

Living and Dying in Southwark 1587–1831

Excavations at Cure's College Burial Ground, Park Street

*by Louise Loe, Kate Brady, Lisa Brown,
Mark Gibson and Kirsty Smith*

with contributions from

Brian Dean, Rowena Henderson, Peter Moore, Julian Munby, Daniel Poore,
Ian Scott, Steven Teague and Helen Webb

Illustrations by

Victoria Hosegood, Gary Jones, Sophie Lamb, Steven Teague
and Magdalena Wachnik

Thameslink Monograph Series No. 3

The publication of this volume has been generously funded by Network Rail

Published by OAPCA as part of the Thameslink Monograph series

Designed by Oxford Archaeology Graphics Office

Edited by Lisa Brown

© 2017 OAPCA

Front cover: View of Cure's College Almshouses (1808) by George Smith (© London Metropolitan Archives)

Back cover: Excavation of burials (© Museum of London Archaeology)

Map underlay © MOTCO

ISBN 978-0-9956636-1-9

This book is part of a series of four monographs about the Thameslink project,
which can be bought from all good bookshops and internet bookshops.

For more information visit www.oxfordarchaeology.com and www.pre-construct.com

Typeset by Production Line, Oxford

Printed in Great Britain by Latimer Trend & Company Ltd., Plymouth, UK

Contents

List of Figures	vii
List of Tables	ix
Summary	xi
Foreword	xiii
Acknowledgements	xv
Chapter 1: Introduction <i>by Lisa Brown and Louise Loe</i>	1
Project background	1
Geology and topography	1
Park Street, St Saviour's parish, Southwark	2
Methodology	2
Textual and graphical conventions	3
Monograph structure	5
The archive	5
The reburial of the human remains	6
Chapter 2: Documentary evidence for burials at Park Street and other post-medieval cemeteries in Southwark <i>by Kirsty Smith and Louise Loe</i>	7
Introduction	7
Historical background of Southwark	7
St Margaret's new churchyard	8
Cure's College burial ground	10
Other contemporary burial grounds in St Saviour's parish	18
Burial fees for St Saviour 1613–1838	19
Burial registers and fees books for St Saviour's parish	20
Summary and conclusion	23
Chapter 3: Archaeological results <i>by Kate Brady and Lisa Brown</i>	25
Introduction	25
Recording methodology	27
Chronological sequence	28
<i>Phase 1</i>	28
<i>Phase 2</i>	28
<i>Phase 3</i>	30
Multiple burials	31
<i>Grave [969] Pile Cap D</i>	32

<i>Grave [971] Pile Cap D</i>	32
<i>Grave [3078] Pile Cap C1–G1</i>	33
<i>Multiple burials in Pile Cap E–H</i>	33
Structures bounding the burial ground	37
Discussion	38
Orientation	38
Burial density and depth	38
Burial status	38
Family plots	38
Chapter 4: The people: scientific analyses of the human skeletons	
<i>by Louise Loe with Brian Dean, Mark Gibson, Rowena Henderson and Helen Webb</i>	41
Osteological analysis	41
Terminology	43
Methods	43
Results	43
<i>Condition and completeness</i>	43
<i>Ancestry</i>	44
Demography	44
<i>Physical attributes</i>	47
Stature	47
Child growth	48
Indices	48
Enthesial changes	49
<i>Non-metrical analysis</i>	50
Cranial non-metric traits	50
Post-cranial non-metric traits	50
Spatial analysis for shared traits	50
<i>Dental status</i>	53
Adult dentitions	53
Juvenile dentitions	57
<i>Skeletal pathology</i>	57
Infection	57
Metabolic disorders	64
Joint disease	66
Trauma	72
Circulatory disorders	76
Neoplastic disease	77
Congenital and developmental conditions	78
Miscellaneous pathological conditions	79
Isotope analysis <i>by Rowena Henderson</i>	80
Background	80
Isotope analysis research questions	80
Sample selection and method	81
Results	81
Conclusions	82

Scientific analyses of the human skeletal remains: summary and conclusions <i>by Louise Loe</i>	82
<i>Mortality patterns</i>	83
<i>Behavioural changes</i>	85
<i>Childhood health</i>	86
<i>Cultural and fashionable practices</i>	88
<i>Overall health and well-being: Park Street in context</i>	90
<i>Conclusions</i>	91
Chapter 5: Coffins and coffin furnishings <i>by Mark Gibson</i>	93
Background to post-medieval coffins	93
Methodology	93
Results	93
Discussion	99
Chapter 6: Discussion: social history, funerary practice and skeletal studies	
<i>by Louise Loe and Kirsty Smith</i>	103
Summary of the main findings	103
Archaeological context	103
<i>Appearance, organisation and management</i>	104
Funerary practice at Cure's College	108
<i>Funerals</i>	108
<i>Coffins and coffin furniture</i>	110
Who was buried at Cure's College burial ground?	112
Health status and cause of death	114
<i>Living conditions and disease</i>	114
<i>Mass fatality</i>	116
Comparison of mortality and morbidity at Cure's College with Cross Bones and St Saviour's burial grounds	118
Conclusions: Living and dying in Southwark, the perspective from Cure's College	120
Bibliography	123
Index	137

List of Figures

1.1	The Thameslink route in Central London	Endpapers
1.2	Location of the Park Street site	4
1.3	Key to drawing conventions	4
1.4	Reburial of unknown Londoner (© Network Rail)	5
1.5	Memorial for the Park Street individuals at Kemnal Park, Chislehurst (© Network Rail)	6
2.1	Possible location of St Margaret's New Churchyard 1536–c 1587 (later the location of Cure's College)	9
2.2	Possible location of the new churchyard, later Cure's College, on Londinvm Feracissimi Angliæ map c 1572 (© Southwark Council)	9
2.3	(a) Thomas Cure's plaque, Southwark Cathedral (obscured by a later monument); (b) stone tablet dedicated to Thomas Cure at 9 Park Street	11
2.4	Newcourt's map of 1658 showing Cure's College burial ground (labelled I) (© Southwark Archives)	12
2.5	Morgan's map of 1676–1682 showing College Church Yard (© Southwark Archives)	13
2.6	Rocque's map of 1746 showing College Yard and College Almshouses (© MOTCO)	14
2.7	Horwood's map of 1792–1799 showing Almshouses (© MOTCO)	15
2.8	Gwilt's 1814 survey of Cure's College (after an original held by London Metropolitan Archives)	15
2.9	Gwilt's 1821 survey of Cure's College (© London Metropolitan Archives)	16
2.10	Jn. Howe's 1844 plan of Cure's College, showing the rebuild of 1831 (© London Metropolitan Archives)	17
2.11	12th century–19th century burial grounds of St Saviour's parish	19
2.12	Cost of six burial locations in St Saviour's parish in 1613, 1709, 1792 and 1838	20
3.1	Location of the Park Street burials	25
3.2	Phase 2 burials	26–7
3.3	The cemetery and associated structures	29
3.4	Wall [4065] (Structure PM5) and excavation of adjacent burials (top of photograph)	34
3.5	Plan of excavated burials overlying Howe's 1844 plan of Cure's College	35
3.6	Plan showing locations of preserved coffin remains and fittings	36–7
4.1	Completeness of skeletons	44
4.2	Condition of skeletons	44
4.3	Fragmentation of skeletons	44
4.4	Age distribution of the total assemblage (n=331)	45
4.5	Age/sex distribution of the total assemblage (n=331)	45
4.6	Mass grave and non-mass grave mortality profiles compared A: as a percentage of each sample; B: as a percentage of the total assemblage	45
4.7	Prevalence of ATML and caries	53
4.8	SK [911] Prime adult male. Large internally (right) and externally (left) draining cavity associated with the right maxillary first molar	55

4.9	SK [841] prime adult male with extreme dental attrition and grooves on the occlusal surfaces of maxillary teeth (arrowed)	56
4.10	Dental overcrowding, SK [2352]	56
4.11	Inflammation, left parietal bone (copper staining on left), SK [4038]	58
4.12	Prevalence of periostitis by element	59
4.13	Inflammation, right maxilla and mandible of SK [962]. Likely related to the maxillary periapical cavity (arrowed)	59
4.14	SK [833] Older child. Anteriorly bowed right and left tibiae with thickening and periostitis	60
4.15	Bony changes on the tibia, femur and manubrium of SK [4009], indicative of syphilis	62
4.16	Evidence of possible ulceration as a complication of systemic infection. Left tibia, SK [2317]	63
4.17	Fracture of the left femoral neck and secondary arthritis of the hip joint, SK [789]	65
4.18	Unsexed adult, SK [4040]. Concave fracture involving the thoracic spine ('cod fish vertebrae')	65
4.19	Prevalence of extra-spinal OA by element	67
4.20	Osteoarthritis, left knee joint of SK [627]	67
4.21	Prevalence of spinal joint disease	69
4.22	SK [2160] Adult female with lytic lesions around the acetabulum of the right hip ('Egger's cysts')	70
4.23	SK [631] Unsexed adult. Osteoarthritis and erosive changes involving the first metatarsophalangeal joint (post-mortem damage is also present on the head of the first metatarsal)	71
4.24	Bamboo type ankylosis, second to fifth cervical vertebrae, SK [956]	71
4.25	SK [2217] Male adult. Healed fractures involving the left radius (radiograph only), left tibia and left fibula. There is marked overlap of the fracture margins and shortening of the bones	73
4.26	Prevalence of fractures by element (lefts and rights combined)	74
4.27	Dislocation involving the left gleno-humeral joint, SK [880]	75
4.28	Dislocation involving the left talo-calcaneal joint, secondary to fracture of the talus, SK [2222]	76
4.29	Bilateral osteochondritis dissecans involving the knee joint, SK [2314]	77
4.30	An illustration of segments of the tooth taken and the age brackets assigned to them. Adapted from Henderson <i>et al.</i> (2014)	81
4.31	Box and whisker plots of the first and third molars showing the $\delta^{15}\text{N}$ and $\delta^{13}\text{C}$ results from each age bracket. Taken from Henderson <i>et al.</i> (2014)	82
5.1	Coffin fixing nails from coffin [2202]	94
5.2	Grip from coffin [710] (top) and PQC 7152 (middle and bottom) for comparison	95
5.3	Grips from coffin [2128]	95
5.4	Breastplate type CCS6 with fragments recovered from coffins [890] (blue) and [915] (red)	96
5.5	Breastplate from coffin [4030]	97
5.6	Breastplate from coffin [604]. Dashed lines are extrapolated edges	97
5.7	Studs embedded in mineralised coffin wood, coffin [915]	98
5.8	Grips from pit fill [2072] (of type PQC7152, shown in Fig. 5.2)	98
6.1	Cure's College Almshouses and burial ground facing north-west, 1851 (© British Museum)	105
6.2	Cure's College Almshouses and burial ground facing north, 1851 (© British Museum)	106
6.3	Cure's College Almshouses and burial ground facing south-east towards the chapel, 1852 (© British Museum)	107
6.4	Cure's College Almshouses showing the chapel on the left, prior to the rebuild of 1831 (© London Metropolitan Archives)	110
6.5	Interior view of the chapel of Cure's College Almshouses showing benches, the pulpit and a painting hanging on the wall, 1825 (© London Metropolitan Archives)	111
6.6	(a) The Ship Inn, Borough High Street (1827) by John Chessel Buckler (© London Metropolitan Archives); (b) view of Pepper Alley, Southwark (1827) by John Chessel Buckler (© London Metropolitan Archives)	116

List of Tables

1.1	Summary of the Thameslink archaeological investigations in Central London	2-3
1.2	Pile cap impact levels	3
2.1	Comparison between the burial fees of burial grounds in St Saviour	18
2.2	Comparison of burial fees at each of the main parochial burial grounds of St Saviour (in pence)	20
2.3	Methodology of sampling the St Saviour's parish fees books	21
2.4	Cure's College burial ground, 1782–91. Entries which record cause of death from fees book P92/SAV/3093	21
2.5	Cure's College burial ground, 1782–97. Mentions of occupations in burial registers P92/SAV/3093 and P92/SAV/3094	22
3.1	Phasing	28
3.2	Multiple burials (omitting mass burial [969])	31–2
3.3	Skeletons in mass burial [969]	33
4.1	Definition of osteological and medical terms used in the text	41
4.2	Comparative assemblages referred to in the present report	42
4.3	Completeness of skeletons	43
4.4	Condition of skeletons	43
4.5	Fragmentation of skeletons	43
4.6	Numbers of skeletons in each age category	45
4.7	Park Street mortality patterns compared with other post-medieval assemblages (adapted from Bekvalac and Kausmally 2008, 43)	46
4.8	Park Street male and female mortality patterns compared with other post-medieval assemblages	46–7
4.9	Age and sex distribution: Pile Cap D mass grave	47
4.10	Comparison between Park Street non-mass grave and mass grave demographic trends with other assemblages associated with plague/epidemic	47
4.11	Comparison of statures	48
4.12	Juvenile femur age (Scheuer and Black 2000) compared with dental age (Moorees <i>et al.</i> 1963, a and b)	49
4.13	Femoral shaft index	49
4.14	Tibial shaft index	49
4.15	Age and sex distribution of skeletons with pronounced muscle/ligament/tendon sites	50
4.16	Prevalence of pronounced sites by sex and skeletal region	50
4.17	Prevalence of cranial non-metric traits	51
4.18	Prevalence of post-cranial non-metric traits	52
4.19	Comparison of adult dental status	54–5
4.20	Inter-site comparison of crude prevalence rates for periostitis/surface inflammation	58
4.21	Adult and juvenile TPR for periostitis/surface inflammation	59
4.22	Distribution of elements with periostitis/surface inflammation (skeletons with multiple element involvement only)	60–1
4.23	Skeletons with probable/possible rickets	64

4.24	Cribra orbitalia, true prevalence	66
4.25	Inter-site comparison of crude prevalence rates for cribra orbitalia	66
4.26	Age and sex distribution of skeletons with OA	67
4.27	Frequency of joints affected with OA	67
4.28	Skeletons with generalised OA	68
4.29	Inter-site comparison of extra-spinal OA	68
4.30	Inter-site comparison of spinal OA	69
4.31	Crude prevalence of adults with Schmorl's nodes	69
4.32	True prevalence of Schmorl's nodes, spondylosis deformans and vertebral body marginal osteophytosis	69
4.33	Crude prevalence of adults with spondylosis deformans	69
4.34	Inter-site comparison of fracture crude prevalence rates	72
4.35	Fracture true prevalence rates by element	74
4.36	Skeletons with multiple fractures	75
4.37	Skeletons with osteochondritis dissecans	77
4.38	Inter-site comparison of CPR for osteochondritis dissecans	77
4.39	Details of skeletons with congenital and developmental conditions	78–9
4.40	Non-breastfed individuals	88
4.41	Breastfed individuals	89
5.1	Coffin grips	94
6.1	Summary of sizeable, key historic burial grounds excavated from the Borough of Southwark	104–5
6.2	Summary comparison of pathology, Park Street and Cross Bones	119

Summary

This volume presents the results of archaeological investigations of 16th- to early 19th-century burials at Park Street, Southwark, believed to be from Cure's College Almshouse burial ground, established in the parish of St Saviour in 1587. The burials were excavated as part of the Thameslink Project, an infrastructure upgrade which involved substantial construction works at Blackfriars Station and London Bridge Station, and along the New Borough Viaduct.

Fieldwork undertaken by Museum of London Archaeology (MOLA) involved the excavation of nine pile caps, and monitoring during the installation of drains. This covered approximately 34% of the burial ground and revealed some 250 earth-cut graves which contained a total of 331 individuals. The graves were characterised by heavy intercutting. They were generally east-west aligned and contained single and multiple stacked inhumation burials numbering up to nine individuals. One mass grave, apparently less well organised than the others, contained 36 men, women and children, possibly victims of an epidemic and/or famine, some contained within coffins and others not. Overall, these patterns are consistent with existing historical and archaeological evidence which reflects a London suburban parish struggling to provide burial space and cover the cost of burial at a time of high mortality rates.

A small number of artefacts found with the individuals and in the disturbed cemetery soils include (primarily) coffin remains, but also occasional dress items such as pins and buttons. None of the individuals could be identified, except for a William Pope who died in 1816, whose remains were found in direct association with a coffin nameplate. Less direct information about the individuals was obtained from burial records, in particular fees books. Cure's College was founded for the sick and poor, but the records point to a group that did not just represent inmates from the almshouse, but also individuals from the wider parish and other London parishes. They included locals and immigrants from the Home Counties, continental Europe, Ireland and Scotland. Further, they were not among the

poorest members of society. Although some had their burials paid for by the parish most, especially from the 18th century, were earning a living as, amongst other trades, labourers, skilled craftsmen, and trades people, and they paid their own fees, which were not the cheapest in the parish.

All 331 skeletons underwent full osteological analysis. They comprised 245 adults (104 males, 73 females, 68 unsexed individuals), and 86 juveniles (individuals less than 18 years of age). A high number of individuals were aged between 18 and 35 years, an unusual figure compared with other assemblages from London. One explanation is that it reflects high numbers of working age immigrants in Southwark, who were more susceptible to earlier deaths than the local population because of exposure to new diseases, possibly epidemics, against which they lacked immunity. If correct, this finding is consistent with historic sources which document a high intake of immigrants and migrants into London between the 17th and 19th centuries.

A range of diseases was observed on the skeletons, most notably scurvy, rickets, and syphilis. This is in keeping with local historical sources which depict an inadequately nourished population experiencing living conditions which were detrimental to health, in particular, overcrowding, poor sanitation, and atmospheric pollution. Compared with other assemblages from the rest of London and the country, these and other health indicators (for example, cribra orbitalia, enamel hypoplasia, and non-specific infection) were not very prevalent, possibly because the Park Street individuals had weaker constitutions and had succumbed to disease faster, before conditions affected the skeleton. This was supported by estimated adult statures which were found to be lower than most other populations, and considered to relate to physiological health stress in childhood, inadequate nutrition, and poor maternal/carer health in particular. There was also little evidence for trauma, but the high number of incomplete skeletons in the assemblage was probably a key factor in this.

Further insight into childhood nutrition was provided by incremental isotope analysis, a relatively new method which provides the opportunity to explore childhood dietary patterns over relatively small timeframes (for example, years and months) using adult teeth. This showed that diets were varied, including some individuals who had been breastfed as babies and others not. During their first eight years of life, boys and girls had consumed different diets, and this may reflect either physiological differences between the sexes or cultural practice.

Other observations were that patterns in the Park Street osteology, in particular the mortality profile and disease among juveniles, are different to lower status and higher status burial grounds elsewhere in the parish,

namely, Cross Bones and St Saviour's. The osteology, therefore, seems to be consistent with the sector of society that Cure's College burial ground served, that is working class individuals who were not the poorest members of society, but were also not particularly wealthy.

Cure's was one of nine burial grounds in the parish of St Saviour's and is the sixth sizeable burial ground assemblage from Southwark to be archaeologically excavated and analysed. It is also the first sizeable post-medieval almshouse burial ground assemblage to be archaeologically examined from the country and, as such, contributes valuable new information on burial practice, population trends and patterns of disease in London during the 16th–19th centuries.

Foreword

The Thameslink Programme will transform north-south travel through London and has included, amongst other works, the rebuilding of London Bridge and Blackfriars stations and the construction of a new viaduct through Borough Market in Southwark. This massive undertaking required the bringing together of teams of highly skilled individuals over many years to ensure that the work was designed, planned and constructed to the highest standards and with the minimum impact on the environment, people using the existing railway and those who lived or worked nearby.

From the earliest planning stages, Network Rail recognised that some of the key areas of construction were located in the very heart of historic London and that it was highly likely that important archaeological remains would be discovered during building work. From the outset provision was made to integrate archaeological specialists within the Thameslink teams to ensure that any archaeological work was planned and undertaken to the highest standards.

Now that we have finished our archaeological work it is clear that the discoveries have lived up to expectations and Network Rail is pleased to make them known to the public in the four Thameslink archaeological monographs. These volumes represent the culmination of a massive programme of archaeological site work that started in a small carpark off Redcross Way, Southwark, and then spread through Borough Market and across Borough High Street, crossed the Thames to Blackfriars Station, and finally ended in the arches beneath London Bridge Station. That this work kept ahead of and did not delay construction is a testament to the skill, dedication, professionalism and sheer hard work of the archaeologists at Oxford Archaeology, Pre-Construct Archaeology and the Museum of London Archaeological Service, as well as the unwavering support of Thameslink's construction teams at Skanska, Costain and Balfour Beatty.

Our finds have been many and varied, but perhaps the most exciting was the discovery of an unknown Roman bathhouse beneath Borough High Street, which

is discussed in Monograph 1. The importance of this find was recognised immediately and steps were taken to modify our works to ensure that it could be preserved beneath a new building planned for the site. The remains have since been deemed to be of national importance by Historic England and now have legal protection as a Scheduled Monument. Today, the building is occupied by a well-known restaurant chain and office workers and tourists eat their sandwiches and sip coffee just a few centimetres above the remains of a building that once provided a refuge to the tired and dust-covered inhabitants of Roman London.

As part of our project planning, we anticipated that we would uncover the remains of Londoners buried in the old Park Street burial ground. We weren't sure how many to expect, but not many were anticipated as the graveyard should already have been cleared in the 1860s when the first Borough Viaduct was built. We were surprised, then, to have to exhume over 300 individuals and many cubic metres of charnel that the Victorian engineers had left behind them. The work has provided a fascinating insight into the lives and deaths of the urban poor in 18th and 19th century London and we report on these finds in Monograph 3. The remains have all now been re-buried in a new burial ground belonging to the Diocese of Southwark, preceded by a ceremony at Southwark Cathedral in which the remains of a single, unknown parishioner were carried to and from the cathedral on a horse drawn bier.

Should anyone require greater detail on our discoveries, the archive of the project is housed with the London Archaeological Archive and Research Centre at the Museum of London.



Simon Blanchflower
Major Programme Director – Thameslink

Acknowledgements

Oxford Archaeology and Pre-Construct Archaeology (OAPCA) wish to thank Network Rail for funding the Thameslink archaeological works and for commissioning this book. Network Rail's Project Director was Graham Campbell, Brian Richards was the Construction Manager, Tony Carter the Senior Project Manager and Ankur Amin and Sarah Williams were Project Managers for the scheme. Network Rail's Environmental Co-ordinator was Elizabeth Wood-Griffiths. Their contributions are all gratefully acknowledged.

OAPCA are also grateful to Chris Place, who acted on behalf of Network Rail as Project Archaeologist, for his assistance, constructive advice, and guidance throughout the course of the fieldwork and post-excavation stages of the project. We would also like to thank Bridgit Choo-Bennett, the Consents Manager at Network Rail, for her involvement and support.

OAPCA are grateful to the numerous other organisations and individuals involved in the fieldwork stage of the Park Street works. Skanska was the Principal Contractor for Network Rail. Susan Fitzpatrick was Skanska's Bid Director, and Nadeem Rajwani, Alex Hoyos, Adam Clarkson, and Kierin Giblin were Section Engineers on the project. OAPCA would especially like to thank Tim Ovington and James Ruck for their co-operation on this site.

OAPCA wish to acknowledge the kind support shown throughout the course of the project by the Very Reverend Colin Slee (deceased), former Dean of Southwark Cathedral, who officiated at the funeral service of the 'unknown parishioner', and by the Very Reverend Andrew Dunn, current Dean of Southwark Cathedral. Barry Albin-Dyer (deceased) and Simon Dyer of F A Albin and Sons, Funeral Directors, generously donated the handmade coffin and hand-engraved coffin plate for the burial. John Hughes, Development Manager for Network Rail, liaised closely with Southwark Cathedral, and oversaw the burial.

The Museum of London Archaeology (MOLA) undertook the first major phase of the cemetery excavation, with the second smaller phase carried out

by OAPCA. OAPCA gratefully acknowledge the contributions and co-operation of MOLA, especially Project Managers Derek Seeley and Lesley Dunwoody. We also wish to extend thanks to their site staff for their contribution to the excavation, especially Project Supervisor Joanna Taylor, and fieldwork supervisors Iain Bright, Alex McAuley, and Ashley Pooley.

Dr Chris Constable, the Senior Archaeology Officer for the London Borough of Southwark, monitored and advised on the archaeological fieldwork investigations, and we would like to thank him for his support throughout.

Dan Poore and Peter Moore managed the project for OAPCA throughout all stages of the project, supported by Nick Sheperd, Frank Meddens and Alistair Douglas. The Post-Excavation and Publication Managers were Jon Butler, Lisa Brown, Victoria Ridgeway and Leo Webley, and their considerable efforts in bringing such an enormous archaeological archive first to assessment then publication is appreciated. Kirsty Smith undertook the documentary background research with the assistance of Julian Munby, and obtained high resolution versions and copyrights for the historic maps and images. Ian Scott prepared the small finds catalogue (excluding coffin furniture) for the archive.

OAPCA are grateful to several specialists who contributed to the scientific analyses presented in Chapter 4. Stable isotope analysis was supervised by Professor Julia Lee-Thorpe. Peter Ditchfield and Rick Schulting are also thanked for their assistance. The radiography was carried out by Mark Viner, Kim Viner, Mark Farmer and Wayne Hoban of Reveal Imaging, who are acknowledged for their unwavering commitment and patience in producing some excellent images. We are indebted to Iain Watt, who generously gave his time to read the radiographs and discuss differential diagnoses with us. Our report would be lacking without his input.

The tireless work of Finds Administrators Märit Gaimster and Leigh Allen, with the assistance of Geraldine Crann, facilitated the processing, exchange,

and tracking of finds between the two offices. Nicola Scott and Tiziana Vitali arranged for the security copying of the archives and of their preparation for deposition.

The publication illustrations were produced by graphics staff Sophie Lamb, with the assistance of Gary Jones and Steven Teague, who produced the GIS-generated site drawings. Victoria Hosegood drew the

coffin fittings, and Magdalena Wachnik oversaw the graphics work.

Finally, the authors are gratefully indebted to John Schofield, who reviewed an earlier draft of the entire report, and to Margaret Cox, who read and commented on Chapters 4 and 6. The monograph has benefited greatly from their input, and any shortcomings are our own.