rogers B231).

**Context 20: no contextual information provided**

**28** Central Gaulish form 33. A small rimsherd, produced *c* AD140–200.

The only other fragment in context 20 was an indeterminate basal sherd also from Antonine Lezoux.

## *Summary*

The total of 370 sherds from River Field 1983 represented a maximum of 361 vessels (see Table 1). Only 2% was of South Gaulish origin, comprising no more than 7 products of Flavian–Trajanic date. 85% was Central Gaulish ware, mostly from Lezoux and little from Les Martres-de-Veyre. As much as 13% was produced in East Gaul, including the first instances recorded at Piercebridge of decorated ware from La Madeleine, probably Chémery and possibly Heiligenberg (nos 24–26). There were only two stamps, nos 4 and 6, both on vessels produced at Lezoux, neither of them attributable to specific potters. 8% of the assemblage was burnt.

Most of the material consisted of small, abraded fragments. This contrasts with the great bulk of the samian elsewhere at Piercebridge, which was in very good condition. As much as 45% of this collection consisted of small scraps not assignable to any specific form of vessel. If these 163 pieces are discounted from the overall total, then the moulded bowls comprised 30%. As usual, a larger proportion (37%) consisted of the dish forms 18, 18/31, 31 and their rouletted varieties, although these were mostly mere fragments that were not precisely datable. The shortage of first-century products in this sample is reflected in the South Gaulish forms represented (1 plain dish, 2 moulded bowls and 4 indeterminate fragments).

The earlier samian ware was certainly residual alongside so much later material. There was much activity in the area in the first and early-second centuries (see Fitzpatrick and Scott 1999, 114; Ward 1993, 16). This collection included several products of earlier second-century workshops. These included at least three cups of form 27 and bowls from Les Martres-de-Veyre in the styles of Potter X–11 or X–13 and the slightly later potter Cettus. Also present were bowls produced in the earlier second-century centres of East Gaul such as La Madeleine and possibly Chémery and Heiligenberg (nos 24–26).

From Antonine Lezoux came examples of the styles of Laxtucissa and Cinnamus. Samian ware of the later-second century was predominant: fragments in the styles apparently of such potters as Censorinus, Iullinus, Do(v)eccus and Paternus v (II) were noted alongside plain forms which were produced no earlier than the late second century. These late vessels comprised at least 15% and, quite probably, as much as 30% of the assemblage. They included forms SMc, Tb and Tg, as well as the set of forms 79 and 80, and 17 examples of the popular mortarium form 45. The dating of samian ware from the late East Gaulish workshops found at Piercebridge has already been discussed (Ward 1993, 18f). At least 40 fragments from River Field were produced in East Gaul in the later second or third century (eg nos 5, 7–8, 27); several displayed signs of wear from use or reuse. Indeed, a large proportion of all the samian ware showed evidence of considerable life in use and extended life in reuse. Three sherds had been re-worked to form counters or discs (nos 2, 5, 13) and one represents either a counter or an incomplete spindle-whorl (no 14). Five vessels had seen repair-work of the drilled variety, although the success of the work is uncertain as none had retained rivets (nos 3, 10–12, 16). These repaired and re-worked pieces repeat the pattern noted at other locations in Piercebridge, where the majority of repairs were also of the drilled variety and unfinished spindle-whorls were suggested (see Ward 1993, 19–20). There may have been a workshop in the vicinity, perhaps in the civil settlement, repairing samian vessels and producing such items as counters and spindle-whorls.

Peter Scott expressed the opinion (personal comment, 1984) that the site in River Field 'was abandoned as a road *c* AD150–180, but there was a secondary use of the site after that.' The sample was said to have come from 'the ultimate (post-destruction) level' of the site. This collection of samian ware is not consistent with abandonment of the site *c* AD 150–180. On the evidence as given, this assemblage of small, battered fragments is not related to the occupation of the site up to *c* AD 180 but represents secondary rubbish disposal from elsewhere at a later date.

**Acknowledgements**

This small offering to Kay is long overdue in return for much. I should also like to thank Brenda Dickinson for her comments on the potters' stamps, incorporated in the catalogue above. I remain indebted to the late Peter Scott for providing this material for study and for his great kindness.

## Bibliography
with bibliographical abbreviations

Déchelette, J, 1904, *Les vases céramiques ornés de la Gaule romaine, tome 2,* Paris

Dore, J, Hartley, BR, Dickinson, BM, Greene, K, and Johns, C, 1979 The samian, in Dore, JN and Gillam, JP, *The Roman fort at South Shields, excavations 1875–1975*, Soc of Antiqu of Newcastle upon Tyne Mono **1**, Newcastle, 98–127

Fitzpatrick, AP, and Scott, PR, 1999 The Roman Bridge at Piercebridge, North Yorkshire: Co Durham, *Britannia* **30**, 110–32

Fölzer, E, 1913, *Die Bilderschüsseln der östgallischen Sigillata-Manufakturen*, Bonn

Forrer, R, 1911, *Die römische Sigillata-Töpfereien von Heiligenberg-Dinsheim und Ittenweiler im Elsass*, Stuttgart

Oelmann, F, 1914, *Die Keramik des Kastells Niederbieber*, Frankfurt-am-Main

Oswald, F, and Pryce, TD, 1920, *Terra Sigillata*, London

Oswald, F, 1936, *Index of figure types on terra sigillata ('samian ware')*, sup to Annals Archaeol Anthropol Univ Liverpool, 1936–7

Ricken, H, 1934, Die Bilderschüsseln der Kastelle Saalburg und Zugmantel, *Saalburg Jahrb* **8**, 130–82

Ricken, H, and Fischer, C, 1963, *Die Bilderschüsseln der römischen Töpfer von Rheinzabern (Textband)*, Bonn

Rogers, GB, 1974, *Poteries sigillées de la Gaule centrale, I: les motifs non figurés*, Gallia sup **28**, Paris

Stanfield, JA, and Simpson, G, 1990, *Les potiers de la Gaule centrale* (French edition), Revue Archéol Sites **37**

Ward, M, 1993, A summary of the samian ware from excavations at Piercebridge, *J Roman Pot Stud* **6**, 15–22

Webster, PV, 1996, *Roman samian pottery in Britain*, CBA Practical Handbook in Archaeol **13**, York

Wild, F, 1975, Samian ware, in Robertson, AS, *Birrens (Blatobulgium),* Edinburgh, 141–77

# ‘The hidden paw’ the mystery of the cat in Roman Britain

*Janet Webster*

*This paper is for Kay, whose friendship I value, and whose love of cats I share.*

It is some thirty years since Jocelyn Toynbee made her valuable assessment of the evidence for the domestic cat in the Roman world (Toynbee 1973, 87–90). Representational evidence for the cat in Italy is not plentiful, and in the provinces is scarce, and she concluded that the chief, though not exclusive, value of the cat in the Roman world was as pest control.

More recently, Miranda Aldhouse Green has summarised the evidence for the presence of the domestic cat in the pre-Roman Iron Age in Britain, with reference to the discoveries at Danebury and Gussage All Saints. Further, she has illustrated two delightful bronze mounts of the period, each in the form of a stylised cat’s head (Green 1992, 25–6; frontispiece, fig 2,16).

Further valuable studies of the cat in the Classical world by Engels (1999) and by Donalson (1999) were published at the close of the twentieth century. The cat in Roman Britain has, however, been a neglected subject of study, despite the increasing evidence afforded by the careful assessments of archaeological bone specialists in recent years. This paper seeks to draw together some of the varied evidence for the presence of the cat in the province.

## *Some observations on the cat in Latin literature*

Before looking at the archaeological evidence for the cat in Roman Britain, it is worthwhile to discuss some of the references which have been made to the cat in Latin literature, in an attempt to determine something about its status. The appendix with this paper contains a series of significant passages from Latin authors of the first century BC to the fourth century AD in which reference is made to *feles* or *cattus*. Passages where it is uncertain whether *feles* referred specifically to a cat rather than a polecat or a weasel, and those referring to *mustela* (weasel) have been omitted, although Toynbee (1973, 89) did not wholly rule out the use of this word to mean an ordinary cat. Similarly, passages have been omitted where the word was used in a pejorative sense of human beings.

Toynbee observed that Roman writers had a certain familiarity with cats, citing Seneca’s query as to why chickens feared cats but not dogs (Seneca, *Epistolae,* 121,19), and Pliny the Elder’s detailed comments on the hunting practices of the cat and its fastidious habits in disposing of its excreta (Pliny *Nat Hist,* 10.202). Both of these passages seem to imply only a fairly distant familiarity with the cat, given that such observations would seem unremarkable today. By contrast, the use in the Roman world of the common name of ‘cat’s eye’ for a healing plant instinctively eaten by cattle as an antidote to more harmful plants, cited by Pliny (*Nat Hist,* 25.145) perhaps implies a greater familiarity with the cat among the rural than among the literary population.

Pliny lists a series of ointments, made in whole or in part from cats’ excreta, as remedies for skin problems (*Nat Hist,* 28.165), as aids to the removal of thorns or other obstructions (*Nat Hist,* 28.245,190), and also against fever (*Nat Hist,* 28.228); a further remedy for fever involves the ingestion of a cat’s liver in wine (*Nat Hist,* 28.229). Pliny gathered material from a wide variety of sources and the inference that the ingredients for these remedies were relatively plentiful in the world he knew cannot be taken for granted. But they are listed, apparently routinely, alongside other remedies, which comprise ingredients, such as calves’ suet (*Nat Hist,* 28.165, 254) or marrow (*Nat Hist,* 28.254) and fox fat (*Nat Hist,* 28.165), which must have been readily accessible in contemporary agricultural or rural contexts. Some of Pliny’s ‘prescriptions’, particularly those which involve cats’ excreta, are repeated, sometimes with modifications, by later authors, such as Placitus (eg Placitus, *De Medicina,* 18) and Cassius Felix (eg *Cass Fel*, 5.13), of the fourth and fifth centuries AD respectively. Both, incidentally, use the word *cattus*, in contrast with Pliny’s word *feles*. Since such remedies can hardly be assumed to have been effective, their survival from the first to the fifth century is remarkable.

The usefulness of the cat is, perhaps, less remarked upon in the literary sources than might be expected. In the first century AD Pliny commented on their skill in catching mice (Nat Hist, 10.202) and, in the fourth century, Palladius Rutilius Taurus, writing on matters agricultural, recommended them for combating moles

(*De re rustica*, 4,9,4). Pliny provided a recipe for a liquid solution involving the remains of either a weasel or of a dead cat (*mustelae vel felis*), for sprinkling on grain to deter mice (Nat Hist, 18.160); he did not recommend it, however, as the resultant bread was, not surprisingly, unpalatable. Perhaps of greater significance is a comment by Cicero in his discussion, in the *De Natura Deorum*, of the Egyptian deification of animals solely on the ground of their usefulness. Having chosen the snake-killing ibis to demonstrate his point he adds that he could 'relate the usefulness of the ichneumon, the crocodile and the cat' but that he is unwilling 'to be tedious' (Cicero, *De Natura Deorum*, 1.101), a remark which seems to imply, perhaps in contrast with Pliny's comment (*Nat Hist*, 10.202), that at least the pest control services of the cat were generally well known.

Cicero was, of course, no lover of the Egyptians, whom, as the extracts listed in the appendix show, he regarded as an inferior race. Despite his observation of the logic of their veneration of creatures which confer benefit, and of the degree of reverence the Egyptians observed towards such gods, in contrast with the desecrations taking place within Roman religion (*De Natura Deorum*, 1.82), he seems to have felt revulsion at the veneration of such animals. This attitude may well reflect the status of the cat in the Roman world.

## *Sculptural and other depictions of the cat*

It is a curious fact that, despite the proliferation of its image in both pre-Roman and Roman Egypt, there are few positively identifiable depictions of the cat in the western Empire. In the Roman era artistic motifs commonly crossed the provinces freely and spanned the whole Empire, particularly when they had obtained 'copy-book' status. That the image of the cat had indeed, achieved such status, is discussed by Toynbee (1973, 88–9) with reference to some of the scant pictorial evidence for the cat in Roman Italy. Three mosaic panels, each from a separate location, one in Pompeii and two near Rome, portray in their upper zones the same image of a cat which has just caught a large bird (Naples Archaeological Museum, from the House of the Faun, see Overbeck and Mau 1884, 350, 347, fig 177, Room 30, illustrated in Brion 1960, pl 78; Aurigemma 1958,144, 370, pl xcvi, from a republican villa at Cecchignola on the *Via Ardeatina*. Another, in the Vatican, from Tor Marancio, see Pernice 1938, pl 63 fig 2). Although the artistic interpretation and the quality of workmanship differ in each case, the motif is identical. They are not the work of the same hand but are all derived from the same source. Moreover, this artistic motif was not confined to one medium or to one area of the Empire. Toynbee noted its occurrence on an embossed silver-gilt *phalera* believed to be Thracian in origin and included in the now lost Sark hoard that is thought to have been deposited in the later first century BC (Toynbee 1973, 360, ftnt 139; Allen 1971, 9,11,19,23–5,29,31 and pl xiiia).

Sculptural evidence of the cat is scant and sometimes sufficiently lacking in realism to the point of ambiguity. Toynbee cited a tombstone, originally from Rome, on which the depiction of a cat is confirmed by the name of the dedicator, Calpurnia Felicla (Toynbee 1973, 89–90 and ftnt 145, *see also* Engels 1999, 99–100, fig 3.7). The image on the tombstone does not compare in realism with that of the Pompeian mosaic cited above (though Engels argues that Toynbee identified the name Felicla as Kitty on the basis of the depiction, Engels 1999, 200–201, ftnt 18). Further, George Boon (1984, 6) was inclined to identify as a dog the stone figure of an animal wearing a heavy collar, from Auxerre (Espérandieu IV no 2906), identified by Grilhé as a seated cat (Grilhé 1958, 128–9, fig 34). However, it should be noted, in this instance, that the sculpture itself is, perhaps, slightly more cat-like in appearance than the published illustration suggests. Similar ambiguity pertains to a small series of tombstones from across France, discussed by Grilhé (*ibid*, 128–9, fig 35, from Dijon [Espérandieu IV, no 3500]; 129–30, fig 36, from Lyon [Espérandieu III, no 1783]; 130–31, fig 37, from Bordeaux [Espérandieu II, no 1193]; 131–32, from Montceau-les-Mines, Saone-et-Loire [Espérandieu XV, no 9018.1 and .2]), each of which shows a child cradling an animal in his or her arms. Even on the most realistically sculpted and best preserved of these tombstones, that from Bordeaux, the animal the little girl is holding is by no means unequivocally feline. Indeed, Catherine Johns very recently demonstrated that the animal in question is more likely to be a dog (Johns 2003, this piece is also illustrated in Engels 1999, 101, fig 3.8 and Toynbee 1973, l28). Further, the lack of defining characteristics of the animals portrayed on the tombstones from Dijon and Lyon, discussed by Grilhé, has led Johns to suggest that it may be soft or wooden toys that are depicted here, rather than an attempt to portray real animals. More convincingly cat-like in appearance is the animal portrayed on an associated piece of sculpture discussed by Grilhé (1958, 133–6, fig 38), namely a stone pedestal from Mont Auxois (now housed in the Musée 'Alesia' in Alise-Sainte-Reine). The young boy sculpted on one face of this pedestal is naked from the waist down and holds, perhaps on his bunched up tunic, rather than on a cushion or a basket, an animal wearing a bell. Even in this instance, where the depiction of the animal is reasonably life-like, the uncharacteristic tight coil of the tail at the base of the spine casts doubt as to its interpretation as a cat. (*see also* Johns 2003, 54–5)

Grilhé suggested that the cats she identified on these sculptures represented *Genii*, spirits associated with the souls of the dead in the case of tombstones, a *Genius Loci* in the case of the pedestal (Grilhé 1958, 135–6). But such doubts have been cast on the identity of the sculpted

animals that it would be unwise to attach an other-worldly significance to the cat on the basis of these pieces. Moreover, other animals appear on the tombstones of children. That of Cocilius, son of Lauricus, from Auxerre, for example, shows a boy clad in a tunic and wearing a bulla, carrying what now looks like a piglet but was originally identified as a small dog (Auxerre Museum, unpublished). While Johns has suggested that the child on Grilhé's Bordeaux tombstone, Laetus' daughter, was accompanied by a dog (Johns 2003, 54–5). The variety and ambiguity of the evidence and the images in this series of Gallo-Roman sculptures does little to illumine the status of the cat in the Gaulish context.

Among a series of antefixes from Caerleon are a number of examples bearing faces, which although stylised, might be thought to number among the most recognisably cat-like images in the western Roman world. These are included in the more general discussion of antefixes from Caerleon (Boon 1984, 1–12). Walters commented on the seven antefixes from the Prysg Field (Nash-Williams 1932, 58–61); he seems to have been of the opinion that those featuring heads depicted Gorgons (his comment, as published, is capable of more than one interpretation) but he noted that some of the group (in fact, two) had 'the ears of a feline quadruped'. Of those from the Prysg Field, which feature possible cats' ears, one (*ibid*, 59, no 3, fig 9), was published by Boon under his classification B.ii.1 (Boon 1984, 5, illustrated as B.ii.2; the illustrations of B.ii.1 and B.ii.2 are transposed). The other example from the Prysg Field (*ibid*, 61, no 4, fig 10) is Boon's Type B.ii.2 (illustrated as B.ii.1), of which another example survives in the Legionary Museum. Of Boon's Type B.i.3, also with pointed 'ears', several examples survive including one published by Lee (1862, 37–8, no 4, pl xxi), from near Broadway, and three from the excavations at Jenkins's Field (Nash-Williams 1929, 254, nos 7–9, fig 14). Of the latter Nash-Williams notes 'two pointed projections like cat's ears or horns above the forehead'. George Boon dismissed the idea that the ears on these antefixes were feline. He argued that the detailed treatment of the 'fur' on the inner ear of his Type B.ii.2 (illustrated as B.ii.1), where it actually occurs in its most stylised form, was unlike cats' fur but more appropriate to the feathers of a winged Gorgon, albeit a distant derivative of its Classical forebear. Anne Ross, however, had no difficulty in interpreting the ears as cats' ears and the short radiating strokes, which flank the top and sometimes the sides of the face, as cats' fur. She suggested that the iconography of the relevant antefixes may have represented a local cult in which the cat played an important role (Ross 1967, 100, 301–2, pl 37). Further worthy of note is the fact that the eyes of some of these antefixes (the single representative of Boon's Type B.ii.1 and several of his Type B.i.3, for example) are large and relatively cat-like. The gorgon was, as Boon (1984, 6) states, 'one of the commonest subjects of *antefixa*' but it may be observed that, whatever they were seeking to portray, the makers of the Caerleon antefixes had a familiarity with the domestic cat which they did not have with the classical Gorgon. Cats are certainly evidenced from Caerleon as, apart from bone evidence their presence at the tileries is shown by footprints (see Table 1).

From excavations at Baldock, in Hertfordshire, a tinned and nielloed plate brooch was found, which apparently shows a striped cat in the act of catching a similarly striped hare (Stead and Rigby 1986, 121-22, no152, fig 49; Johns 1996, 177, fig 7.20). Initially thought to be unique, a further example has been recovered from the same site and the pair have been further discussed by Johns (2003, 61). Whatever their source of manufacture, these brooches provide evidence that the cat found some favour, however limited, among the populace of Roman Britain.

## *Tangible evidence of cats*

Whatever difficulties there may be in interpreting its numbers and status on the basis of literature and imagery, the cat left behind a modest quantity of unequivocal evidence for its presence in Roman Britain in the form of its own corporeal remains and of its physical impressions (ie paw prints). Cats' bones are small and fragile, more readily vulnerable to adverse soil conditions than those of more robust animals and not always easy to distinguish from those of other small species, hares for example. Nevertheless, the by-no-means comprehensive survey of published evidence, summarised in Tables 1–3, shows that, within the Roman period, the cat was widely distributed across the greater part of the province of Britain. It is represented at military, urban and rural sites alike, although mostly by no more than a handful of bones in each case. Overall, the bone evidence spans the date range of the Roman occupation of Britain. At the Roman fort of Caernarfon, for example, there is evidence for a minimum of ten cats. They were spread, more or less evenly, across a date range of Flavian to mid-fourth century (Casey *et al* 1993, 97 and 104, table 6.1). Concentrations of cat bones (in the publications reviewed) seem to have occurred only in late contexts, namely at Portchester, where a minimum of fifteen animals have been recorded (Grant 1975, 381–3), and at Caerleon Fortress Baths, where seven individuals seem to be represented (Zienkiewicz 1986, ii, 231–5). Indeed, the extent and nature of the feline bone evidence from Portchester, which includes complete or almost complete animals, buried or deposited after death in wells or pits, led Annie Grant to suggest that some of these cats were kept as pets (Grant 1975, 405; see also 378, 383).

The cat, recovered from the make-up layer, beneath the tessellated floor of the corridor, of the main wing of

the Latimer villa (Branigan 1971, 166), may well have belonged to the household. But it may not have been regarded as a pet in view of the less than careful manner of its deposition (Branigan and King 1965, 461). That found under fire-debris on the floor of the Deep Room at the Lullingston villa (Meates 1987, 311) is also likely to have belonged to the household since it would hardly otherwise have become trapped indoors at the time of the fire. Its status is unknown but there may have been a tradition of keeping cats at this particular villa as a cat had also been deposited in a pit associated with the late-second-century kitchens. But the cat buried at Silchester, with careful deliberation in a cist made of re-used roof tiles in the midden near the south east gatehouse (Fulford *et al* 1997, 103, fig 11, 133, pl xiii), can hardly be seen as other than someone's pet; similarly, the cremated remains of a cat protected in burial by a pair of re-used roof tiles, at Wroxeter (Wilson 1972, 316), must also have been a cherished animal.

The deposition of an adult cat in association with a child's burial at Balkerne Lane, Colchester, in the second half of the third century (Luff 1993, 134), may, if it did not have ritual significance, reflect the importance of that animal in the child's life. Nor is such a burial unique. Cat bones are recorded in human graves at York (Wenham 1968, 104,106) and London (Barber and Bowsher 2000, 78, site E), for example.

Elsewhere, too, the deliberate deposition in pits or (disused) wells of whole or partially complete carcasses should probably be seen as evidence that the cats in question were fairly fully domesticated, even if not actually pets. The bodies of dying or defunct semi-feral cats are more likely to have been substantially disposed of unseen, by predators and scavengers. In addition to the sites discussed above, the high incidence of the deposition of whole or partial cat skeletons at Colchester has been noted by Rosemary Luff (1993, 134). One pit at Colchester, dated AD 250–300, evidenced a concentration of cat burials (two adults and a kitten) and cat remains were recovered from another, not far distant pit of the same date, which also contained the curious assemblage of two dogs' skeletons, a piglet and the remains of a bear (Luff, *ibid*)

As with the bone evidence, paw prints are often difficult to identify, especially when they are smudged or only lightly impressed. Nor has it always seemed appropriate to record or conserve such mundane evidence. But the partial survey of published instances of cats' paw prints on Roman tiles (and bricks), summarised in Tables 1-3, shows that their distribution extended from southern Britain to the Antonine Wall region, and from Wales to East Anglia, and that they were present at tileries from the pre-Flavian period (for example at Silchester, Cram and Fulford 1979, 205).

Concentrations of paw prints have been recorded from a number of sites. Parker and Rogers 1982, 76, noted that the sixteen prints from the Roman Tilery at St. Oswald's Priory, Gloucester, included those of one or more dogs and a rodent but the majority were of cats; there was also a kitten's paw mark on a tile from St. Mary le Lode, Gloucester (*ibid*, 76). Cram and Fulford noted a minimum of seven individual cats on tiles of second century date from Silchester (1979, 205). Legge (1996, 510–4) recorded twelve instances of cats' paw prints from Stonea. Sometimes they occurred as individual paw marks, sometimes as a fore and a hind print and, once, as several overlapping prints. For half of these he was able to determine the pace and gait with which they crossed the drying tiles; four were moving at walking pace and two were probably running. Taken together with similar evidence from the dogs' paw prints at the site, Legge concluded that both species frequented the tileries and were accepted by the tile makers. Indeed Foster (1986, 211) suggests that the tilers themselves may have been the owners of the cats whose paw prints were impressed on the products of the tilery at Great Cansiron Farm, East Sussex. This suggestion lends significance to the fact that the most recognisably cat-like images from Roman Britain occur on the series of antefixes from Caerleon, discussed above, which were themselves the products of a local tilery.

## *Conclusions*

On the basis of its material remains alone there can be no doubt that the cat maintained a reasonably widespread presence in the province of Britain during the Roman period. The paucity of artistic representation suggests that the animal enjoyed only a lowly status although its familiarity may have had some influence on native renderings of mythological motifs. The short lifespan of the individual and the rapid reproductive cycle of the species may have contributed to its humble position. The deliberate disposal of their corporeal remains, however, suggests that a number of individual cats had a greater importance within the human environment and some, indeed, were buried in such a way as to suggest that they had had a very special significance for their 'owners'.

**Acknowledgements**
I am most grateful to Peter and Paul Webster, who helped in the pursuit of the Roman cat in Britain and abroad and who both read and commented on the paper to its considerable benefit. I am also grateful to Julie Reynolds for her help with the Caerleon material and for interesting and valuable discussions on a subject in which she, too, has an interest. My original text was completed before the appearance in print of Catherine Johns' valuable discussion of the tombstone of Laetus' daughter, and I should like to thank her for the discussions we have subsequently shared.

## *Tables: Physical remains of the cat: bones and paw prints on brick and tile*

*Notes*: Bones and paw-prints specifically identified as likely to have belonged to wildcats have not been included. The presence of bone or print evidence on a Roman site has been taken to imply that the animal in question had some sort of relationship, however tenuous, with the human community.

| | |
|---|---|
| bones | the number of cat bones recorded |
| frags | fragments |
| number + | minimum number of animals |
| individual | number represented (two skulls, for example, imply two cats) |
| cat | number deposited |
| skeleton | whole or partial |

### *Table1: Military sites*

| *Site* | *Bones* | *Tile prints* | *Comment* | *Reference* |
|---|---|---|---|---|
| Birdoswald | 2 examples | | | Wilmott 1997, 363, table 33 |
| Bothwellhaugh | | 4 | 1st–2nd century | Maxwell 1975, 33, pl viii |
| Burgh Castle | Small quantity | | | Johnson 1983, 108, 110–11 |
| Caerleon: | | | | |
| Fortress Baths | ?7 Individuals | 1 | | Zienkiewicz 1986, ii, 231–35 and tables 7, 10, 12, 14, 15; 220–21, fig 81, no 16 |
| Endowed School | | 1 | Legionary Museum unpubl | |
| No context | | 1 | | Legionary Museum unpubl |
| Caernarfon | 10+ | | Flavian-mid 4th century | Casey *et al* 1993, 97, 104, table 6.1 |
| Corbridge | 2+ | | | Forster and Knowles 1910, 80 and 124 |
| Derby | skeleton | several | | Dool and Wheeler 1985, 150; 331, 148 |
| Doncaster | 1 tibia | | 2nd century pit Civil Settlement | Buckland and Magilton 1986, 206 |
| Exeter | 2 individuals | | AD 55–75 | Maltby 1979, 95, table 1 |
| Hadrian's Wall | Passim | | Present in Forts | Bidwell 1999, 62 |
| Loughor | | 1 | | Marvell and Owen John 1997, 196 table 11 |
| Pentre Farm | 1 frag | 1 | Using Holt tiles | O'Leary 1989, 126 and 93 |
| Portchester | 15+ | | Several whole skeletons | Grant 1975, 378–83, 405 |
| Ribchester | 4 bones | | early Flavian to mid 2nd century | Buxton and Howard-Davis 2000, 377 |
| Vindolanda | Evidenced | | pre-Hadrianic | Birley *et al* 1993, 113 |
| | | several | pre-Hadrianic | Birley 2001, 52, 55, nos 26–8, 56, no 48, 58, nos 77 and 86 |

### *Table 2: Urban Sites*

| *Site* | *Bones* | *Tile prints* | *Comment* | *Reference* |
|---|---|---|---|---|
| Alcester | Evidenced | | | Cracknell 1966, 111 |
| Baldock | 3+ | | 1st/2nd–5th century | Stead and Rigby 1986, 396–7, table 26 |
| Bath | 1 bone | | | Davenport 1999, 108, table 28 |
| Bristol, Sea Mills | small numbers | | | Bennett 1985, 58 |
| Caerwent 1899–1900 | 1 kitten | | from rubbish dumps | Martin and Ashby 1901, 312 |
| Canterbury | 1+ | | | Bennett *et al* 1982, 195, table 1 |
| Chichester | Evidenced | | | Down 1989, 255, 268, table 1 |
| Cirencester | 3 frags | | | Holbrook 1998, 355 |
| Colchester | 11 contexts | | Including 4 adults and 1 kitten 1 cat in a child burial | Luff 1993, 31, table 3.5b, 134 |
| Cowbridge, Glam | ? 3 individuals | | | Parkhouse and Evans 1996, 226, 230 and 232 |
| Exeter | 5 individuals | | AD 100–300+ | Maltby 1979, 97, table 3.1; 99, table 4; 100, table 5 |
| Gloucester | | 13 and 1 kitten | Urban Tilery | Parker and Rogers 1982, 76 |
| | 10 frags | | 1st–4th century | Heighway 1983, 242 |
| Kingscote | 20 bone frags | | | Timby 1998, 423, table 16 |
| Leicester:Jewry Wall | Skull | | 'Roman levels' | Kenyon 1948, 285 |
| London | 1 individual | | late 2nd century | Dennis 1978, 420 |
| | 2 cat skulls | | 1 ? Skinned | Shepherd 1998, 213 |
| | 3 individuals | | Cemetery site | Barber and Bowsher 2000, 78, table 31 |
| Silchester | 2 individuals | | Includes 2 skulls | Fox 1892, 286–7 |
| | 3 individuals and 1 kitten | | Includes cat burial in tile cist | Fulford *et al* 1997, 103, pl 13, *ibid*, 133, fig 11 |
| | | 8+ individuals | Urban Tilery 1st–2nd century | Cram and Fulford 1979 |
| | 2 bones | | AD 125/160 | Fulford and Timby 2000, 426, table 62, 457 |
| *Tripontium* | 4 individuals | | From well deposits | Cameron and Lucas 1973, 137, 140 |
| Whitchurch, Shrops | 2 samples | | | Jones and Webster 1968, 251–2 |
| Wroxeter | ?1 bone | | | Bushe-Fox 1916, 66 |
| Baths | 3 individuals | | Other unspecified S England and Midlands sites mentioned | Barker *et al* 1997, 356 |
| 1971 | 1 individual | | Cremation burial of a cat | Wilson 1972, 316 |
| York | 1 cat | | With human burial | Wenham 1968, 104, 106 |
| Skeldergate | 2 samples | | | Hall *et al* 1980, 143, table 49 |

*Table 3: Rural sites*

| *Site* | *Bones* | *Tile print* | *Comment* | *Reference* |
|---|---|---|---|---|
| Chilgrove Villa | 2 individuals | | Well deposit | Down 1979, 131 |
| Downton | 1 individual | | found with bones of Badger | Rahtz 1963, 329 |
| Frocester, Gloucs | 5+ very few bones | | 1st–5th century | Gracey and Price 1979, 54, table 1<br>Price 2000, ii , 15 |
| Gadebridge Park | 2+ | | 1st–2nd century<br>1 skeleton in well | Neal 1974, 256, 260 |
| Gorhambury, St Albans | 1 bone | several | 3rd/4th century context | Neal *et al* 1990, 205<br>*ibid,* 167 |
| Great Bedwyn Villa | possible | | | Hostetter and Noble Howe 1987, 83 and 323–4 |
| Hambleden Valley | 6 individuals | | | Cocks 1921, 163–4 |
| Hartfield, E.Sussex | | Yes | Rural tilery 1st/2nd century | Foster 1986, 211 |
| Henley Wood | 1 bone | | | Watts and Leach 1996, 134, table 58 |
| Latimer | 1 skeleton | | *c* AD 300 | Branigan 1971, 164, 166<br>Branigan and King 1965 |
| Lullingstone Villa | 2 cats | | 1 in house, 1 in pit | Meates 1987, ii, 311 |
| Marshfield, Gloucs. | 'small numbers' | | 'probably semi-wild and living . off vermin The same period (III) also saw wood and house mice' | Blockley 1985, 340, 344 |
| Northchurch | 1 bone | | | Neal 1976, 48 |
| Park Street, St Albans | 2 bones | | | O'Neill 1945, 101 |
| Shakenoak | 1 bone | | | Brodribb *et al* 1972, 131 |
| Shepton Mallet, Som | 2 bones | | | Leach and Evans 2001, 291 |
| Stantonbury | 1 frag | | | Mynard 1987, 190 |
| Stonea, Cambs | 2 | 12 instances | Bones 2nd–3rd century | Bones: Stallibrass 1996, 588, 608, 610<br>Tiles: Legge 1996, 513–4, pl 28b |
| Werrington, Cambs | 2 bones | | 4th century and pre- or early Roman | King 1988, 148 |
| Wood Corner | 1 bone | | | Mynard 1987, 180–81 |

## *Appendix: The cat in Latin literature: a selection of text references*

A more widely ranging survey of references to cats (and cat-like animals) in Greek and Latin literature has been published by Malcolm Drew Donalson (1999) in *The Domestic Cat in Roman Civilisation*. The survey below is based on entries under *feles* and *cattus* in the *Thesaurus Linguae Latinae* and in the various Concordances of Latin literature. It includes only passages where *feles* or *cattus* seem to me to refer unambiguously to the cat and covers Latin literature from the first century BC to the fourth century AD. Further, it contains only references that have relevance to, but are not necessarily referred to, in this paper. Where a statement is repeated by a later author, only its earlier occurrence is listed below.

**Cited as having been worshipped in Egypt**
(sometimes as if this were not widely known in Italy) and occasionally associated, through Egyptian analogy, with a Classical deity:

| | |
|---|---|
| Ovid *Metamorphoses*, 5.330 | Association of Artemis/Diana with the cat goddess Bubastis |
| Cicero *De Natura Deorum*, Bk.1,82 | Egyptian reverence for sacred animals greater than Roman reverence for their gods |
| Cicero *De Natura Deorum*, Bk.1, 101 | Egyptian deification of animals on ground of usefulness |
| Cicero *Tusculanae Disputationes* 5.78 | Anathema to Egyptians to injure a sacred animal |
| Cicero *De Legibus,* 1.32 | Animal worship response to same needs as worship of any other form of deity |
| Pliny *Nat Hist* Bk 6, para 178 | Site in Egypt of worship of a golden cat |

**Uses in medicine**

| | | |
|---|---|---|
| Pliny *Nat Hist* | Bk 28, para 165 | Cat's dung recipe, for sores on the head |
| | Bk 28, para 245 | Cat's dung recipe to remove thorns etc |
| | Bk 28, para 190 | Cat's dung external application for thorns in throat |
| | Bk 28, para 254 | Cat's dung recipe for ulcerated uterus |
| | Bk 28, para 228 | Cat's dung recipe for quartans |
| | Bk 28, para 229 | Cat's liver recipe against quartans |

**Observations of cats' appearance and behaviour (also familiarity)**

| | | |
|---|---|---|
| Pliny *Nat Hist* | Bk 11, para 151 | Night roaming, eyes shine in dark |
| | Bk 11, para 172 | Rough tongue, cat inflamed by taste of blood |
| | Bk 10, para 174 | On mating |
| | Bk 10, para 178 | Reproduction, life expectancy of cat |
| | Bk 10, para 202 | Hunting stealth, disposal of droppings |
| | Bk 37, para 69 | Eyes like emeralds |
| | Bk 25, para 145 | 'Cat's eye' common name for plant |

**Mouse deterrent and pest exterminator**

| | | |
|---|---|---|
| Pliny *Nat Hist* | Bk 10, para 202 | Hunting mice |
| | Bk 18, para 160 | Ashes of cat etc, recipe for mouse deterrent |
| Palladius Rutilius Taurus | *De re rustica* 4,9,4 | Cats recommended as mole catchers |
| Cicero | *De Natura Deorum,* 1.101 | Cat's usefulness to man |

## Bibliography


Allen, DF, 1971, The Sark Hoard, *Archaeologia* **103**, 1–31

Aurigemma, S, 1958, *The Baths of Diocletian and the Muzeo Nazionale Romano*, Rome

Barber, B, and Bowsher, D, 2000, *The eastern cemetery of Roman London. Excavations 1983–90*, Molas Mono **4**, London

Barker, P, White, R, Pretty, K, Bird, H, Corbishley M, 1997, *The Baths Basilica, Wroxeter. Excavations 1966–90*, English Heritage Archaeol Rep **8**, London

Bennett, J, 1985, *Sea Mills, The Roman Town of* Abonae, City of Bristol Mus and Art Gall Mono **3**, Bristol

Bennett, P, Frere, SS, and Stowe, S, 1982, *The Archaeology of Canterbury Vol 1 Excavations at Canterbury Castle*, Canterbury

Bidwell, P, 1999, *Hadrian's Wall 1989–99,* Carlisle

Birley, A, 2001, Vindolanda's *military bath-houses. The excavations of 1970 and 2000*, Carvoran

Birley, R, Van Driel-Murray, C, Wild, JP, Seward, and M, Hillam, J, 1993, Vindolanda *Research Reports, New Series, Vol III, The early wooden forts. Preliminary reports on the leather, textiles, environmental evidence and dendrochronology*, Hexham

Blockley, K, 1985, *Marshfield. Ironmongers Piece Excavations 1982–3*, British Archaeol Rep Brit Ser **141**, Oxford

Boon, G, 1984, Laterarium Iscanum*, The Antefixes, Brick and Tile Stamps of the Second Augustan Legion*, Cardiff

Branigan, K, 1971, *Latimer, Belgic, Roman, Dark Age and Early Modern Farm*, Chesham

Branigan, K, and King, JE, 1965, A Roman cat from Latimer Villa, Chesham, *The Annals and Magazine of Natural History*, ser**13.8**, 461–3

Brion, M, 1960, *Pompeii and Herculaneum*, Toronto

Brodribb, ACC, Hands, AR, and Walker, DR, 1972, *Excavations at Shakenoak Farm, near Wilcote, Oxfordshire, Part III, Site F,* privately printed, Oxford

Buckland, PC, and Magilton, JR, 1986, *The Archaeology of Dorchester 1, the Roman Civil Settlement*, BAR, Brit Ser **148**, Oxford

Bushe-Fox, JP, 1916, *Third report on the excavations on the site of the Roman town at Wroxeter, Shropshire 1914,* Res Rep Soc Antiq London **4,** London

Buxton, K, and Howard-Davis, C, 2000, Bremetenacum *Excavations at Roman Ribchester 1980, 1989–90,* Lancaster

Cameron, H, and Lucas, J, 1973, *Tripontium*, Second Interim report, *Birmingham and Warwickshire Archaeol Soc Trans* **85** (for 1971–73) 93–144

Casey, PJ, Davies, JL, and Evans, J, 1993, *Excavations at* Segontium *(Caernarfon) Roman fort, 1975–9*, CBA Res Rep **90**, London

Cocks, AH, 1921, A Romano-British homestead in the Hambleden Valley, Bucks, A*rchaeologia* **71**, 141–98

Cracknell, S (ed), 1996, *Roman Alcester, Defences and Defended area*, CBA Res Rep **106**, York

Cram, L, and Fulford, M, 1979, Silchester tile making; the faunal environment, in McWhirr, A (ed), *Roman Brick and Tile*, BAR, Internat Ser **68**, Oxford, 201–9

Davenport, P, 1999, *Archaeology in Bath Excavations 1984–9*, BAR, Brit Ser **284**, Oxford

Dennis, G, 1978, 1–7 St Thomas Street, in Bird, J, Graham, AH, Sheldon, H, and Townend, P (eds), *Southwark Excavations 1972–4, Part II,* London and Middlesex Archaeol Soc, Surrey Archaeol Soc Joint Pub **1**, London, 291–422

Donalson, MD, 1999, *The Domestic Cat in Classical Civilization,* Stud in Classics **9**, Lampeter

Dool, J, and Wheeler, H, 1985, Roman Derby, Excavations 1968–83, *Derbyshire Archaeol J* **105**

Down, A, 1979, *Chichester Excavations **4***, Chichester

Down, A, 1989, *Chichester Excavations **6***, Chichester

Ellis, P, 1984, *Catsgore 1979 Further excavations of the Romano-British village*, Western Archaeol Trust Excavation Mono **7**, Bristol

Engels, D, 1999, *Classical Cats; The rise and fall of the sacred cat*, London and New York

Espérandieu, É, 1907–66, *Recueil Général des Bas-Reliefs, Statues et Bustes de la Gaule Romaine,* Paris

Forster, EH, and Knowles, WH, 1911, *Corstopitum*, report on the excavations in 1910, *Archaeologia Aeliana*, ser **3.7**, 143–268 (offprints repaginated as 1–125)

Foster, S, 1986, The finds, 203–13 in Rudling, DR, The excavation of a Roman Tilery on Great Cansiron Farm, Hartfield, East Sussex, *Britannia* **17**, 191–230,

Fox, GE, 1892, Excavation on the site of the Roman city of Silchester, Hants in 1891, *Archaeologia* **53**, 263–88

Fulford, M, and Timby, J, 2000, *Late Iron Age and Roman Silchester Excavations on the site of the Forum-Basilica*, Britannia Mono **15**, London

Fulford, M, Rippon, S, Ford, S, Timby, J and Williams B, 1997, Silchester: excavations at the North Gate, on the North Walls, and in the Northern Suburbs, 1988 and 1991–3, *Britannia*, **28**, 87–168

Gracie, HS, and Price, EG, 1979, Frocester Court Roman Villa Second Report 1968–77, the courtyard, *Trans of the Bristol and Gloucs Archaeol Soc* **97**, 9–64

Grant, A, 1975, The animal bones, in Cunliffe, B, *Excavations at Portchester Castle Vol I, Roman*, Res Rep Soc Antiq London **32**, 378–406

Green, M, 1992, *Animals in Celtic Life and Myth*, London and New York

Grilhé, G, 1958, Le Chat dans la Statuaire Gallo-Romaine, *Revue Archéologique de l'Est et du Centre Est* **9**, 128–36

Hall, AR, Kenward, HK, and Williams, D, 1980, Environmental Evidence from Roman Deposits in Skeldergate, *The Archaeology of York*, **14.3**, York

Heighway, C, 1983, *The East and North gates of Gloucester*, Western Archaeol Trust Excavation Mono **4**, Bristol

Holbrook, N, 1998, *Cirencester, The Roman town defences, public buildings and shops*, Cirencester Excavations **5**, Cirencester

Hostetter, E, and Noble Howe TN, 1987, *The Romano-British villa at Castle Copse, Great Bedwyn*, Bloomington and Indianapolis

Jackson, RPJ, and Potter, TW, 1996, *Excavations at Stonea, Cambridgeshire 1980–85*, London, 510–15

Johns, C, 1996, *The Jewellery of Roman Britain. Celtic and Classical Tradition,* London

Johns, C, 2003, The Tombstone of Laetus' Daughter: Cats in Gallo-Roman Sculpture, *Britannia* **34**, 53–63

Johnson, J, 1983, *Burgh Castle, Excavations by Charles Green 1958–61*, East Anglian Archaeol **20**, Dereham

Jones, GDB, and Webster, PV, 1968, *Mediolanum*, Excavations in Whitchurch, 1965–6, *Archeaol J* **125**, 193–254

King, J, 1988, Animal bone, 146–9 in Macreth, DF, Excavation of an Iron age and Roman enclosure at Werrington, Cambridgeshire, *Britannia* **19**, 59–151

Kenyon, KM, 1948, *Excavation at the Jewry Wall site, Leicester*, Res Rep Soc Antiq London **15**, London

Leach, P, and Evans, CJ, 2001,*Fosse Lane Shepton Mallet 1990*, Britannia Mono **18**, London

Lee, JE 1862, Isca Silurum, London

Legge 1996, Imprinted tiles, in Jackson and Potter, 1996, 510–15

Luff, R, 1993, *Animal Bones from the Excavations at Colchester, 1971–85,* Colchester Archaeol Rep **12**, Colchester

Macdonald, G, and Curle, AO, 1929, The Roman fort at Mumrills near Falkirk, *Proc of the Soc of Antiq of Scot* **63,** (for 1928–9) 396–575

Maltby, M, 1979, *The Animal Bone from Exeter 1971–75*, Exeter Archaeol Rep **2**, Exeter

Martin, AT, and Ashby, T, 1901, Excavations at Caerwent, Monmouthshire, on the site of the Roman city of *Venta Silurum* in 1899 and 1900, *Archaeologia* **57**, 295–316

Marvell, AG, and Owen-John, HS, 1997, Leucarum. *Excavations at the Roman auxiliary fort at Loughor, West Glamorgan, 1982–4 and 1987–8*, Britannia Mono **12**, London

Maxwell, DS, 1975, Excavation at the Roman Fort of Bothwellhaugh, Lanarkshire, 1967–8, *Britannia* **6**, 20–35

Meates, GW, 1987, *The Lullingstone Roman Villa Vol II: The wall paintings and finds*, Kent Archaeol Soc Mono **3**, Maidstone

Mynard, DC, 1987, *Roman Milton Keynes Excavations and Fieldwork 1971–82*, Buckinghamshire Archaeol Soc Mono **1**, Aylesbury

Nash-Williams, VE, 1929, The Roman Legionary Fortress at Caerleon in Monmouthshire. Report on the Excavations carried out in 1926, *Archaeologia Cambrensis* **85**, 237–307

Nash-Williams, VE, 1932, The Roman Legionary Fortress at Caerleon in Monmouthshire Report on the Excavations carried out in the Prysg Field, 1927–9 Part II The Finds, *Archaeologia Cambrensis* **87**, 48–104

Neal, DS, 1974, *The excavation of the Roman villa in Gadebridge Park, Hemel Hempstead 1963–8,* Res Rep Soc Antiq London **31**, London

Neal, DS, 1976, *Three Roman buildings in the Bulmore Valley*, (reprinted from *Hertfordshire Archaeol* **4**, 1974–6)

Neal, DS, Wardle, A, and Hunn, J, 1990, *Excavation of the Iron Age, Roman and Medieval Settlement at Gorhambury, St Albans*, Historic Buildings and Monuments Commission for England, Archaeol Rep **14**, London

O'Leary, TJ, 1989, with Blockley, K, and Musson, C, *Pentre Farm, Flint 1976–81 An official building in the Roman lead mining district*, BAR, Brit Ser **207**, Oxford

O'Neill, HE, 1945, The Roman Villa at Park Street, near St Albans, Hertfordshire, Report on the Excavations of 1943–5, *Archaeological J* **102**, 21–101, (Reprinted 1971 by Herts Archaeol Soc)

Overbeck, J, and Mau, A, 1884, *Pompeji*, Leipzig

Parker, AJ, and Rogers, J, 1982, Animal marks and other casual impressions, 76 in Heighway, CM, and Parker, AJ, The Roman Tilery at St. Oswald's Priory, Gloucester, *Britannia* **13**, 25–77

Parkhouse, J, and Evans E (eds), 1996, *Excavations in Cowbridge, South Glamorgan, 1977–88*, BAR, Brit Ser **245**, Oxford

Pernice, E, 1938, *Die hellenistische Kunst in Pompeji, vi, Pavimente und figürliche Mosaiken*, Berlin

Pliny, *Nat Hist,* Pliny the Elder, *Historia Naturalis* The Loeb edition has been used

Price, E, 2000, *Frocester A Romano-British settlement, its antecedents and successors,* Stonehouse, Gloucs

Rahtz, PA, 1963, The Roman Villa at Downton, *Wiltshire Archaeol Nat Hist Mag* **58**. **211**, 303–41

Ross, A, 1967, *Pagan Celtic Britain*, London and New York

Shepherd, J, 1998, *The Temple of Mithras London Excavations by WF Grimes and A Williams at the Walbrook*, English Heritage Archaeological Report **12**, London

Stallibrass, S, 1996, Animal bones, in Jackson and Potter, 1996, 587–612

Stead, IM, and Rigby, V, 1986, *Baldock The Excavation of a Roman and Pre-Roman Settlement, 1968–72*, Britannia Mono **7**, London

*Thesaurus Linguae Latinae*, Leipzig, 1900–

Timby, JR, 1998, *Excavations at Kingscote and Wycomb, Gloucestershire*, Cirencester

Toynbee, JMC, 1973, *Animals in Roman Life and Art*, London

Watts, L, and Leach, P, 1996, *Henley Wood, Temples and cemetery excavations 1962–69 by the late Earnest Greenfield and others,* CBA Res Rep **99**, York

Wenham, LP, 1968, *The Romano-British cemetery at Trenholme Drive, York,* Ministry of Public Buildings and Works Archaeological Report **5**, London

Wilmott, T, 1997, *Birdoswald Excavations of a Roman fort on Hadrian's Wall and its successor settlements, 1987–92,* English Heritage Archaeological Report **14**, London

Wilson, DR, 1972, Sites explored, in Hassall, MWC, Wilson, DR, and Wright, RP, Roman Britain in 1971, *Britannia* **3**, 290–351

Zienkiewicz, JD, 1986, *The Legionary Fortress Baths at Caerleon*, 2 vols, Cardiff

# Roman pottery production at Gelligaer

*Peter Webster*

In 1966, Kay Hartley visited the National Museum of Wales and inspected, among other items, the mortaria from the kiln at Gelligaer. Her summary is stored with the pottery (*Museum Accession no 02-108*) and reads:

> The surviving mortaria include pieces from five vessels, at least two of these with incomplete stamps, one very fragmentary. The more complete stamp can now be identified with certainty by comparison with a stamp from Caerleon. The rather clumsy stamp undoubtedly reads SEC.FEC, presumably for *Secundus Fecit,* and no other examples are known. The more fragmentary stamp is beyond identification but it could be another stamp of Secundus.
>
> One of the five pieces has a number of surface cracks, one has certainly been misfired, and has clayey material adhering under its flange, and the surfaces tend to be eroded or flaked. All appear to be of an iron bearing clay, basically similar to the tiles, and this fabric and the white quartz-like grit are typical of mortaria likely to have been made in Wales. There seems, therefore, to be every probability that this Secundus worked at Gelligaer, probably in the Trajanic to Hadrianic period to judge from the rims.

Having recently had cause to look both at the material from the Trajanic fort at Gelligaer and that from its Flavian predecessor, it became clear that the pottery from the stone-built fort published by John Ward (1903, 73–83) as well as some (unpublished) from the Baths site (Ward 1909) included examples in a distinctive fabric which is more than probably local. This had been recognised by Ward in his one finds report (1903, 75). The mortaria examined by KFH, and the tile wasters were in a closely similar fabric and there seems no reason to doubt that all are local. This seemed an appropriate occasion, therefore, both to publish the mortaria from the Gelligaer kiln and to place them in the context of a more extensive local industry. In view of the ongoing work on the Gelligaer material, this will be presented in the form of a summary based on Ward's typology rather than a definitive catalogue of all the material. It is offered as a small tribute to one who has greatly advanced our knowledge of mortaria in Wales (as elsewhere).

## *The site*

The stone fort of Gelligaer was explored by the Cardiff Naturalists' Society between 1899 and 1901. The excavation was essentially a wall-following exercise supervised by a rota of interested members who clearly found it easier to volunteer than to appear regularly (*cf* Ward 1903, 14–19; Brewer 1980,1–2). If the excavations left something to be desired, even by the standards of the day, they were rescued by the account of the results published by John Ward (1903), which established Gelligaer as a type-site. Ward followed the fort excavations by work in the annexe, principally on the Baths (Ward 1909) and on other extra-mural areas, including the adjacent timber fort, then thought to be a temporary camp (Ward 1913). The latter was further examined by Michael Jarrett in 1963 (Jarrett 1964, 1969, 88 and Webster forthcoming) and shown to be the Flavian predecessor of the stone fort.

The Gelligaer excavations in 1913 had been delayed a year by bad weather at the end of the summer of 1912 and Ward's account is not always clear as to the sequence of events. However, it seems that the kiln excavated in 1913 had been revealed during grave digging in the churchyard in 1912 (Ward 1913, 7–13). Of the three graves marked on our plan (Fig 1, A–C), Grave A was the first and may have been dug in August 1912. Grave C was certainly dug in November 1912 (Ward 1913, 11). Grave B is intermediate in date. Ward makes it clear that the excavation (apparently supervised by himself and the Rector, Canon TJ Jones) was made after the completion and backfilling of the grave that had cut the kiln (Fig 1, Grave A) as confirmed by his photograph (1913, fig 4). Ward was, therefore, dependent upon information from the Rector and Sexton as to finds in the centre of the kiln. It is also clear that a second grave (Fig 1, Grave B) which had also been dug and backfilled before the excavation commenced, severely restricted

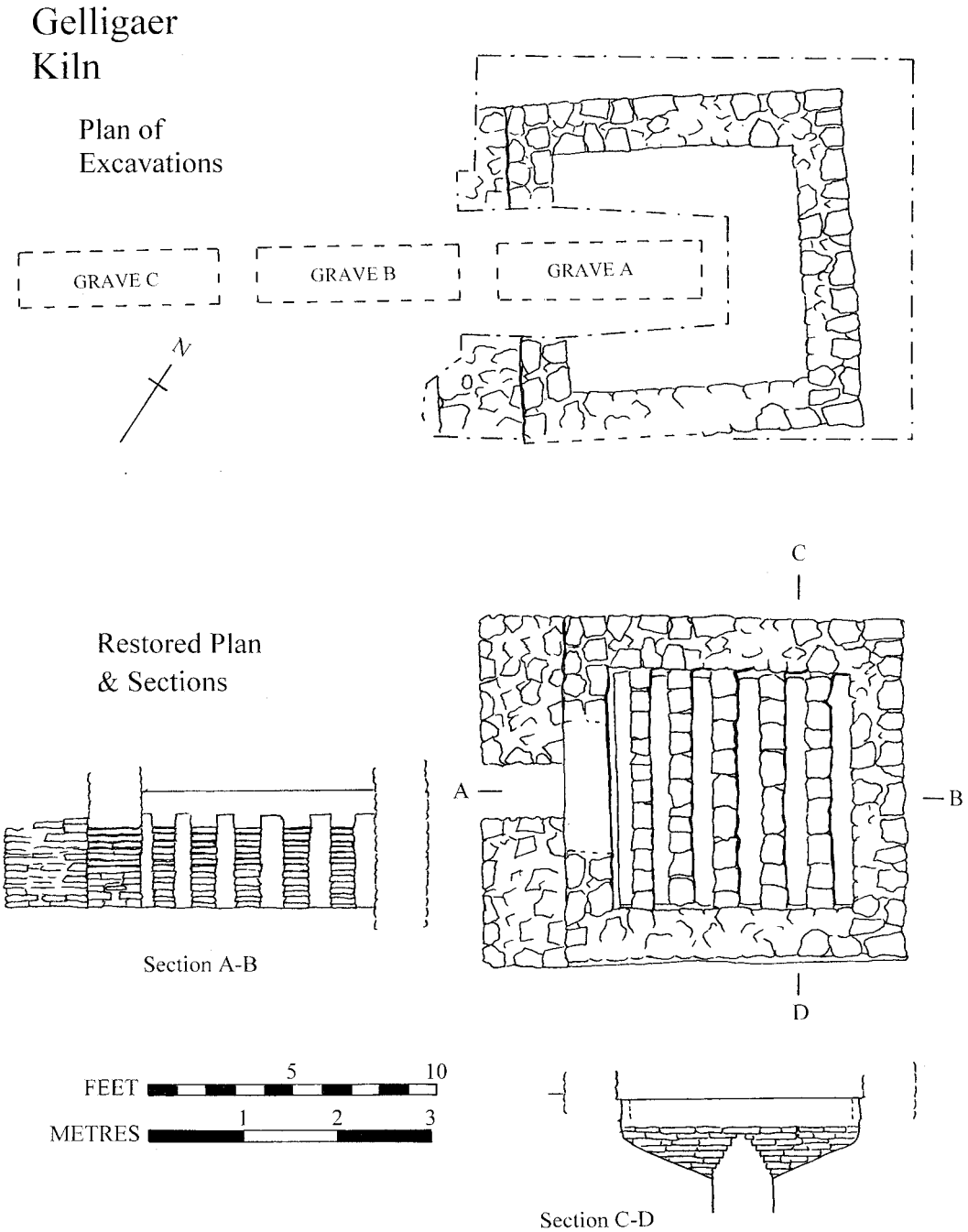



*Fig 1: Gelligaer Kiln, plan of excavations*

access to the front of the kiln (Ward 1913, 8). It thereby follows that Ward's plan and sections (1913, figs 5–7) are, in part, reconstruction, although he clearly saw enough to make their main features certain.

The kiln was a square structure of Pennant stone, approximately 10ft (3.05m) square with walls 2ft (0.61m) wide with a further block of masonry *c* 2 ft wide projecting on the south west side pierced by a flue *c*1ft 9ins (0.54m) wide (see Fig 1 based upon Ward 1913, figs 3–7). The kiln floor was supported on cross walls *c*10–11ins (270mm) wide also of Pennant sandstone. The spaces between the cross walls increased from 4½ins (115mm) at the front to about 8ins (290mm) at the centre and rear of the structure. The floor supported by the walls was about 9 to 10ins (240mm) thick and composed of a mixture of clay and broken brick/tile pierced by square or rectangular holes to judge from the few fragments preserved in the National Museum, although none seemed to have survived well enough to give total dimensions and only those near the walls of the kiln appear to be marked on Ward's plan. The floor supports had been subjected to heat sufficient to produce glazing on some surfaces, as a

surviving sample confirms.

The kiln appears to have been devoid of finds apart from the brick/tile fragments embedded in its structure. Ward records information from the Rector that tiles and pottery had been found in graves 'to the west and south-west' of Grave A, presumably Grave B (south-west of A) and perhaps the corresponding grave in the row of graves to its north. However, the finds now in the National Museum come from yet another grave. This material, waste tile (fragments of both tegula and imbrex are preserved) and mortaria appears to be that excavated in November 1912 while digging the 'next grave but one' from that which revealed the square kiln described above. If we combine the evidence of Ward's text (1913, 11), plans (1913, fig 3, 5) and his picture (1913, fig 4), it would appear that the grave diggers were digging graves approximately 7ft long and leaving approximately 18ins between the head of one grave and the foot of the next. This means that the mortaria came from our Grave C (see Fig 1), which was located between 10ft to 17ft from the southwest wall of the kiln superstructure or approximately between 7½ (2.29m) and 14½ feet (4.33m) from the flue entrance. The material was about 3ft 6ins (1.07m) from the surface above a 'depression in the natural soil with a sloping end covered with about 2ins (50mm) of "black stuff"' (Ward 1913, 11). Ward assumed this was the stoking pit for the kiln that had been discovered, but there is no over-riding reason why the depression should not have served other kilns or, indeed, why it should not have been filled with waste derived from an adjacent kiln.

The kiln has generally been accepted as producing both tile and pottery (*cf* Swan 1984, fiche, 6.727). Square pottery kilns are, of course known (*cf* Swan 1984, fig xix and 86–9) but the form of the Gelligaer kiln is basically that of a tile kiln. This does not, of course, preclude it from producing pottery, but no pottery wasters come from the kiln itself and the finding of wasters between 7½ft (2.29m) and 14½ft away is far from conclusive. Even if these items do come from the stoking pit of the known kiln, as Ward believed, this does not necessarily prove that they were made in the kiln. If we are right in associating the waste mortaria with a much wider range of locally made pottery, then the probability is increased of other kilns in the vicinity, perhaps including those purpose-built for pottery.

## *The fabric*

The fabric identified here as being of local origin was fired mainly in an oxidising atmosphere, giving an orange to brown colour, with orange-brown pre-dominating. Some examples have grey cores suggesting that oxygen may have been restricted at some point in the firing. The filler varies from coarse grit to sand and is generally mixed in content. Grits tend to be rounded. The distinctive feature of the filler is the presence of quartz and often of an iron-rich stone. Quartz can be present on its own or with the ironstone and these two stones were also used as trituration grits for the mortaria. Less frequently, quartz and ironstone occur with other sandy grits in the filler. The variability of the filler may suggest that it occurred naturally in the locality and the position of Gelligaer close to the iron-rich edge of the Coalfield might support this.

A feature of the Gelligaer pottery, as preserved in the National Museum, is the way in which many pieces have been sliced vertically to give a cross section, which has been ground almost to a polish on a geologists' wheel. The vertical cut will have facilitated the drawing of cross sections. The grinding tends to emphasise the makeup of the fabric and certainly facilitates the identification of the filler. One feels that John Ward came close to the thin sectioning of his pottery at least half a century before the practice was employed more generally in archaeology.

## *The pottery*

As it is intended to publish a full discussion of all the Gelligaer pottery including the many presumed local pieces, this will not be necessary here. Instead, it is appropriate to publish the five mortaria identified by Kay Hartley and George Boon as being from the kiln and to couple with this a list of the Ward pottery types which appear to be in the local fabric; where accession numbers survive on the vessels these are given at the end of each entry.

**A: Mortaria from the vicinity of the kiln** (Fig 2)
The mortaria listed below were accessioned by Ward under the number also used for mortaria from the earlier Fort Excavations. They are presently stored separately with other kiln material and some have labels (written, probably in the 1960s, by George Boon) identifying them as being found near the kiln. We can assume that they have always been stored separately, but have no means now of being certain of this fact.

1 About a third of a mortarium in light red fabric with a dark grey core and red surface, blackened in a patch on the rim. The surviving trituration grits appear to be grey quartz. The fabric has little visible filler. Lumps of grey clay adhere to the vessel beneath the rim suggesting that this is a waste vessel. The border of a stamp survives showing only a toothed border above a raised plain border. *Museum Accession no 02-108 on a 'Gellygaer Fort' label.*

2 Spout and a portion of the rim of a mortarium in orange to red-brown fabric, much eroded. The filler appears to include ironstone up to 3mm in diameter and small rounded quartz. The one surviving trituration grit may be ironstone. An impressed and eroded stamp survived

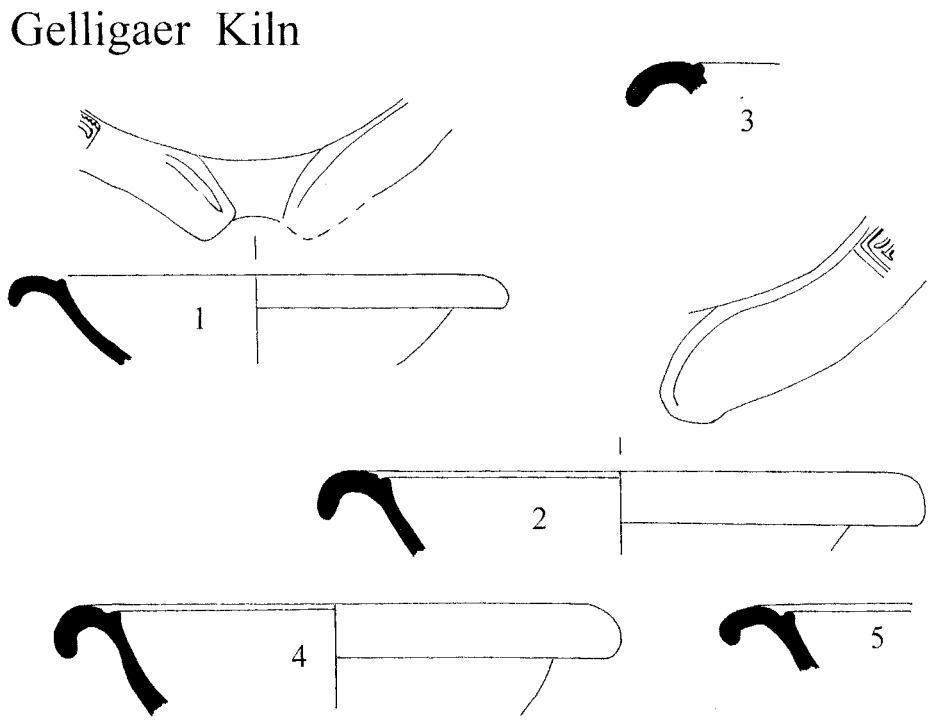



*Fig 2: Gelligaer Kiln Mortaria (nos 1–5)*

which Kay Hartley reads as SE[ , probably part of Secundus Fecit (*see above*). *Museum Accession no 02-108 on a 'Gellygaer Fort' label.*

3 Rim portion in an orange-red fabric with a buff surface. The fabric includes some quartz and sand in the fabric. The position of the stamp is visible but details may never have been properly impressed. The diameter is approximately 300mm. Marked 'near kiln - GCB' in George Boon's handwriting on a 'Gellygaer' label. *There is no accession number on the pot.*

4 The fragment has cracked laterally in a manner that may indicate a waster. The fabric is light orange, with a sandy filler containing some quartz. The trituration grits are pale grey quartz. *Museum Accession no 02-108 on a 'Gellygaer Fort' label.*

5 Rim fragment in light orange fabric containing a sandy filler and some quartz. The eroded surface once clearly bore a stamp. The diameter is approximately 300mm. Marked 'near kiln – GCB' in George Boon's handwriting on a 'Gellygaer' label. *There is no accession number on the pot.*

**B: Pottery published by Ward and probably of local manufacture**

Ward's published pottery can, in most cases, be identified among the material now in the National Museum. All were published prior to the excavation of the Baths and kiln and must, therefore, derive largely or entirely from the stone fort. The Ward illustrations (1903, pls X–XII) group vessels into classes and number only the classes. In order to make cross-referencing more precise, each class has been given sub-numbers as follows:

a) The complete elevation-plus-section drawing is given the class number and the sub-number 1 (so eg no 8.1).
b) The remaining examples are given sub-numbers starting at 2 and numbering from left to right on the Ward plates (so the remaining cross sections published with 8.1 become 8.2–8.5).
c) Unfortunately Ward did not number continuously across the three plates so that the numbers for pl XI and pl XII each starts from 1.1 again.

Ward drew his pottery with the cross section on the right, an innovation for the British reports of his day, but the reverse of the modern convention. Here, present day conventions are observed using new drawings, but, in order to facilitate reference to the original illustrations, the layout of the individual types on the Ward Plates is echoed wherever possible. This produces a somewhat odd sequence of vessel types, rendered more eccentric by the fact that selection of only one fabric source leaves gaps in a largely typological system. It is, however, hoped that this will ease correlation with Ward's classification.

**Ward Plate X** (Fig 3)
*Flanged Bowls* (Ward 1903, pl X, 1–2*)*
Ward illustrates flanged bowls of two general types, a plain flanged and carinated bowl (type 1) and a more rounded bowl with grooved flange (type 2).

**Type X/1**. Ward notes that the larger vessels frequently had grooved decoration ('a single or double sunk bead') around the wall. He also notes some variation in size (6 to 15 inches, 150 to 380mm). This is reflected in the illustrated vessels which have diameters as follows: 1.1: 240mm; 1.2: 220mm; 1.3: 340mm; 1.4: 190mm; 1.5: 360mm. Given the somewhat haphazard nature of finds recovery we should perhaps be wary of drawing too many conclusions from the numbers of vessels recovered. The 19 vessels in the local fabric and of this class recovered prior to the 1903 publication divide fairly evenly by size, as follows: 160–200mm diameter, 5 vessels; 220–250mm diameter, 5 vessels; 260–310mm diameter, 6 vessels; 340–400mm diameter, 3 vessels.

The form, that of the flanged and carinated bowl is typical of the Flavian and Trajanic period and this particularly plain version would seem likely to be later in the series and bear some relationship to the flanged and carinated bowls in Black-burnished ware which appear in South Wales from the early-second century onwards.

**Type X/2.** Ward distinguishes these by their corrugated flange and the rounded body. His restored, pad-like, base of both his types 1 and 2 is, in fact, derived from a vessel not otherwise illustrated with the plain rim of type 1 and the rounded profile of type 2. Leaving this hybrid aside, there are 11 examples of type 2 surviving in the relevant part of the collection, of which all but 3 have a diameter between 180 and 240mm (the remainder are one of 260mm and two of 360mm). No certain example of Ward's type 2.3 was found.

The preponderance of smaller vessels among type 2 is of interest. It may mean that the difference between this and type 1 is one of function not date.

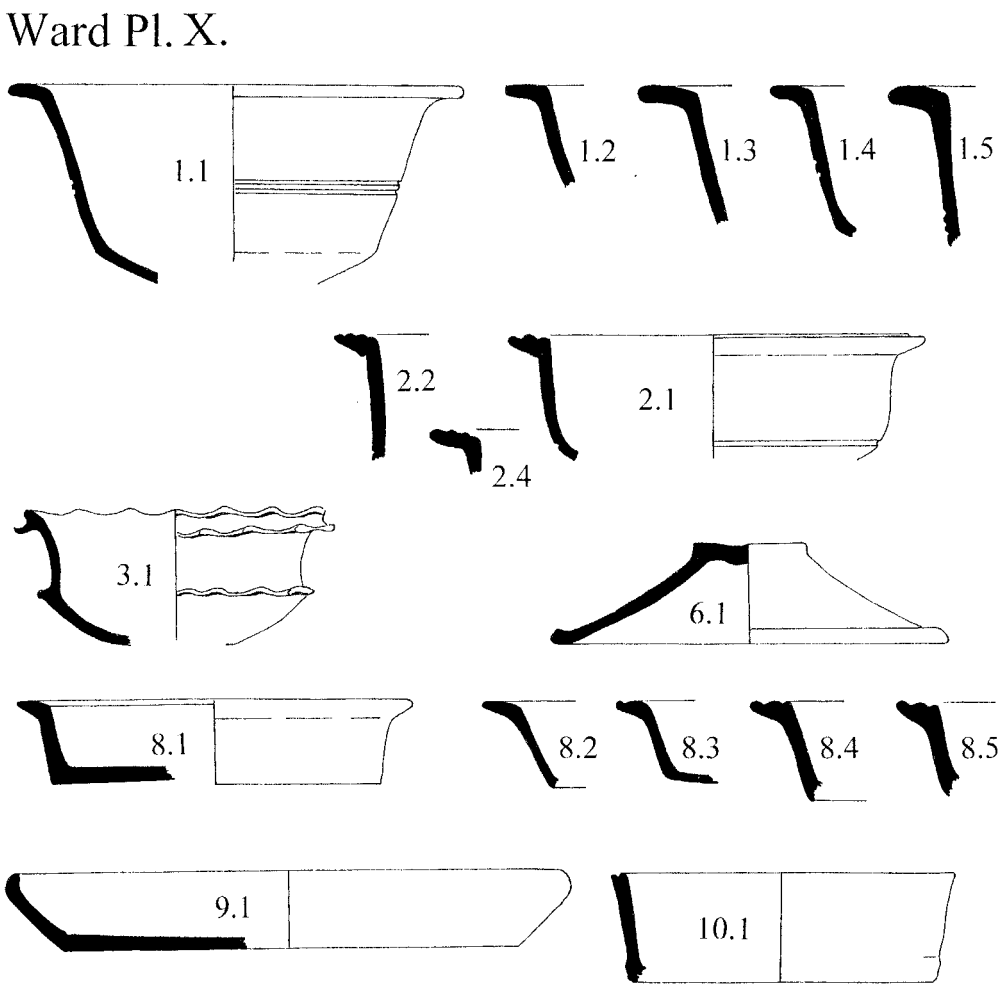



*Fig 3: Ward Pl X*

*Tazza (Ward 1903, pl X, 3)*

Ward illustrates the only example of a Tazza extant in the collection. It is a form more common on Legionary sites in South Wales than on auxiliary ones (*cf* Usk Fortress type 26, Greene 1993, 15 and 40–41; Caerleon, Nash-Williams 1932, fig 61, nos 408–23).

*Lid (Ward 1903, pl X, 6)*

Ward illustrates two lids (although, strangely, he fails to recognise their function) and differentiates the two by their fabric. His type 6 represents four broadly similar vessels of a diameter between 170 and 240mm. It is possible that another vessel (Ward 1903, pl XII, 14.2, not reproduced here as it is not in local fabric) is also a lid.

*Flanged Dish (Ward 1903, pl X, 8)*

**Type X/8** represents the dish equivalents of Types X/1–2 and is presumably of a similar date. The vessels do not appear to have been so numerous or so varied in size. Six examples are extant, all within the diameter range 180–230mm. However, a few rims placed by Ward among his bowls (and counted among types 1–2 above) lack sufficient wall to be absolutely certain that they are not truncated dishes, so the proportion of flanged bowl to flanged dish (31:10) may be exaggerated.

*Dish with incurved rim (Ward 1903, pl X, 9)*

Ward notes 'six or seven examples'. Six have been noted in the relevant part of the collection. The type appears to have been produced in two sizes; two vessels are in the 180–220mm range and four between 260–300mm in diameter. Dishes with an incurving rim are common, particularly in collections associated with military potteries; *cf* Nash-Williams 1932, nos 325–30 from Caerleon; Darling 1977, fig 6.8, 1, from Kingsholm; Perrin 1977, fig 7.1, 5–6 from York.

*Straight-sided dish (Ward 1903, pl X, 10)*

Ward states that this is the only one of the shape found. He also notes flecking with a 'glistening substance'. This appears to be the remains of mica dusting but is only visible now on the interior of the vessel. Mica dusting has been noted on a small number of other vessels in the presumed local fabric. The rim groove on this example makes it unusual among dishes.

**Ward Plate XI (**Fig 4)

*Mortaria (Ward 1903, pl XI, 1)*

Of the eight mortaria illustrated by Ward, five appear to be in the presumed local fabric: of the remainder, the buff mortarium XI, 1.8 (not reproduced here) which obviously puzzled Ward is an Oxfordshire product and clearly outside the date range of most of the other material. The remainder show a clear similarity to the mortaria from the kiln (Fig 2, nos 1–5 *above*). Where a diameter is certainly determinable, this appears to be in the region of 300mm, although one massive spout fragment must have been from a larger mortarium, of a size normally associated with a commercial bakery.

*Curved rim jars (Ward 1903, pl XI, 2)*

It is the jars (pl XI, types 2 and 6) that form the most distinctive part of the local Gelligaer assemblage. Ward implies that all eight vessels he represents under pl XI, 2 were in the local fabric. However, although 13 vessels of type XI/2 have been recorded, only five can be related to the Ward illustrations. The great majority are of the small size of the illustrated XI/2.1. However, single examples of larger vessels including 2.7 at 200mm diameter and 2.5 at 220mm suggest that some larger vessels were made. The grooved rim of 2.1 and 2.5 is so distinctive as probably to be classed as a local variant. The derivation of the type is, however, probably through vessels such as 2.6–2.8 which belong to a standard form represented by the Usk fortress type 11 jars (Greens 1993, 13 and 22–5) and the later Flavian and Flavian-Trajanic derivatives of the general form (eg Gillam 1970, type 106–8; Nash-Williams 1929, no 21).

*Jars with collar-like rims (Ward 1903, pl XI, 6)*

These too seem to represent a local variant on common forms. All five vessels illustrated by Ward have been located among 19 vessels of this class. All have rim diameters between 120 and 180mm. Despite being grouped together because of their similarities, the derivations of Ward's sub-types would seem to be varied. XI/6.3 would seem to be derived from early Black Burnished Ware rim-forms. XI/6.4 is likely to derive from the common mid-first to early-second century everted rim jars. The more obviously collar-like rims of XI/6.1–2 and 6.5 may owe something to the type 2 jars such as XI/2.7. All seem likely to fit most comfortably into a Flavian or Flavian-Trajanic context.

**Ward Plate XII** (Fig 4)

*Large Jars (Ward pl XII, 10)*

Ward groups these vessels, largely on the grounds of size. Presumably both are storage vessels. XII/10.2 appears to derive from the common mid-first to early-second-century everted rim jars. XII/10.1 is of a general type seen at Neronian Usk (Fortress type 17, Greene 1993, 14 and 34–5 where German parallels and early examples are discussed) and, elsewhere in Britain up to at least the Flavian period (Newstead, Curle 1911, 245, fig 25). Ward notes a second example of 10.1 that survives as a wall sherd only.

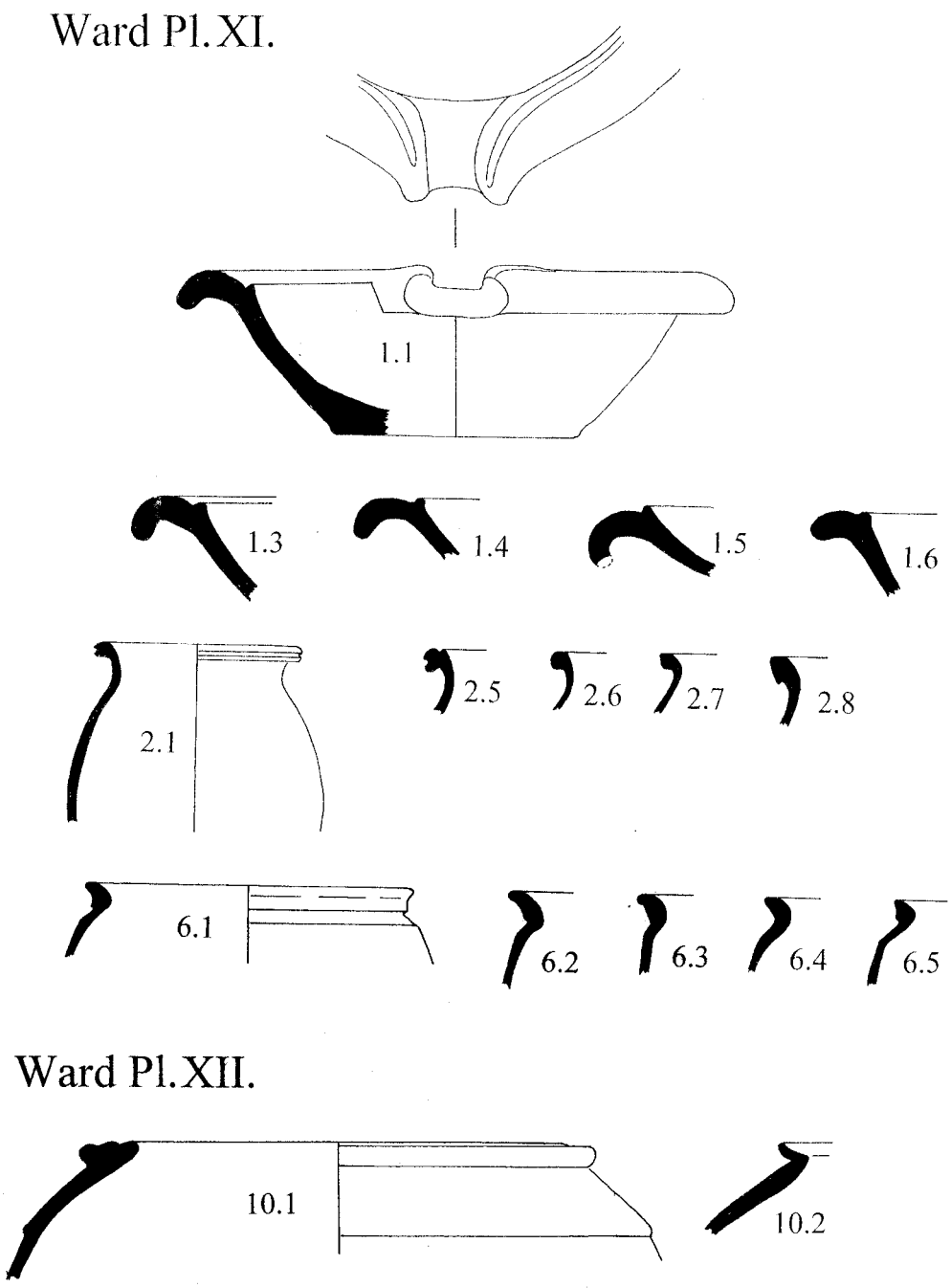



*Fig 4: Ward Pl XI – XII*

## *Forms produced locally: summary*

Although we can amplify the forms illustrated by Ward, particularly if we add material from the baths, excavated after the 1903 finds publication, we nevertheless add only marginally to his typology of presumed locally manufactured wares. The degree to which the material now in the National Museum has been selected will be discussed below. However, it may be instructive, first, to try and introduce a degree of quantification into the local products. The collection is divided into the vessel types determined by Ward. These have then been sorted into vessel classes to determine the approximate proportion of different classes of vessels produced locally.

*Table 1: vessels from Gelligaer presumed to have been made locally*

| *Class* | *Ward Pl* | *Ward no* | *Vessels* | *%* |
|---|---|---|---|---|
| Jars | XI | 2 | 13 | **11.61** |
| | XI | 6 | 19 | **16.96** |
| Large Jars | XII | 10 | 3 | **2.68** |
| Tazza | X | 3 | 1 | **0.89** |
| Mortaria | XI | 1 | 12 | **10.71** |
| Flanged Bowls | X | 1 | 19 | **16.96** |
| | X | 2 | 12 | **10.71** |
| Flanged Dish | X | 8 | 10 | **8.93** |
| Dish | X | 9 | 6 | **5.36** |
| | X | 10 | 1 | **0.89** |
| Lid | X | 6 | 9 | **8.04** |
| Other | | | 7 | **6.25** |
| **Totals** | | | **112** | **100.00** |

The general lack of cups or certain examples of tableware is immediately noticeable. With the exception of the Tazza, all the vessels look as if they were intended for use in cooking.

## *The date of the Gelligaer pottery production*

Before we look at the pottery production itself, we need to consider briefly the overall site. All who have looked at the dating evidence for Gelligaer have been hampered by the fact that those finds which were retained have little indication of context. Ward notes that 'at the end of the exploration [1901] there were several wheelbarrow-loads of finds mostly potsherds' and goes on to comment on the 'mixing together of objects, thereby rendering the task of sorting and piecing [together] a practically insuperable task' (1903, 73). We are, therefore, dependant upon the finds themselves and on such indications for structural alterations as can be extracted from Ward's publication. The evidence has been gathered and reviewed by Dr Grace Simpson (1963, 49–66). Her review coincided with the confirmation by Michael Jarrett (1964, Webster forthcoming) that the nearby camp was a Flavian predecessor to the stone fort published by Ward. Within the stone fort itself, Grace Simpson shows that there is evidence for the sort of structural change that one might expect from a protracted occupation. She makes the very telling point that it is those buildings examined by Ward himself that produce such evidence and one must allow for lower levels of observation (or understanding) of those areas which were overseen by other members of the motley supervisory team. She also draws attention to a number of pieces of pottery, the dating of which must fall outside the Trajanic date often given to the stone fort at Gelligaer on the basis of the inscriptions of AD 103–11, perhaps from the gateways, found in the fort ditches (RIB, 397–9). The coin series ends with a coin of Hadrian, dating probably to the 120s, from the bath-house. There is, however, as Dr Simpson points out (1963, 60–65), pottery dating from later in the second century and from the third-fourth century among the finds. George Boon (1969, 91) and Richard Brewer (1980, 11–12) also point to photographic evidence for the walling up of one of the passageways in the south-west gateway.

We do, therefore, have evidence for some Roman activity at Gelligaer from the Flavian period into the later third century or later. This is not, however, evidence which suggests a similar intensity of occupation throughout that period. From the stone fort and its annexe there is a definite concentration of Trajanic or Trajanic/Hadrianic material. The samian is dominated by later South Gaulish pieces. The coarse pottery is undoubtedly dominated by the material which we have distinguished as being of local manufacture.

If we now consider this 'local' pottery we can detect little in the way of stylistic development. Overall the styles would suit a Flavian to Trajanic or early Hadrianic date. Within that period the dearth of everted rim jars may be significant as may the absence of more than the occasional piece influenced by Black-burnished ware. The general lack of decoration is also perhaps important. One is reminded of the simple forms of late-first to early-second century Corbridge rather than the fussier styles of the Flavian foundations (*cf* Gillam 1970, nos 103–7, 214–5, 217). It can be no more than an impression but the Gelligaer 'local' wares would suit a period of production in the Trajanic and early Hadrianic period similar, for instance, to that of the kilns at Quernmore outside Lancaster (Jones and Shotter 1988, 134–8) dated *c* AD 100–125 (*ibid,* 143) and probably Brampton (*cf* Hogg 1965, pl x, b).

Before we place too much weight on the presence or absence of forms or fabrics at Gelligaer we should perhaps take thought as to the difficulties of applying early 21st century attitudes to the early 20th century. There can be no doubt that there has been some selection of the pottery now housed in the National Museum. There are very few extant wall sherds and relatively few bases, compared to the numbers of rims present. One suspects that certain classes of ceramics were not retained. There is, for instance, no tile except that associated with the kiln. The amount of amphorae is suspiciously low. Deliberate selection is, therefore, highly probably. Dr Simpson (1963, 60) has also pointed out that grey/black sherds would have been more difficult to spot than red/orange ones and one might add that these difficulties will have been magnified if the weather during the excavation was even average for South Wales. Thus, some unconscious selection may also have taken place. Against this one should perhaps balance the fact that John Ward was one of the more percipient archaeologists of his generation and a clear leader among those studying finds. He certainly did not simply select that pottery which he could understand, as his comments on pl XI, 1.8 show.

Equally, there seems no reason why the samian should not represent a true sample, being of a uniform red colour and well-enough known not to be rejected on site. Therefore, it is perhaps particularly telling that there are only small quantities of post-Hadrianic samian and no later finewares.

In summary, although there undoubtedly was later activity at Gelligaer, the majority of the pottery is certainly of late-first to early-second-century date and there is no good reason for doubting that this represents a reasonable sample on which to base a fort chronology. Therefore, we may ascribe the major occupation of the stone fort, to the Trajanic and early Hadrianic period while recognising that some later occupation is evident. However, it is to the main occupation period alone that we may assign the kiln and the small local pottery industry, which we have associated with it.

**Acknowledgements**

I am grateful to the National Museum and Gallery, Cardiff for making the Gelligaer pottery available to me and, in particular to Evan Chapman for assistance. The paper has been read by Janet Webster to its advantage. My debt to Kay Hartley for her initial work on the Gelligaer mortaria and thus in providing the inspiration for this study will, I trust, be apparent.

## Bibliography

Boon, GC, 1969, Gelligaer, in Jarrett, 1969, 88–91

Brewer RJ, 1980, *Gelligaer Roman Fort*, Nat Mus of Wales, Cardiff

Curle, J, 1911, *A Roman frontier post and its people: the fort of Newstead in the parish of Melrose*, Glasgow

Darling, MJ, 1977, Pottery from early military sites in western Britain, in Dore and Greene 1977, 57–100

Dore, J, Greene K, 1977, *Roman pottery studies in Britain and beyond*, British Archaeol Rep, Supp Ser **30**, Oxford

Gillam, JP, 1970, *Types of Roman coarse pottery vessels in northern Britain*, 3rd edn, Oriel Press, Newcastle-upon-Tyne

Green, KT, 1993, The Fortress coarse ware, in Manning, WH, *Report on the excavations at Usk 1965–76. The Roman Pottery*, Univ of Wales Press, Cardiff, 1–124

Hogg, R, 1965, Excavation of the Roman auxiliary tilery, Brampton, *Trans of the Cumberland and Westmoreland Antiqu and Archaeol Soc,* New ser **65**, 133–68

Jarrett, MG, 1964, Excavations at Gelligaer, Glamorgan, 1963, *Morgannwg* **8**, 66–9

Jarrett, MG, (ed) 1969, *VE Nash-Williams, The Roman Frontier in Wales*, 2nd revised edn, Univ of Wales Press, Cardiff

Jones, GDB, and Shotter D, 1988, *Roman Lancaster*, Brigantia Mono **1**, Manchester

Nash-Williams, VE, 1929, The Roman Legionary Fortress at Caerleon in Monmouthshire. Report on the excavations carried out in 1926' *Archaeol Cambrensis* **84**, 237–307

Nash-Williams, VE, 1932, The Roman Legionary Fortress at Caerleon in Monmouthshire. Report on the excavations carried out in the Prysg Field, 1927–9. Part III, The finds of pottery, *Archaeol Cambrensis* **87**, 265–349

Perrin, J.R. 1977, `Legionary' ware from York, in Dore and Greene 1977, 101–12

(RIB) Collingwood, RE, Wright, RP, 1965,The Roman Inscriptions of Britain I: Inscriptions on stone, Oxford Univ Press, Oxford,

Simpson G, 1963, Caerleon and the Roman forts in Wales in the second century AD, part 2, South Wales, *Archaeologia Cambrensis* **112**, 13–76

Swan, VG, 1984, *The pottery kilns of Roman Britain*, Royal Commission on Historical Monuments for England, supp ser **5**, HMSO, London

Ward, J, 1903, The Roman Fort at Gellygaer, *Trans Cardiff Naturalists' Soc* **36**, 1–111, (also published separately) Cardiff

Ward, J, 1909, The Roman Fort at Gellygaer. The Baths, *Trans Cardiff Naturalists' Soc* **42**, 25–69

Ward, J, 1913, The Roman Fort at Gellygaer. Discoveries made in 1913, *Trans Cardiff Naturalists' Soc* **46**, 1– 20

Webster, PV, forthcoming, *The first Roman fort at Gelligaer*

# Paternus, I or II?

*Felicity C Wild*

What can I write for Kay? She is not a samian expert, or so I have heard her say, though after a lifetime spent among samian and samian specialists, from digging at Lezoux in the 1960s (from where there is the delightful photograph of her conversing with a monkey, above on page ix) to participating in the recent rubbing expeditions to La Graufesenque, there must be little about the subject that she does not know. Like all pottery specialists, she will know well how it feels to find the odd sherd of intrinsic interest, indeed of importance, only to discover that it is unlikely ever to see the light of publication. I hope that it will not be inappropriate to present her with a brief offering based on a sherd of samian ware, which falls into just this category.

First a note on nomenclature; the Paternus I and II of the title are two potters of that name who manufactured decorated samian ware at Lezoux. They are designated I and II under the numbering system of GB Rogers (1999), who uses upper case Roman numerals to distinguish between potters of the same name. Rogers's system includes only those potters making decorated ware. By contrast, the numbering system used by BR Hartley and Brenda Dickinson, to appear in the forthcoming *Index of potters' stamps on samian ware* (IPS*)*, includes *all* known potters of that name. Under their system, which uses lower case Roman numerals, the potters concerned are termed Paternus iii and v. For the sake of consistency, I shall refer to them hereafter as Paternus I and II except where the stamps are concerned.

The inspiration for this note was a sherd shown to me in 1977 by the late Prof Barri Jones. It was among a small group of material from Whitchurch, Shropshire, excavated from the site of the National Westminster Bank, High Street, by Mr G Toms for the Shropshire Archaeological Society (Goodburn 1978, 437) and came from a timber-lined well. A full report had not been published, and at the time of Prof. Jones's death in 1999 the finds were still at the University of Manchester.

The sherd comes from a small bowl of Drag 37[1] (Fig 1a; WNWB77 A 3 360) showing a winding scroll with the leaf (Rogers 1974, H75) and two rosettes, a larger (*ibid* C227) and a smaller (*ibid* C194). Within the decoration is part of a plainware stamp in the mould, reading ]TER[ (retr) The stamp was sent at the time (1977) to Brenda Dickinson, who contributed the following report:

> Paternus iii 2b or b' on Drag 37 (stamped in the mould) [PA]TER[NI] or [A]TER[N] retr. This is a stamp of the Paternus who was associated with Ianuaris ii, and it has not been recorded on decorated ware before, though Paternus used another plain ware stamp on moulds. The secondary version (2b') giving stamps in ATERN was used on Drag 27, so the original, fuller die (IPS 2b) will have been in use before AD 160. This fits with its presence in the Castleford Pottery Shop of AD 140–50 (Dickinson and Hartley 2000, 59, nos 812–16). The decoration of this small bowl (winding scroll with the leaf Roger 1974, H75) is close to the work of the Paternus (v) who used the large monogram stamp (Stanfield and Simpson 1958, pl 169), and the question is whether Ianuaris's associate was really the same man at an earlier stage of his career. *BD*

GB Rogers, writing some twenty years later, but without knowledge of the present sherd, felt that there was no connection between the two. Having discussed the work of Ianuaris II/Paternus I and the possible confusion of Paternus I with Paternus II, he concludes 'Mais les styles.... sont totalement différents, et il s'agit sans doute de deux potiers' (Rogers 1999, 136).

Although the main decorative styles, as illustrated by Rogers and by Stanfield and Simpson, of Ianuaris II/Paternus I (Rogers 1999, pl 51–52; Stanfield and Simpson 1958, pl 119) and Paternus II (Rogers 1999, pl 77–9; Stanfield and Simpson 1958, pl 104–8) are indeed different, the Whitchurch bowl shows a degree of overlap which suggests that Rogers's statement can be challenged; The two rosettes (Rogers 1974, C227 and C194) were used by both Ianuaris II/Paternus I and by Paternus II. Rogers (1974) does not note the leaf H75 on the work of either Paternus I or II, merely on a bowl in the style of Paternus II from Straubing, discussed below, and by Lastuca (Stanfield and Simpson 1958, pl 100, 2) and Laxtucissa (*ibid*, pl 99, 17), both associates of Paternus II.

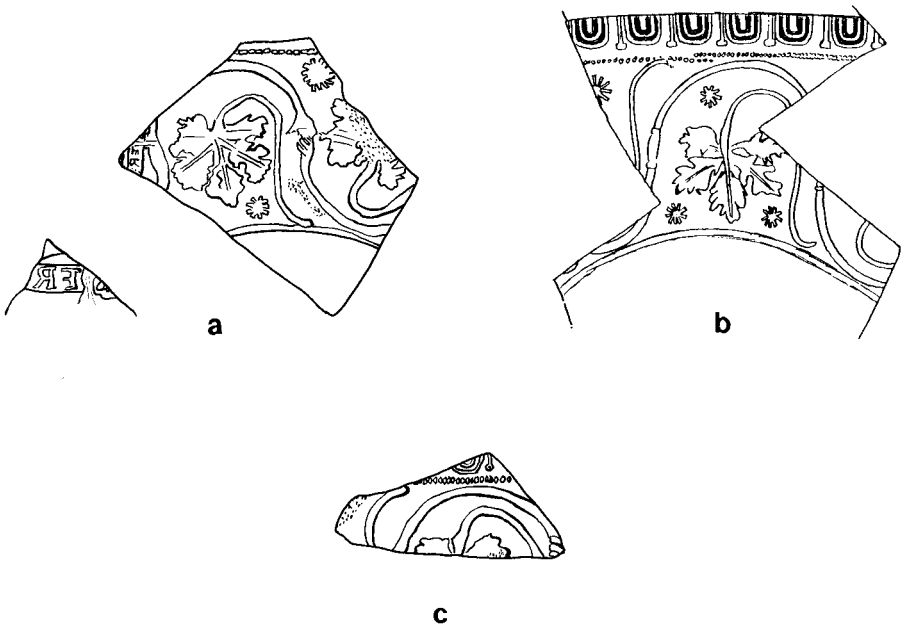



*Fig 1: Three sherds of samian ware: (a) Whitchurch (WNWB77 A 3 360), (b) Straubing (after Walke 1965, Taf. 12, 2), (c) Bath (HF90 98). Scale 1:2 (stamp 1:1)*

In fact, it also occurs with the large PATERNFE stamp on an unpublished bowl from Corbridge, inside a double medallion, as on the Lastuca bowl, with the rosette Rogers 1974, C194 in a panel corner.

Rogers's reference to the bowl in Paternus II style from Straubing (Fig 1b; Walke 1965, Taf 12, 2) is of particular significance, as this, too, is a small bowl with a winding scroll almost identical to that on the Whitchurch bowl, with the same leaf and both rosettes. In addition, it shows an ovolo (Rogers 1974, B206) the standard hammerhead ovolo used by Paternus II and his associates. Walke (1965, 98) identifies the various details and suggests Laxtucissa's style. A small difference between the Straubing and the Whitchurch bowls is that Walke notes an astragalus (Rogers 1974, R61) on the winding scroll, whereas the Whitchurch bowl clearly shows Paternus II's corded swelling (*cf* Stanfield and Simpson 1958, pl 107, 26, 27), although the decoration is smudged at this point.

A further parallel to these bowls is a sherd from Bath (Fig 1c; HF90 98, Beaton forthcoming), also from a small bowl, showing a winding scroll with the leaf Rogers 1974, H75 and the same corded swelling as the Whitchurch piece, though with no surviving rosettes. The ovolo on this piece is another of Paternus II's common ovolos (*ibid,* B105). The bead row beneath the ovolo is different and rather finer than the row of squarish beads on the Whitchurch bowl, but both are consistent with the styles of both Paternus I and II. It is not possible, from the drawing, to be certain of the nature of the beads on the bowl from Straubing.

It would appear, then, that small bowls were being produced in the style of the Paternus II group and using their ovolos, decorated with winding scrolls with the leaf Rogers 1974, H75. It is well known that potters tended to produce small bowls in a slightly different decorative style from their larger ones: perhaps their normal repertoire and schemes of decoration would not fit easily into the reduced space. The leaf Rogers 1974, H75 is certainly better suited to a scroll on bowls of this size than the Paternus II group's larger leaves, common in scrolls on their larger bowls. But who was making them? Their similarity is such that it is reasonable to suppose that all three were made, if not by the same potter, then at least in the same workshop. Yet one bears the stamp of Paternus I, two show ovolos of Paternus II, the other details were common to both. Could this indeed be the work of the same man at the start of his career?

The main problem here is one of date. Paternus II is unlikely to have started work before AD 160, as, with the exception of Newstead (Hartley 1972, 36) and Birrens (Wild 1975, 168, fig 58, 81), neither of which are typical Scottish sites, his bowls do not occur in Antonine Scotland. His output is likely to have continued until *c* AD 190. Decorated ware in the style of Ianuaris II/Paternus I, on the other hand, occurs in Scotland (Rogers 1999, 136). The date currently suggested by Hartley and Dickinson for their Paternus iii (Paternus I) on the basis of the dies and their distribution, is *c* AD 130–60. As noted above, the die on the Whitchurch bowl occurs in the Castleford Pottery Shop of *c* AD 140–50. The stamp evidence from the Castleford Pottery Shop is

discussed by Dickinson and Hartley (2000, 57–64). Die 2b of Paternus iii (the unbroken version of the die) is listed among the dies on burnt vessels and occurs there five times, twice on Drag 18/31 and three times on Drag 27, both Hadrianic to early Antonine forms. Other examples of the same die have been noted from Hadrian's Wall, Antonine Scotland and from the Rhineland, where Lezoux wares are extremely rare after AD 150 (*ibid*, 63, table 7. Hartley and Dickinson inform me that the asterisks have slipped one place to the right, and that the die does not occur in the London Fire). The Whitchurch bowl is broken so that we do not know whether it was stamped with the complete or with the broken version (IPS, Die 2b'). It is quite likely that the bowl was among the latest products on which it was used, suggesting a date, perhaps, as late as the AD 150s. This would leave a gap of only about a decade before the start of Paternus II's career, and would overlap with the working life of Laxtucissa, who started work with Quintilianus before joining Paternus II and must, therefore, have been operating in the AD 150s. However, if our Paternus had been at work since *c* AD 130, he would have been nearing the end of his working life rather than just starting out and it cannot be argued that he was the man who later became Paternus II.

What possible solutions, if any, can be sought to this problem? One should not overlook the fact that the Whitchurch Drag 37 is the only known occurrence of Hartley and Dickinson's Paternus iii die 2b or 2b' on decorated ware. The stamp occurring on decorated bowls with that of Ianuaris ii reads PATERNI.M (normally IPS Die 1a). Is it conceivable that the dies could belong to different potters? This does not, on the whole, seem plausible, nor does it provide a solution. The lettering on the two stamps is in a similar style and the plain forms and sites on which they occur are of similar date. It is, in any case, IPS Die 2b or 2b', clearly in use in the AD 140s, which occurs on the Whitchurch bowl. If there were two different potters concerned, they must have been exact contemporaries.

Perhaps we are dealing with a dynasty, with Paternus's son taking over from his father, who made moulds with Ianuaris, expanding the business and introducing the large advertisement stamp? Although no doubt uncommon, the scant evidence that survives for filiations among peregrines suggests that it was not impossible for a son to share his father's name. Examples from Gaul are not forthcoming, but a diploma records a Bessus by the name of Clagissa son of Clagissa (CIL, XVI, 83). It is not inconceivable that Paternus II was the son of Paternus I. Even were this not the case, the business may have been taken over by younger relatives or associates who simply decided to retain the original name of the firm in order to maintain its markets and popularity. The advertisement stamp PATERNFE does not necessarily imply that the mould was, literally, made by a man called Paternus. If this were the case, then the new consortium was clearly successful, as, from the modern standpoint, where decorated ware is concerned, the work of Paternus II is considerably better known and more widespread than that of Paternus I.

This is of course mere speculation. We cannot know what, if any, was the precise relationship between the two potters, and probably never will. However, although the main decorated output of the two potters was very different, the name, the shared motifs and general similarity in style of the pieces discussed here seem too great a coincidence for the potters to be totally unconnected.

**Acknowledgments**

I should like to thank Brian Hartley and Brenda Dickinson for the information on the dies and for making available to me a printout of the entry for Paternus iii from their forthcoming *Index of potters' stamps on samian ware*, and Mark Hassall for his comments on peregrine filiations and for bringing Clagissa to my notice. Thanks are also due to Peter Davenport and the Bath Archaeological Trust for permission to include the sherd from Bath in advance of the publication of the site.

**Note**

1 For an explanation for the commonly used Dragendorff form classification (usually abbreviated to Drag) see Dragendorff 1895, for a more up to date discussion see Webster 1996.

**Bibliography**

Beaton, M, forthcoming, Excavations in Walcot Street, Bath

Corpus Inscriptionum Latinarum (CIL) **16** , Nesselhauf, H (ed), 1936, Diplomata Militaria: ex constitutionibus imperatorum de civitate et conubio militum veteranorumque expressa, Berlin

Dickinson, B and Hartley, BR, 2000, The Samian, in Rush, P, Dickinson, B, Hartley, BR, and Hartley, KF, *Roman Castleford, Excavations 1974-85, Vol. III, The Pottery*, Yorkshire Archaeology **6**, 5–88

Dragendorff, H, 1895, Terra sigillata. Ein Beitrag zur Geschichte der griechischen und römischen Keramik, *Bonner Jahrbucher* **96**, 18–155, Taf i–vi

Goodburn, R, 1978, Roman Britain in 1977. I. Sites Explored, *Britannia* **9**, 404–72.

Hartley, BR and Dickinson, B, forthcoming, *Index of potters' stamps on samian ware*

Hartley, BR, 1972, The Roman occupations of Scotland: the evidence of samian ware, *Britannia* **3**, 1–55

Rogers, GB, 1974, *Poteries Sigillées de la Gaule Centrale I, Les motifs non figurés*, Gallia Supplement **28**

Rogers, GB, 1999, *Poteries Sigillées de la Gaule Centrale II, Les potiers*, premier Cahier du Centre Archéologique de Lezoux

Stanfield, JA and Simpson, G, 1958, *Central Gaulish Potters*, Durham

Walke, N, 1965, *Das Römische Donaukastell Straubing*-Sorviodurum, Limesforschungen **3**, Berlin

Webster, P, 1996, *Roman samian pottery in Britain*, CBA Practical Handbook in Archaeol **13**, York

Wild, F, 1975, Samian Ware, in Robertson, AS, Birrens (*Blatobulgium*), Edinburgh, 141–77

# A Roman paint pot from Castor, Normangate Field, and its contents

*HGM Edwards, PS Middleton, and JP Wild*

## *The find and the find-spot*

At Easter 1958 the last named author was the lucky recipient of a hard-boiled egg, tossed by Kay Hartley into a group of volunteer diggers on a wind-swept slope close to Wansford Station in the Nene Valley (Perrin 1999, 3 fig 3 Area 7; *cf* Wild 1984, fig 1). For some weeks the Haycock Hotel at Wansford had provided the directorial elite of the excavations along the line of the A1 road improvement scheme with identical lunchtime fare, and it had begun to pall.

The pot which is the subject of this investigation was found about a mile to the east of the site of that first encounter, as the crow flies, in Normangate Field, Castor, Peterborough, Cambridgeshire. It is a small straight-sided chamfered bowl, measuring 8cm across the mouth and 4.3cm high in a smooth buff fabric (probably of local origin) with a reddish core (Find ref CAS69 XVII (136) SF221) (Fig 1). Its capacity is about 154 cubic cm. The rim is underscored with an external groove. The vessel was not well finished: the external surface is rough in places and there are numerous fingerprints (Fig 2). The underside of the base carries the marks of the 'cheese wire' (Fig 3) and patches of orange discolouration. Inside the vessel were caked residues of a reddish powdered substance, and a red 'tide mark' rising to some 1.5cm above the base. In a final episode half of the pot had come into contact with burnt or burning material and a thin layer of soot and apparent white wood ash clung to it inside and out.

The find was made in a workshop adjacent to Ermine Street in the northern suburbs of the Roman small town of *Durobrivae* (Chesterton, Cambs, but often called Water Newton). The Nene divides suburb from town and Ermine Street was carried over it on a bridge (Wild 1974a, 146 fig 2, 149; Mackreth 1995, 148–9 fig 13.1; RCHM 1969, 23 fig 10): the importance of the settlement focus north of the river was highlighted by Edmund Artis in the years before 1828 (Artis 1828, pl xxxix), when his excavations drew attention to its strongly industrial character. Excavations between 1963 and 1975 by members of the Water Newton Excavation Committee (later renamed the Nene Valley Research Committee) uncovered evidence for pottery manufacture and metalworking (Wild 1971, 7–12; Dannell 1974, 7–9, fig 2; Wild 1974a, 161, 165) associated with a series of workshops which lined both sides of Ermine Street a short distance from the river crossing (Fig 4). Away from the main road frontage land use was more varied. Within a patchwork of ditched enclosures and subsidiary lanes lay circular buildings (interpreted then as temples) competing for space with rectangular aisled barns or workshops (Dannell 1974, 7–9, fig 2; Wild 1974a, 168). Close by were small isolated groups of burials. North of the principal areas of industrial activity fields bounded by rectilinear ditches which once housed stock and an aisled barn were explored in 1974–5 (Dannell, Wild 1976, 186–91; Wild 1976).

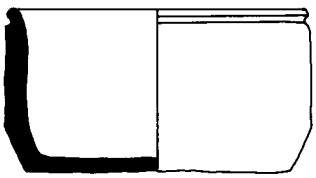


*Fig 1: Roman paint pot from Normangate Field, Castor (scale 1:2. Drawing: JP Wild)*

Workshop A excavated by GB Dannell and JP Wild in 1968–9 was a typical stone-founded half-timbered Nene Valley aisled barn, erected on the NE side of Ermine Street (Wild 1971; Wild 1974a, 158 fig 7(b)). Its short axis fronted the street; indeed its builders had encroached upon the metalled surface by some 3.5m. The workshop sealed layers indicative of earlier potting activity which contained sherds of slashed-cordon greyware jars (*cf* Hadman, Upex 1975, fig 7 no.9; Perrin 1999, 78–79), Flavian–Trajanic samian ware and a few sherds of early colour-coated beakers; a *terminus post quem* of *c* AD 150–60 for building construction may be proposed. The original structure (26m by 13.10m) had a roof supported by (probably) 12 arcade posts; it housed metalworkers, one of whose dumb-bell shaped furnaces was uncovered in the northwest aisle. After a relatively brief period the workshop was reconstructed. New wall


*Fig 2: The paint pot from Normangate Field, Castor (Photo: D Trillo, G10 Photographic Studio, University of Manchester)*


*Fig 3. Underside of paint pot from Normangate Field, Castor (Photo: D Trillo, G10 Photographic Studio, University of Manchester)*

footings of herringbone masonry were set against the inner face of the earlier walling, and some of the arcade posts at least were renewed or reset. To insert the new foundations on the north-west side a construction trench *c* 90cm wide was dug down into the natural sand, and within it, along its inner side, a row of posts (about 15cm thick) were set in circular post-pits at roughly 1.5m intervals. They were interpreted initially as scaffolding uprights, but that was just a working hypothesis. Whatever the correct explanation, the timbers were ultimately sawn off and the stumps left to rot. Into the cavity left by one of these posts fell the small pot and some burnt industrial debris, together with a sherd of Hadrianic–Antonine samian (Drag form 33) and greyware sherds of the same date. They may have been residual; but it is clear nevertheless that after a considerable build-up of floor levels consequent on the rapid construction, firing and replacement of numerous metalworking furnaces, Workshop A was abandoned by *c* AD 275 at latest.

First thoughts in 1969 were that the pot contained pigment for painting the buff-banded flagons being fired behind a neighbouring workshop; but the analysis of Edwards and Middleton *below* indicates that the main content was haematite (red ochre), combined with anatase to enhance the surface finish of wall paintings. Haematite is a standard wall paint component (Davey, Ling 1981, 221 Table 1; Barbet *et al* 1997, 47, Tab I; Rozenberg 1997, 66–7), but naturally occurring anatase is unknown as a pigment in its own right (Laver 1997). Anatase converts to rutile at high temperature, such as would have been necessary to fire a pot and there can be no doubt therefore that the pigment was applied after firing. Its appearance with haematite provides strong circumstantial evidence that both minerals were being used as paint pigments. In the light of this unusual occurrence, the presence of anatase requires special comment.

Anatase is a rare form of the mineral titanium oxide, more commonly found as its polymorph, rutile. However, there are deposits known in the French Alps and Switzerland, and in Britain near Tavistock, Devon (http://mineral.galleries.com/minerals/oxides/anatase/anatase.htm).

It is probable that small amounts of anatase could also be found in silt or erosion deposits. The deliberate addition of anatase, however, must presume exploitation of more than just small trace deposits. It would have had the desirable effect of enhancing the surface finish of the painting. This is due to the masking and reflective qualities of anatase, a quality much valued today. Can we believe that the Castor painter might have had access to such a specialist additive?

There may be a parallel at Rushton Roman villa near Kettering, Northants. Here the additive was kaolinite, from Cornwall – a fine-grained additive, worked into the pigment to achieve a glossy finish and perhaps to improve the adhesion of the paint, which was in this case *caput mortuum* (purple) (Edwards *et al* 2002). Such a use of fine-grained additives with reflective properties is possibly referred to by Vitruvius in his discussion of the methods of obtaining a high-gloss quality finish to wall paintings (Vitruvius VII, 3,7; Mora 1967; Middleton *et al,* in press). All this serves to underline the quality of the paint pigment being used at Castor.

Why a wall painter's paint pot should be found in a

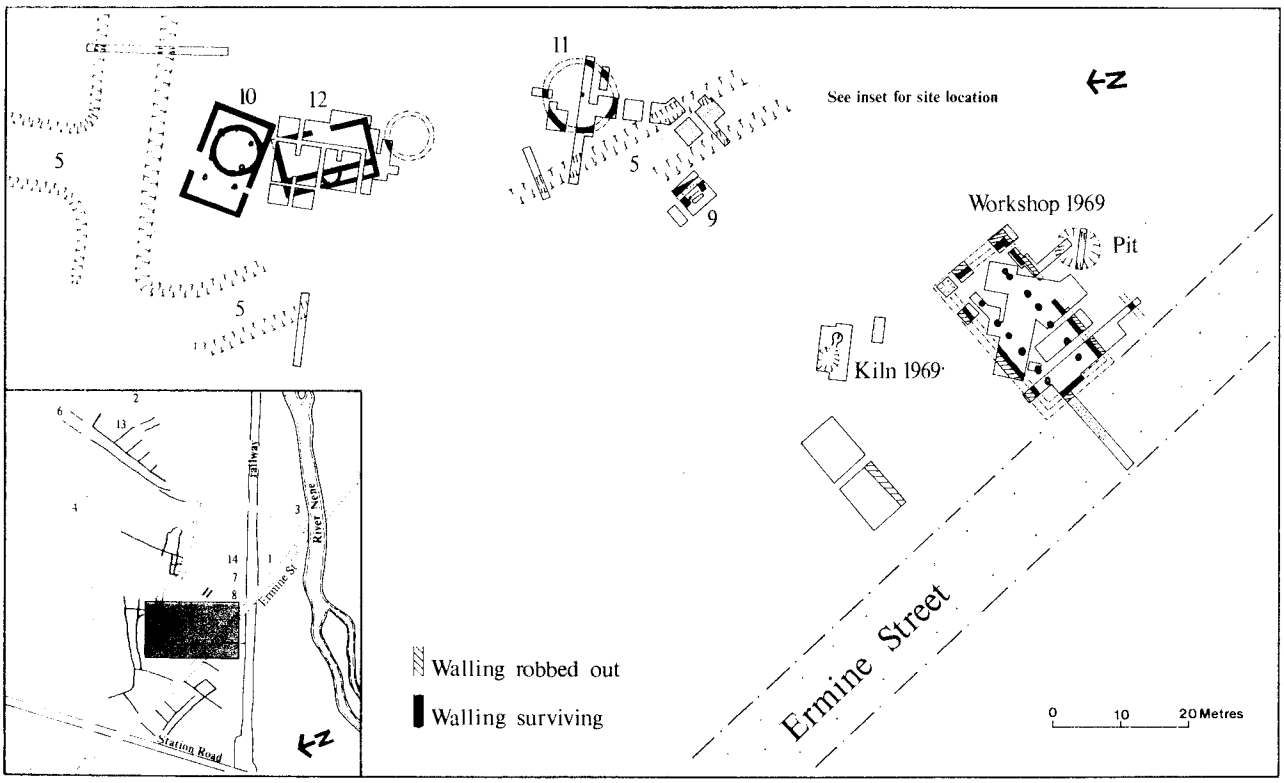



*Fig 4: Plan of Roman buildings excavated in Normangate Field, Castor, in 1968-73 (Drawing: GB Dannell)*

metalworking context is not obvious; but it should be noted that Artis published a fresco featuring red panels with blue borders, separated by pilasters, which he uncovered in 1826 in a Roman bath in Normangate Field (Artis 1828, pl xxxii). Fragments of painted plaster were found beneath the floor of a late-second or third-century circular building in Normangate Field in 1973 (Wild 1974b). Three were plain blue, but the fourth was painted in white, pink and red and may once have depicted a pink swag with white streamers, according to an unpublished report by the late Joan Liversidge. On the other hand, within ten minutes' walk from Workshop A a wall painter could have found ample employment in the homes of at least five villa-owners (Wild 1974a, 151, fig 2, 4).

In the Roman world various types of container served to hold pigments. A pair of oyster shells was used at *Verulamium* (unpublished), a clam-shell at Myos Hormos (Quseir al-Qadim) in Egypt (Peacock, Blue, Moser 2002, 36; *cf* Barbet *et al* 1997, 36) and amphora base-sherds in the Athenian agora (J Unruh, *personal comment*). Davey and Ling (1981, 221 Table 1) recorded a collection of pot bases containing an array of pigments analysed by Leo Biek as coming from Ernest Greenfield's excavations near *Durobrivae* (Perrin 1999, 4, 137). Elsewhere, Barbet *et al* (1997, 36–7) note the use of glass and copper-alloy vessels.

One class of pottery vessel, however, appears to have been purpose-made for painters. Among the hundreds of pigment-related containers from Pompeii (paint pots, storage jars, and equipment for grinding and mixing pigments) are three sets of small globular bowls still holding pigments (Barbet and Tuffreau-Libre 2001, 252–3, 255 fig 1, 4, 5; Tuffreau-Libre 1999). The set from Reg II, Insula 1, no 9, for example, comprises eight vessels, one of them two-handled, six of them matching (Barbet and Tuffreau-Libre 2001, fig 1, 2, 4). The closest parallels for the Normangate Field straight-sided paint pot, however, were found in a second-century grave at Nida-Heddernheim, Frankfurt (Bachmann, Czysz 1977, 93 Abb 5, 94 Abb 6, 95 Abb 7; Ling 1991, 210 fig 231, 211). The 29 small cylindrical vessels can be divided into four types (Barbet *et al* 1997, 44, fig 5). None is an exact match to the Castor example: but the chamfer, the external groove and the vertical walls are all present in one or other of the types. At the Northamptonshire villa of Easton Maudit four more cylindrical paint pots were recovered from a cellar (not yet fully published; for preliminary discussion and analysis see Edwards *et al* in prep). Similar pots are known from Xanten (third-century grave on the Hühnerstrasse: Barbet *et al* 1997, 49, 55; Ehses 1995) and Herne-St-Hubert near Tongres (Ling 1991, 211).

The paint pot from Normangate Field raises a number of questions, to which at present there is no answer. Was it part of a set, for example? At least we can say that for once we have a Nene Valley pot that has nothing to do with food or drink.

**Raman Spectrographic Analysis of a Romano-British paint pot**

A complete pottery vessel, excavated at Normangate Field, Castor in 1969 by GB Dannell and JP Wild was submitted for analysis to determine the pigments adhering to the vessel. Previous analysis of the pottery vessel (JP Wild, personal comment) had identified lead as a significant component of the pigmentation. The chance to study an intact paint pot of the Roman period is rare enough. It was particularly fortuitous that the two first named authors were also in a position to examine three further paint pots from the Roman villa site at Easton Maudit, Northants, thereby affording opportunity to compare the results from the two sites. The results from the Easton Maudit site are discussed more fully in Edwards *et al*, in preparation.

**Raman Spectroscopy**

Raman spectroscopy has been used to great effect in the scientific analysis of pigments used in ancient paintings and manuscripts, both for the identification of pigment composition and artists' palettes. Although more established methods of analysis, such as infrared spectroscopy, X-Ray Diffraction and Scanning Electron Microscopy provide complementary information to that provided by Raman Spectroscopy and Raman Microscopy, these more commonly used methods can lead to loss of the integrity of the sample, something which can be avoided with Raman techniques. Moreover, Raman spectroscopy is demonstrably superior in the detection of mineral pigments in difficult specimens (Otieno-Alego 2000).

FT-Raman spectra were obtained with a Bruker IFS 66 system with FRA 106 Raman module attachment. The spectral 'footprint' in macroscopic and microscopic modes was 100m and 40m, respectively, the latter achieved with a 40x microscopic objective lens. In order to obtain a satisfactory signal to noise ratio, 2000 spectral scans accumulated at 4cm were needed. Raman spectra of selected specimens were also obtained with a Renishaw microscope (CCD detector) operating at 785nm (near infrared) 633nm and 514nm (visible) and ten spectral scans accumulated to enhance the signal to noise ratios over individual scans.

**Results and discussion**

Two samples of powder, contained in the vessel when excavated, were available for study (listed in the accompanying table as Find refs CAS69. 117 and CAS69. 140), as well as the paint pot itself (Find ref CAS69. 136), which had pigment adhering to both the inside and the outside of the vessel. The results of the analysis are presented in Table 1.

All the pigments identified are common elements within Roman artistic palettes, with the exception of anatase. The background fluorescent result from the brown pigment (CAS69. 140) is likely to be the effect of carbon/soot and it is possible that this is not a pigment at all, but rather a secondary deposit in the pottery vessel.

Haematite (red ochre; iron III oxide) is one of the most commonly used pigments in Roman wall painting (as stated above) and would have been readily available in many localities, so its presence is no surprise. Similarly the use of quartz, as fine river sand, is well known in the process of grinding pigments to a smooth paste, and as an additive to lighten the hue of a colour. The identification of limewash, in the form of a diffuse broad band around 770–790 cm is characteristic of a hydrated calcium oxide/hydroxide which seems to have been a standard wall surface preparation in Roman times, described by Pliny the Elder (Vitruvius VII, 2; Pliny, *NH* xxxvi, 176).

More problematic is the possible identification of litharge (PbO). This mineral pigment, red-orange in colour, has distinctive Raman bands at 148, 291, 342, 387 and 426. The red crystalline pigment, adhering to the inside of the vessel, revealed a Raman band at 144, which is also found in anatase, a mineral which is otherwise not suspected in this particular sample. Other bands found in the sample in question, centred on 292

*Table 1*

| *Sample number* | *Description* | *Result* | *Band assignments* |
|---|---|---|---|
| CAS69. 136, pottery vessel (external surfaces) | Whitish brown | Anatase, | 144, 198, 396, 517, 639 |
| | | quartz | 148, 357, 465 |
| CAS69. 136, pottery vessel (internal surfaces) | Red | Haematite (red ochre), litharge(?) | 224, 244, 292, 409, 610 |
| | White | Quartz, anatase | 145, 285, 336<br>as above |
| CAS69. 117 | White ash powder | Quartz<br>limewash | 465<br>broad band,780 |
| CAS69. 140 | Brown | Background fluorescent | |

and 410, suggest the presence of haematite, but the evidence is not conclusive. In the light of an earlier analysis, reported by Wild, which identified lead, it seems prudent to accept the possibility of litharge in this sample, perhaps in admixture with haematite.

## Acknowledgement

We are grateful to Professor RJ Ling for guidance on relevant Pompeian literature.

## Bibliography

Artis, ET, 1828, *The Durobrivae of Antoninus Identified and Illustrated in a Series of Plates,* London

Bachmann, HG, and Czysz, W, 1977, Das Grab eines römischen Malers aus Nida-Heddernheim, *Germania* **55**, 1977, 85–107

Barbet, A, Fuchs M, and Tuffreau-Libre, M, 1997, Les diverses utilisations des pigments et leurs contenants, in Béarat *et al* 1997, 35–61

Barbet, A, and Tuffreau-Libre, M, 2001, Un ensemble de pots à peintures à Pompéi, in Guzzo, PG, *Pompei. Scienza e Società. 250º Anniversario degli Scavi di Pompei. Convegno Internazionale Napoli, 25–27 novembre 1998,* Milano, 252–3, 255

Béarat, H, Fuchs, M, Magetti, M, and Paunier, D (eds), 1997, *Roman Wall Painting: Materials, Techniques, Analysis and Conservation. Proceedings of the International Workshop, Fribourg 7–9 March 1996*, Fribourg

Dannell, GB, 1974, Roman industry in Normangate Field, Castor, *Durobrivae* **2**, 7–9

Dannell, GB, and Wild, JP, 1976, Castor, Normangate Field, 1975, *Northamptonshire Archaeology* **11**, 186–91

Davey, N, and Ling RJ, 1981, *Wall-Painting in Roman Britain*, Britannia mono **3**, London

Edwards, HGM, Middleton, PS, and Hassan, NF, in preparation: Raman spectroscopic analysis of Romano-British villa wall painting III: Easton Maudit, Northamptonshire

Edwards, HGM, de Oliveira, FC, Middleton, PS, and Frost, RL, 2002, Romano-British wall painting fragments: a spectroscopic analysis, *Analyst* **127**, 277–81

Ehses, MT, 1995, Römische Mäler in Xanten, in Horn, HG (ed), *Ein Land macht Geschichte*, *Ausstellungskatalog des Römisch-Germanischen Museum, Köln*, Köln, 241–3

Hadman, JA, and Upex, SG, 1975, A Roman pottery kiln at Sulehay near Yarwell, *Durobrivae* **3**, 16–18

Laver, M, 1997, Titanium Dioxide Whites, in FitzHugh, EW (ed), *Artists' Pigments: A Handbook of their History and Characteristics,* Oxford, 295–96

Ling, RJ, 1991, *Roman Painting*, Cambridge

Mackreth, DF, 1995, *Durobrivae*, Chesterton, Cambridgeshire, in Brown, AE (ed), *Roman Small Towns in Eastern England and Beyond*, Oxford, 147–55

Middleton, PS, Ospitali, F, and di Lonardo, G, in press, Painters and Decorators, in Edwards, HGM, and Chalmers, J (eds), *Raman Spectroscopy in Art and Archaeology,* London and Cambridge

Mora, P, 1967, Proposte sulla tecnica della pittura murale Romana, *Bolletino dell'Instituto Centrale del Restauro*, 63–84

Otieno-Alego, V, 2000, Raman microscopy: a useful tool for the archaeometric analysis of pigments, in Creagh, DC, and Bradley, DA (eds), *Radiation in Art and Archeometry*, Amsterdam, 76–100

Peacock, DPS, Blue, L, and Moser, S, 2002, *Myos Hormos – Quseir al-Qadim: A Roman and Islamic Port Site, Interim Report 2002,* Southampton

Perrin, JR, 1999, Roman pottery from excavations at and near to the Roman small town of *Durobrivae*, Water Newton, Cambridgeshire, 1956–8, *J Roman Pot Stud* **8**, 1–141

RCHM (England) 1969, *Peterborough New Town: a survey of the antiquities in the areas of development,* London

Rozenberg, S, 1997, Pigments and fresco fragments from Herod's palace at Jericho, in Béarat *et al* 1997, 63–74

Tuffreau-Libre, M, 1999, Les pots à couleur à Pompéi: premiers résultats, *Rivista di Studi Pompeiani* **10**, 63–70

Wild, JP, 1971, Castor, Normangate Field, 1969, *Bull of the Northamptonshire Fed of Archaeol Socs* **5**, 7–12

Wild, JP, 1974a, Roman settlement in the Lower Nene Valley, *Archaeol J* **131**, 140–70

Wild, JP, 1974b, Castor, Normangate Field, 1973, *Northamptonshire Archaeol* **9**, 86–8

Wild, JP, 1975, Castor, 1974, *Northamptonshire Archaeol* **10**, 153–4

Wild, JP, 1976, A Roman farm at Castor, 1974, *Durobrivae* **4**, 26–7

Wild, JP, 1984, The year's work: 1980/83, *Durobrivae* **9**, 4–5

# Rare tazze, paterae and a broad hint at a *lararium* from *Lactodorum* (Towcester)

*Charmian Woodfield*

The site from which the tazze and paterae come was a cemetery (Woodfield 1995a 43, fig 35), which appears to have been abandoned as such at the construction of the Towcester defences of *c* AD 170 (Woodfield 1992, 58), when the site would have been within the defensive zone of the town. The cemetery area (the Towcester Mill and Trading site and Malthouse Court) produced Samian as early as a conquest date and was clearly in use until its abandonment at the time of the construction of the defences. The area seems to have then been gravelled over and both tazze and paterae almost certainly pre-date them.

The tazze and paterae were recovered from the material removed from the Towcester Mill and Trading and Malthouse Court site and tipped at the Pury End quarries by the Anglian Water Authority at the construction of a new sewer for Towcester in the mid 1970s, and presumably relate to funeral rituals on the site. Tazze may be intended for the burning of incense, or as lamps, whilst paterae are associated with burials and the pouring of libations, or as a bowl for collecting libations poured. A secular use is also possible, perhaps as finger bowls at banquets. Metal examples occur, but they are comparatively rare in Britain.

## *Tazze*

Fig 1

**1** Tazza in a smooth soft pink fabric, with noticeable red (?iron) inclusions and dark greyish-brown surfaces, probably local. It resembles Fabric 1 in Brown and Alexander 1982, there dated to the late first to second centuries (*cf* Woodfield 1995a, figs 35 and 36)**.**

**2** Tazza in a related fabric with the same grey-brown surface and a pink body, but a coarser more granular fabric.

In a paper given to the 2003 annual conference of the Study Group for Roman Pottery, Ray McBride commented that 'tazze appear to have a relationship with military users and were clearly manufactured in legionary kilns at Holt, Denbighshire, Caerleon and York, and the form followed the army on its campaigns throughout Britain and into Caledonia; the use of tazze passed from the military to the civilian population until they disappear in the third century'. (*cf Newsletter for the Study Group of Roman Pottery* **35**, 5). This dating is not however supported by the evidence at Towcester, *Verulamium*, Wroxeter or Stanton Low, Bucks, where these vessels do not occur beyond the later second century. At Towcester tazze do not occur after *c* AD 170. At *Verulamium* they are dated from AD 75–105 (Frere, 1972, 286, fig 108, nos 309–10). They only occur rarely at Wroxeter where they are dated to the late-first to mid-second century (Ellis, 2000, 241–42, fig 4, no 76).

The *Verulamium* examples are described as having a 'hard finely granulated buff fabric', presumably local to the area, although the local fabrics are not normally thought of as fine, and no 309 is described as smoked grey inside (Frere 1972). This is a fairly common occurrence in tazze. Other examples from *Verulamium* include fig 119, no 705, of a granulated light buff-grey fabric again with smoke damage inside the vessel, and on fig 127, nos 922–25, here again in the granulated light grey-buff ware (*ibid).* Tazze are also known in Severn Valley Ware (Hassall and Rhodes 1974, 95, fig 13) and there seems no reason to suppose that they were not manufactured locally. At the high status Stanton Low 'villa' a *tazza* fragment occurred associated with a well of Antonine date. This well was possibly used as a shrine since it had a small painted pottery flask built into its structure. (Woodfield 1989, 165–6, fig 12). None of the tazze mentioned above are mica-dusted.

## *Paterae*

Fig 1

**3** Patera handle with a fine light orange core shading to a light grey margin, with a light buff to orange finish. There is a scatter of grey inclusions, with the occasional red and black, [both iron] and mica inclusions, but with no evidence of surface mica dusting. The ridged handle is hollow and pierced at the end to allow hot gases to assist with drying and firing without mishap. The fabric resembles Brown and Alexander 1982, fabric 36, thought to originate either from *Verulamium* or the Upper Nene Valley areas, and to date from the late first to later second centuries.

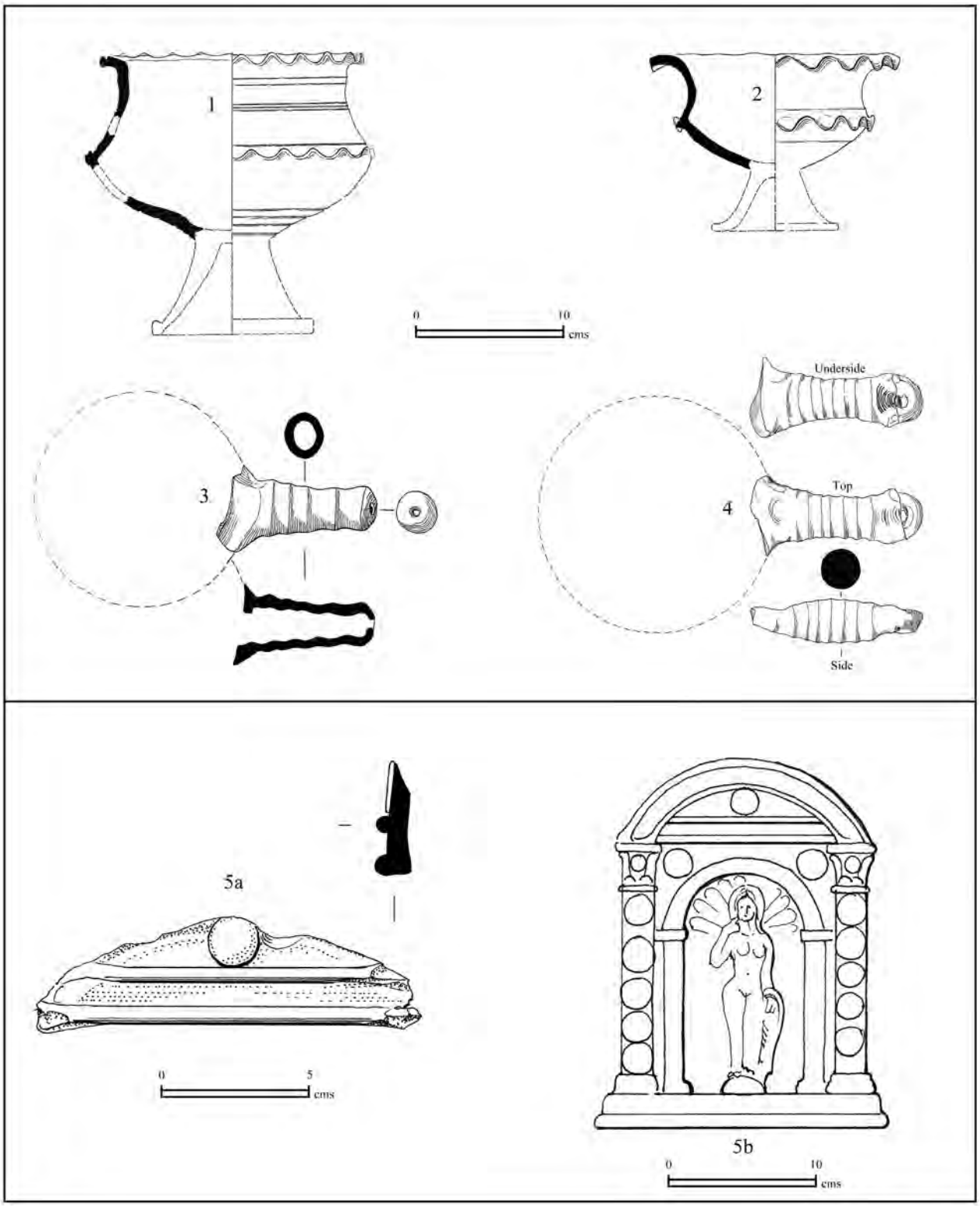



*Fig 1: nos 1 – 2, tazze; nos 3 – 4, paterae handles, from a cemetery at the Malthouse Court site, Towcester, Northants; no 5a part of the gable of an aedicula in pipeclay, possibly from the Allier valley, south of the Loire. The central roundel has a red slip coat; no 5b, a suggested reconstruction of the lararium with a figure of Venus.*
*(drawings: nos 1-3 by June Burbidge; no 4 by Anne de Broise; and no 5 by Paul Woodfield)*

**4** Patera handle in a fabric with a grey core with fine dark sand inclusions, plus an occasional large white (?flint) and red and black inclusions with a pale buff exterior. Handle with seven ridges. There is no hole or piercing but also no evidence of consequential firing damage. There is a loop roughly inserted into the end of the cylinder, presumably for hanging up the vessel when not in use.

The fabrics of these two vessels are similar but not identical; both show signs of diagonal wiping when wet probably made when the handle was attached after throwing. They are probably of local manufacture. Another patera is mentioned in Sir Henry Dryden's unpublished notes of 1864 (Tite Collection, Northampton Museum) as coming from the railway cutting just outside the Roman town walls at the north end of Towcester, possibly coming from another cemetery. It has not been possible to trace this object for study.

**Some British Parallels**

The antecedents of the paterae are in bronze (Richmond 1968, 132–6, fig 5). The nearest metal example known to have been found near Towcester is a metal detectorist's find recorded by P Woodfield, in the 1970s, which came from Windmill Hill, Bucks, a possible temple site some 4.5km WSW of the Roman fort of *Magiovinium.*

Military examples of pottery paterae occur at Longthorpe, Cambridgeshire, (Dannell and Wild, 1981, fig 45, no 119), and at Holt (Grimes 1930, fig 60 no 1), here an example of the ?phallic/rams-head type. From the presumably civilian context of Shakenoak, Oxfordshire, there is another example (Brodribb *et al*, I, 1971, 72, fig 24, no 139), a plain tubular handle in a coarse red fabric, the handle splaying out where it joins the vessel. It is dated to the early to mid-second-century and is incorrectly described as a skillet handle. There are no accompanying tazze or triple mouthed flagons as might be expected on a religious site. Another parallel occurs from the Wigginholt kilns, Sussex, (Evans 1974, fig 10, nos 5 and 6) in 'a creamy buff fabric with small well mixed sand grains' no 6 with a grey core made by the same hand as no 5. The ends of the handles here are pierced, perhaps to take a leather or string loop. Metal prototypes have a metal loop, and separate small pottery loops, *c* 48mm diameter, do occur at Wigginholt (*ibid,* fig 10 no 15), although not associated with the surviving handles. Evans' handle (*ibid* fig 10, no 5) was built into the back outside wall of the kiln 'in a prominent position almost as a trade sign', or perhaps to protect the kiln from ill fortune. These vessels all have dates in the Hadrianic-Antonine period, are well made and are nearer to their metal prototypes than the Towcester examples. Wigginholt's kilns made 'elegant flagons and also a ritual pottery service, nicely made, but one which in a more affluent society would be bought in bronze or pewter' (*Ibid* 130).

Paterae also occur in mica-dusted fabrics but the vessels discussed above show no indication of this. Phallic and rams-head paterae handles occur from London 'heavily dusted with gold mica' (Green, Dept of Urban Archaeology, Museum of London, personal communication). Ten published paterae handles from London (Arthur and Marsh, 1978, 137, 163, 165, fig 6, nos 32 1–10) are all mica dusted.

The distribution of paterae from larger towns is curious: there are none reported from *Verulamium,* although triple-mouthed flagons occur thinly (Frere, 1972, fig 116, no 580, fig 123, no 821) dated to the mid second century. Only one patera handle in oxidised Wroxeter ware is reported from that city (Ellis 2000 246–7, fig 4, no 80, and pl 1, 11). There is another possible patera, or at least a handled bowl, in colour-coated ware from the Colchester kilns (Hull 1963, fig 59, no 29) perhaps here a descendant from a metal patera, the colour coating giving the vessel a metallic look.

As well as the ten mica-dusted paterae from London, other mica-dusted paterae occur at Colchester, (Hull 1963, fig 59, nos 26-9), dated to the later second century, and at Owlesbury, Hampshire (Collis 1977, fig 10, no 27, no date given).

**Some Continental parallels**

Mica-dusted paterae also occur on the continent, for instance at the Blicquy cemetery in Belgium (de Laet *et al* 1972). One patera of Flavian or early-second-century date has a plain lip and only one or two ridges on the handle. This site has also produced sets of tazze, paterae, and triple-mouthed flagons, all mica dusted (Graham Webster, personal communication).

A spectacular find of five complete paterae has been made at Vimy, Pas-de-Calais, north France (Truffreau-Libre 1978, figs 2–4). All have an incised circular motif on their bases, and a loop similar to Fig 1, no 4, but with shorter, fatter handles, which seem less readily to become detached from their bowls than the British examples; some vessels published as reeded-rim bowls may have originally been paterae. Triple mouthed jugs or flagons are also apparent at Vimy (*ibid,* fig 10, nos 1–5) here with handles terminating at the top of the vessel with a human head, dated to the first half of the first century.

It therefore seems likely that the British paterae were originally part of sets, and certainly water poured over the hands from a triple-mouthed flagon could be caught in a patera. Less elaborate triple-mouthed vessels are not particularly distinctive and where not found in association with a burial, no particular significance would be suggested. The sherds from bowls of paterae not associated with handles are more likely to be identified as reeded-rimmed bowls though an omphalos base could help in identifying potential paterae. The connection of paterae with burial ceremony is indicated,

for example, by their depiction on the side of the Brigantia altar in the *Arbeia* Roman Fort Museum at South Shields, Tyne and Wear.

## *The* ?Lararium *from* Lactodorum *(Towcester)*

An off-white fine pipe-clay object apparently complete in itself, with two architectural mouldings, a raised central circular motif with a terra-cotta coloured slip and grey areas possible relating to smoke, and showing signs of having been luted into an opening (Fig 1, no 5a) came from a box of Roman objects, found by the antiquarian Vic Ashby before the last war. They were found in the attic of the antique dealer, Ron Green, and given to the present author. The objects seem to come from an examination in the 1930s of a section of road ditch along Watling Street prior to the construction of a new concrete road surface. The pipeclay object appears to be the tympanum of the gable of an imported shrine or *lararium.*

The form, fabric and the smoke staining, which could indicate the burning of incense, suggest the piece came from an *aedicula,* or small model of a building representing a temple or shrine, made to contain the statue of a deity, usually a goddess, most commonly Venus, as indicated in the reconstruction, Fig 1, no 5b. Other possible deities are Minerva or Victory but they occur less frequently. The segmental gable in this example is unusual as triangular pediments occur more frequently. Although the pipe-clay resembles that from Toulon-sur-Allier (Martin Henig, personal communication) it has not been possible to find convincing French parallels. The reconstruction, Fig 1, no 5b, is based on examples in the Musée des Antiquitiés Nationales, Paris, (Rouvier-Jeanlin, 1972, 142-3, fig 228), which shows similar roundels on the pilasters, but a match to the shape of the segmental Towcester example has not been found. Venus has been assumed to be the deity involved; the figure here is based on Jenkins 1958, 60, since that is the predominant type of figurine found in Britain as in the rest of the western empire. She usually occurs as a freestanding nude or partly draped female figure standing on a small hemi-spherical base (Rouvier-Jeanlin *et al,* 1990 fig 23b, and Henig 1990, 152–62, fig 11 and 11b in particular; see also Tudot 1860, pls 20–23).

Similar *aediculae* also occur at Wroxeter (Bushe-Fox 1914, 18–19, fig 10) and from sites in Kent (Jenkins 1956, 60–76). It is possible that these are all products of a main industry or *atelier* at Bourbon-Lancy (Saône-et-Loire) in the valley of the river Allier, south of the Loire (Rouvier-Jeanlin *et al* 1990).

**Acknowledgements**

Thanks for help in the preparation of this paper are due to Michel Audouy, Jane Evans, Chris Green, Colin Wallace, Martin Henig, Catherine Johns, Valerie Rigby and the late Graham Webster. Also many thanks for help with the identification of mortaria, freely given over many years, to Kay Hartley to whom this volume is dedicated.

**Bibliography**

Arthur, P, and Marsh G (eds), 1978, *Early fine wares in Roman Britain*, BAR British Ser **57,** Oxford

Brodribb, ACC, Hands, AR, and Walker DR, 1971, *Excavations at Shakenoak Farm, near Wilcote Oxfordshire*, pt *1: sites A and D*, Oxford

Brown, AE, and Alexander, JA, 1982, Excavations at Towcester 1954; the Grammar School Site, *Northants Archaeol* **17**, 24–59

Bushe-Fox, JP, 1914, *Second Report on the excavations on the site of the Roman town of Wroxeter, Shropshire in 1913*, Res Rep Soc Antiq London, **2**, London

Collis, J, 1977, Owlesbury, Hants, and the problem of burials on rural settlements, in Reece, R (ed), *Burial in the Roman World*, CBA Res Rep **22**, London

Dannell, GB, and Wild, JP (eds), 1981, *Longthorpe II: the military works-depot: an episode in Landscape history,* Britannia mono **8**, London

Ellis, P (ed), 2000, *Roman baths and macellum at Wroxeter; excavations by Graham Webster 1955–85*. English Heritage Archaeol Rep **9**, London

Evans, KJ, 1974, Excavations on a Romano-British site, Wiggonholt, 1964, *Sussex Archaeol Col* **112**, 96–151

Frere, SS, 1972, *Verulamium excavations, vol 1,* Res Rep Soc Antiq London, **28**, London

Grimes, WF, 1930, Holt Denbighshire, the works depot of the 20th Legion at Castle Lyons, *Y Cymrodor* **41**

Hassall, M, and Rhodes, M, 1974, Excavations at the New Market Hall, Gloucester, *Trans Bristol and Glouc Archaeol Soc* **93**

Henig, M (ed), 1990, *Architecture and architectural sculpture in the Roman Empire*, Oxford University Council for Archaeol mono **29**, Oxford

Hull, MR, 1963, *The Roman pottery kilns of Colchester*, Res Rep Soc Antiq London **21**, London

Jenkins, D, 1958, The cult of the `pseudo-Venus' in Kent, *Archaeologia Cantiana* **72**, 60–76

de Laet, SJ, van Doorselaer, A, Spitaels, P, and Thoem, H, 1972, La Nécropole Gallo-Romaine di Blicquy (Hainault-Belgique), *Dissertations Archaeologique* Gandenses **14**, Brugge

Richmond, I, 1968, *Hod Hill, excavations carried out between 1951–8 for the Trustees of the British Museum*, Hod Hill **2**, British Museum, London

Rouvier-Jeanlin, M, 1972, Les figurines gallo-romaines en terre cuite au Musée des Antiquitiés Nationales, Sup à *Gallia* **24**, Editions du Centre National de la Récherche Scientifique

Rouvier-Jeanlin, M, Joly, M, and Notet, J, 1990, *Bourbon-Lancy (Saône-et-Loire: un atelier de figurines en terre cuite gallo-romaines (les fouilles du Breuil: 1985–6)* Documents d'archaeologie francaise **25**, Paris

Truffreau-Libre, M, 1978, La céramique gallo-romaine dorée au mica dans le nord de la France, *Helinium.* **18,** 103–25

Tudot, E, 1860, *Collection de figurines en argile, oeuvres premiers de l'art gauloise*, Paris

Woodfield, C, 1989, A Roman site at Stanton Low, on the Great Ouze, Bucks, excavated by Margaret Jones 1957–8, *Archaeol J* **146**, 135–278

Woodfield, C, 1992, The defenses of Towcester, Northants, *Northants Archaeol* **24**, 13–66

Woodfield, C, 1995a, Prehistoric and Roman Towcester, in Sunderland J, and Webb, M (eds), *Towcester; the story of an English country town,* Milton Keynes, 1–50

Woodfield, C, 1995b, New Thoughts on town defences in the western territory of the Catuvellauni', in Brown, AE (ed), *Roman Small Towns in Eastern England and Beyond,* Oxbow mono **52**, Oxford 129–46