

ANIMATING THE DEAD

An Archaeology of Bronze Age Burial Practices in Orkney

Jane Downes and Colin Richards

ANIMATING THE DEAD

This book is dedicated to the memory of
John Barrett
Adrian Challands

ANIMATING THE DEAD

AN ARCHAEOLOGY OF BRONZE AGE BURIAL PRACTICES IN ORKNEY

JANE DOWNES AND COLIN RICHARDS

with contributions by

Diane Alldritt, Crane Begg, Jo Bending, M. Jane Bunting, Lorna Campbell, Nick Card, Stephen Carter, Adrian Challands†, Rob Chapman, Ann Clarke, Anne Crone, Rebecca Crozier, Alan Duffy, Lindsay Dunbar, Quentin J. Fisher, Frank Forrester, Julie Gibson, Seren Griffiths, Donna Jones, Richard E. Jones, Rachel Ives, Sarah E. King, Raymond G. Lamb†, Daphne H. Lorimer†, Jo Mckenzie, Ann Macsween, Rowan May, Jacqueline I. Mckinley, Dawn Mclaren, Kathleen Mcsweeney, Melissa Melikian, Brian Moffat, Marc Oxenham, Effie Photos-Jones, Julie A. Roberts, Paul M. Sharman, Alison Sheridan, Ronnie Simison†, Eland Stuart, Richard Tipping, Ronan Toolis, Sigurd Towrie, Pat Wagner and Caroline R. Wickham-Jones†

OXBOW | books
Oxford & Philadelphia

Published in the United Kingdom in 2025 by
OXBOW BOOKS
81 St Clements, Oxford OX4 1AW

and in the United States by
OXBOW BOOKS
1950 Lawrence Road, Havertown, PA 19083

© Oxbow Books and the individual contributors 2025

Hardback Edition: ISBN 979-8-88857-143-9
Digital Edition: ISBN 979-8-88857-172-9

A CIP record for this book is available from the British Library

Library of Congress Control Number: 2025944662

An open-access on-line version of this book is available at: https://www.oxbowbooks.com/9798888571439/animating-the-dead/. The online work is licensed under the Creative Commons Attribution 3.0 Unported Licence. To view a copy of this license, visit http://creativecommons.org/licenses/by/3.0/ or send a letter to Creative Commons, 444 Castro Street, Suite 900, Mountain View, California, 94041, USA. This licence allows for copying any part of the online work for personal and commercial use, providing author attribution is clearly stated.

Some rights reserved. No part of the print edition of the book may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopying, recording or by any information storage and retrieval system, without permission from the publisher in writing.

Materials provided by third parties remain the copyright of their owners.

Printed in the United Kingdom by Short Run Press
Typeset in India by DiTech Publishing Services

For a complete list of Oxbow titles, please contact:

UNITED KINGDOM
Oxbow Books
Telephone (0)1226 734350
Email: oxbow@oxbowbooks.com
www.oxbowbooks.com

UNITED STATES OF AMERICA
Oxbow Books
Telephone (610) 853-9131, Fax (610) 853-9146
Email: queries@casemateacademic.com
www.casemateacademic.com/oxbow

Oxbow Books is part of the Casemate Group

Front cover: Jane Downes and Sigurd Towrie
Back cover: Stephen Mckell

UHI | Archaeology Institute
Institiud Arc-eòlais

The digital volume was generously funded by Historic Environment Scotland

HISTORIC ENVIRONMENT SCOTLAND | ÀRAINNEACHD EACHDRAIDHEIL ALBA

The Publisher's authorised representative in the EU for product safety is Authorised Rep Compliance Ltd., Ground Floor, 71 Lower Baggot Street, Dublin D02 P593, Ireland.
www.arccompliance.com

Contents

Acknowledgements xi

1. Animating the Orcadian Bronze Age 1
   - 1.1 An anticipation of death in Orkney during the third and second millennia cal BC 1
   - 1.2 A northern world of extraordinary islands 3
   - 1.3 An invisible and impoverished Bronze Age? 6
   - 1.4 Changing places in the Northern Isles during the third and second millennia cal BC 8
   - 1.5 Introducing the Orkney Barrows Project 12
     - 1.5.1 Background 12
     - 1.5.2 The Orkney Barrows Project 15

2. Situating the dead in Orkney during the third and second millennia cal BC 19
   - 2.1 Introducing the funerary sphere of Chalcolithic and Bronze Age Orkney 19
   - 2.2 Building a picture: Early Bronze Age burial investigations, *S. Towrie* 19
   - 2.3 The changing nature of burials in Orkney: cists 23
   - 2.4 The barrow diggers, *with S. Towrie* 26
   - 2.5 Barrow architecture and siting 31

3. Storing the dead: the cist burials of Orkney 37
   - 3.1 Introduction: the stone cist 37
   - 3.2 A time and place for the unobtrusive cist in Orkney 38
   - 3.3 Orkney cists: excavations 1981–1998 41
     - 3.3.1 Blomuir (Blomar), Holm, Mainland, *R.G. Lamb and R. May* 41
       - 3.3.1.1 The cremated bone, *J.I. McKinley* 42
       - 3.3.1.2 Blomuir 2: the cremation urn, *R.G. Lamb, R. May, A. MacSween and J.I. McKinley* 44
     - 3.3.2 Redland, Stromness, Mainland, *R.G. Lamb and R. May* 45
       - 3.3.2.1 The Redland urn, *A. MacSween* 45
       - 3.3.2.2 Food residue analysis of the Redland urn, *B. Moffat* 48
     - 3.3.3 Upper Bigging, Corrigall, Harray, Mainland, *R.G. Lamb and R. May* 51
       - 3.3.3.1 The Upper Bigging urn, *A. MacSween* 52
     - 3.3.4 Howe, Harray, Mainland, *R.G. Lamb and R. May* 53
       - 3.3.4.1 The Howe burial, *D.H. Lorimer* 53
     - 3.3.5 Geroin, Harray, Mainland, *R. Toolis* 56
       - 3.3.5.1 Geroin: the cremated bone, *M. Melikian* 61
       - 3.3.5.2 The pottery from Geroin, *A. MacSween* 62
     - 3.3.6 Riff, Rendall, Mainland, *J. Gibson and R. May* 62
       - 3.3.6.1 The Riff burials, *J.A. Roberts* 65

3.3.7 Moan Farm, Firth, Mainland, *E. Stuart* 66
3.3.7.1 The Moan burial, *D.H. Lorimer* 68
3.4 Shutting the lid on Orcadian cists: questions of containment and storage 71
3.5 Burial as storage: the role of the unobtrusive cist as a container 76

4. Of fabulous wealth and distant places: the Knowes of Trotty barrow cemetery, West Mainland, Orkney 81
4.1 Introduction: a great and unexpected discovery 81
4.2 The finest barrow cemetery in Orkney 81
4.2.1 The Knowes of Trotty: geophysical survey, *A. Challands* 87
4.3 A surprising discovery: Early Neolithic settlement beyond the barrows 87
4.3.1 The berm around Mound 1: a house on the knoll? 92
4.4 Mound 1: revisiting the great barrow, *with N. Card and A. Sheridan* 94
4.4.1 The flanking orthostats and central cist 96
4.4.2 Contents of the cist: the human burial 99
4.4.3 Contents of the cist: the grave goods 102
4.4.4 The mound 103
4.5 A death house at the Knowes of Trotty: Trench E 104
4.6 Between the barrows 106
4.6.1 The cremation burial cists in Trench F 106
4.6.2 Trench D: the rock-cut pit 111
4.7 Cremating the dead at Knowes of Trotty: Trench G, an elevated pyre site 112
4.8 Knowes of Trotty: the anatomy of a cremation cemetery 116
4.8.1 Knowes of Trotty: journeys of the dead 117
4.8.2 Home and away 119
4.8.2.1 Home 119
4.8.2.2 Away 121

5. Looking northwards: the Linga Fiold barrow cemetery, West Mainland, Orkney 125
5.1 Complexities of Bronze Age Orcadian barrow cemeteries 125
5.2 Introducing Linga Fiold barrow cemetery 126
5.3 Investigating Linga Fiold 128
5.3.1 Geophysical survey and LiDAR, *with A. Challands* 129
5.4 Mound 1: a founding Barrow? 132
5.4.1 Cremated bone, *R. Crozier and M. Oxenham* 132
5.5 Mound 2 133
5.6 Mounds 3 and 4: significance of the pyre 138
5.6.1 Mound 3 138
5.6.2 Mound 4 139
5.6.3 Mound 4: subsequent use 141
5.7 Mound 5: inverting the world 141
5.7.1 Mound 5 begins 141
5.7.2 Mound 5: enlarging the barrow 148
5.7.3 Mound 5: the final enlargement 151
5.8 Mound 6: Shetland connections 153
5.8.1 Mound 6: the urn burial and first barrow 153
5.8.2 Mound 6: cremations on top of the mound 157
5.8.3 Mound 6: the final barrow and boat-shaped stone setting 159
5.9 Mounds 7, 29 and Structure 1: focal points of the Linga Fiold barrow cemetery 163
5.9.1 Mound 29: a small primary barrow 165
5.9.2 Before Mound 7: the stone box, pyre and stone circle 167
5.9.3 Peripheral pyres and burials: the cist or hearth (224) and pyres (195), (245), (311) and (459) 171

5.9.4 Building Mound 7 173
5.9.5 Enhancing Mound 7: the clay platform, Structure 1, kerb cairn Mound 30 and the satellite cremation burials 177
5.9.5.1 Structure 1: a death house 184
5.9.5.2 The kerb cairn: Mound 30 186
5.9.5.3 The satellite cremation burials 186
5.10 Mound 8: putting the dead on a pedestal 197
5.10.1 Before Mound 8 was built 199
5.10.2 Mound 8: the barrow 205
5.11 Mound 9: the breakage of impure things 209
5.11.1 The central cist and primary mound 210
5.12 Mound 27: an early small barrow 216
5.13 The Linga Fiold cemetery 217
5.13.1 Setting the stage: islands of cremation at Linga Fiold 218
5.13.2 Cremation at the centre: funerary pyres and the stone circle beneath Mound 7 224
5.13.3 The death house: Structure 1 224
5.13.4 Building barrows at Linga Fiold: ‘mounding’, containment and wrapping 227

6. Examining three smaller barrow groups in West Mainland: Varme Dale, Seven Knowes of Gitterpitten, Vestra Fiold and two coastal cairns at Queenamuckle, Rendall, West Mainland and Quarrel Geo, South Ronaldsay 233
6.1 Of place and tradition 233
6.2 Varme Dale, Gorn, Rendall, West Mainland 236
6.2.1 Excavating Varme Dale 238
6.2.2 Mound 1 238
6.2.3 Mound 2 243
6.2.3.1 Varme Dale Mound 2: two thousand years earlier 243
6.2.3.2 Varme Dale Mound 2: the round barrow 245
6.3 Seven Knowes of Gitterpitten, Rendall, West Mainland 245
6.3.1 Mound 2 249
6.3.1.1 Mound 2: associated pits 249
6.3.2 Mound 4 254
6.3.2.1 Mound 4: associated pits 258
6.3.3 Mound 5 258
6.3.3.1 Mound 5: associated pits 259
6.3.4 The material assemblage from Gitterpitten 260
6.4 Vestra Fiold, Sandwick, West Mainland 265
6.4.1 Investigating Vestra Fiold barrow cemetery 266
6.4.2 Mound 1 (Trench 1) 267
6.4.3 Mound 2 (Trenches 2 and 5) 267
6.5 Queenamuckle cairn, Rendall, West Mainland, *L. Dunbar* 270
6.5.1 The human remains, *R. Ives* 272
6.5.2 The steatite vessel, *D. McLaren* 273
6.5.3 The Queenamuckle burial cairn, *L. Dunbar* 275
6.6 Quarrel Geo cairn, South Ronaldsay, *R. Simison and R. May* 275
6.6.1 The Quarrel Geo burials, *D.H. Lorimer and S.E. King* 279
6.7 Situating cairns and barrow cemeteries in Orkney, *with C. Begg* 281

7. Cremating the dead in Bronze Age Orkney 289
7.1. Burning questions 289
7.2 The identification of pyre sites, *with S. Carter and J.I. McKinley* 291

7.3 Pyre technology 299
7.3.1 Disposition of bone on pyre sites and efficiency of cremation: Linga Fiold, *with J.I. McKinley* 299
7.3.2 Disposition of bone on pyre sites and efficiency of cremation: Knowes of Trotty, *K. McSweeney and J.A. Roberts* 301
7.4 Fuelling the pyre 303
7.4.1 Linga Fiold charred plant macrofossils, *D. Alldritt* 303
7.4.2 Linga Fiold pollen, *M.J. Bunting and R. Tipping* 303
7.4.3 Linga Fiold fuel ash slag (cramp), *S. Carter* 304
7.4.4 Knowes of Trotty charred plant macrofossils, *D. Alldritt* 306
7.4.5 Gitterpitten and Varme Dale charred plant macrofossils, *with A. Crone, A. Duffy and P. Wagner* 306
7.4.6 Knowes of Trotty cramp, *E. Photos-Jones with A. Hall* 307
7.4.6.1 Making cramp 307
7.5 The anticipation and choreography of cremation 309
7.6 Cremation burial 313
7.6.1 Cremated bone weights and tokenism 313
7.6.2 Factors affecting weights of bone 315
7.6.2.1 Taphonomy and recovery methods 315
7.6.2.2 Bone left on pyre sites 316
7.6.2.3 Selective deposition and distributed deposition 317
7.7 Distributing the dead, *with F. Forrester* 317
7.8 Layering the dead 323
7.9 Conclusion: technology and the transformation of the body 328

8. Re-assembling communities of the living with the dead in third and second millennia cal BC Orkney 331
8.1 Life and death in the Orcadian Late Neolithic and Early Bronze Age 331
8.2 Neolithic prelude 331
8.2.1 Living in Orkney during the Late Neolithic period (c. 3200–2400 cal BC) 333
8.2.2 Dying in Orkney during the Late Neolithic period (c. 3200–2400 cal BC) 334
8.3 Abandoning the past at Skara Brae? The disaggregation of villages, rise of the double-house and cist cemeteries (2400–1800 cal BC) 336
8.3.1 Situating the dead in the past: the development of cist cemeteries (2400–1800 cal BC) 340
8.4 Cremation, cramp and the identification of cremation grounds in Bronze Age Orkney 345
8.4.1 Enclosing cremation 346
8.5 Barrow cemeteries in Orkney: altering the landscapes of West Mainland 351
8.6 Conclusion: changing times with strangers in a strange landscape 353

Bibliography 361
Index 377

Appendices (online resource) https://www.trove.scot/archive/2887126
Appendix 1 Human bone: Linga Fiold, *J.I. McKinley*; Mound 1: *R. Crozier and M. Oxenham*
Appendix 2 Human bone: Gitterpitten and Varme Dale, *J.A. Roberts*
Appendix 3 Human bone: Knowes of Trotty (Mound 1: *K. McSweeney*; Trench F: *J.A. Roberts*)
Appendix 4 Human bone: Quarrel Geo (Banks) (unburnt bone: *D.H. Lorimer*; cremated bone: *S.E. King*)
Appendix 5 Human bone: Riff, *J.A. Roberts*
Appendix 6 Human bone: Moan Farm, *D.H. Lorimer*
Appendix 7 Human bone Blomuir 1 and 2, *J. I. McKinley*
Appendix 8 Human bone: Howe, *D.H. Lorimer*
Appendix 9 Human bone: Geroin, *M. Melikian*
Appendix 10 Human bone: Queenamuckle, *R. Ives*
Appendix 11 Pottery: Linga Fiold, Gitterpitten, Riff, Upper Bigging, Redland and Blomuir 2, *A. MacSween*
Appendix 12 Pottery analysis: Linga Fiold, *L. Campbell, Q.I. Fisher, R.E. Jones and J. Downes*

Appendix 13 Steatite urn: Linga Fiold, *P.M. Sharman*
Appendix 14 Steatite urn: Queenamuckle, *D. McLaren*
Appendix 15 Stone artefacts: Linga Fiold and Gitterpitten, *A. Clarke*
Appendix 16 Stone artefacts: Knowes of Trotty, *A. Clarke*
Appendix 17 Gold and amber artefacts: Knowes of Trotty, *A. Sheridan and R. Chapman*
Appendix 18 Flint: Linga Fiold, Varme Dale and Knowes of Trotty, *C. Wickham-Jones*
Appendix 19 Charred plant remains: Linga Fiold, *D. Alldritt*
Appendix 20 Pollen: Linga Fiold, *J. Bunting and R. Tipping*
Appendix 21 Charred plant remains: Knowes of Trotty, *D. Alldritt*
Appendix 22 Charred plant remains and pollen: Gitterpitten, Varme Dale and Vestrafiold, *P. Wagner* (ed.)
Appendix 23 Soil micromorphology: Linga Fiold, *S. Carter*
Appendix 24 Soil micromorphology: Gitterpitten and Varme Dale, *S. Carter*
Appendix 25 Soil micromorphology: Knowes of Trotty, *J. Mckenzie*
Appendix 26 Cramp: Linga Fiold, *S. Carter*
Appendix 27 Cramp: Knowes of Trotty, *E. Photos-Jones with A. Hall*
Appendix 28 Radiocarbon dating: Orkney cists and barrow cemeteries, *S. Griffiths*

Acknowledgements

Orkney Barrows Project

Orkney Barrows Project friends and collaborators

The Orkney Barrows Project has travelled a long and rewarding path since its beginnings in 1991, and if anyone concerned is omitted here then we apologise in advance. Over more than three decades, the project has grown and evolved thanks to the dedication, generosity, and expertise of countless individuals and institutions. We offer our heartfelt thanks to everyone who has contributed their time, energy, wisdom, and support along the way. This volume is a testament to their efforts. We extend warm and sincere thanks to the many individuals and local partners who have supported the project over the years.

From the very beginning, we were fortunate to receive the encouragement of the late Raymond Lamb, Orkney Archaeologist, and the late Anne Brundle, Archaeology Curator at Orkney Museums. Their deep knowledge, enthusiasm, and unwavering support provided a strong foundation for the project's early development, and their legacy has been present throughout. We are especially indebted to Julie Gibson, who succeeded Raymond Lamb as Orkney Archaeologist. Julie was a driving force behind Stage 3 of the Orkney Barrows Project onwards. Her exceptional knowledge, strategic guidance, practical help, and enduring friendship have been central to our progress. Her steadfast presence and tireless support have made an immeasurable difference, and we are deeply grateful.

Our appreciation goes to the late Daphne Home Lorimer, the late Judith Robertson, the late John Barrett, the late Rosemary Joy, and the late Ronny Simison and his family, the late Anne and John Brundle, whose insights, enthusiasm and companionship have enriched this work in countless ways.

Historic Environment Scotland (formerly Historic Scotland) has been a consistent and generous supporter across all stages of the project. Their backing – both financial and intellectual – has been instrumental in allowing the work to take place. We would particularly like to thank Noel Fojut, Patrick Ashmore, Rod McCullagh and Kirsty Owen and her dedicated team, for their investment of time, expertise and trust. Their belief in the project has helped it flourish and come to fruition. We are sincerely grateful for the grant funding that has supported the project as a whole.

Landowners

We owe a particular debt of gratitude to the landowners who made the fieldwork possible by generously permitting access to their land and accommodating the fieldwork:

- *Linga Fiold, Lyking:* Our sincere thanks to Mr and Mrs J. Robertson for their warm hospitality and support.
- *Varme Dale, Gorn Farm*: Our thanks to the late Mr Fraser and his family, especially Mrs Gorn senior, kind support and ongoing interest in the project
- *Seven Knowes, Gitterpitten*: Mr and Mrs Nicolson and family are thanked for their permission to work on their land and their kind hospitality.
- *Knowes of Trotty*: We are very grateful to the late Mr Fraser, Mr M. Moar of Tufta, Mr G. Henry of Howe, Mr E. Sinclair of Messaquoy and Mr Vivian Sinclair of Netherhouse, who gave us permission to carry out extensive fieldwork and excavation on their land. We owe a particular debt of gratitude to Vivian Sinclair for his enthusiasm and generosity during the fieldwork, his care for his extraordinary site, and his continuing interest in the research.

Fieldwork teams

This phase of the project would not have been possible without the tireless efforts of a talented and hardworking field teams. Your energy and dedication in often challenging conditions were exceptional. We would like to recognise and thank:

- *Linga Fiold 1994*: Rachel Harry, Gavin MacGregor, Chris Barrowman, Mike Donnelly, Joe Hayes, Jimmy Hogarth, Lorna Johnstone (now Innes), Dale Meller, Julie Roberts, Biddy Simpson and Eland Stuart. Our work here was assisted by a wonderful group of expert

volunteers: Louise Austin, Cath Hogarth, Tim Downes, Jonathan Martell and Ingrid Shearer.

- *Orkney Barrows 1998*: Biddy Simpson, Tom Ullathorne, Danny Hind, Sue McCabe, Cathy Pink, the late Adrian Challands, Julie Roberts, Camilla Priede, Norma Challands, Leslie Macfadyen, and Matilda Webb. We also thank our enthusiastic site volunteers: Willie Budge, Mary Harris, Louise Hollinrake, Sheila Garson, Peter Mason, Evelyn Walsh and the late Sarah and Frank Zabriskie, whose support was truly appreciated on site and beyond.
- *Knowes of Trotty 2001–2006:* Excavation co-director Nick Card, supervisors Paul Sharman, and the late Judith Robertson. Frank Braford (photography) Adrian Challands, Norma Challands, Jakob Kainz, Roy Towers, Marion Chesters, John Chesters, Katy Chalmers, Mary Harris, Kathleen Ireland, Matt Jones, Ann Johnston, Sean Mullan, Tom Whalley, Alastair Wilson, Naomi Woodward and Alastair Wright. We also gratefully acknowledge the early collaboration with the late David Coombs and Keith Maud of University of Manchester during the initial survey season. Their insights helped lay important groundwork. A warm thank you also goes to Alison Sheridan for her exceptional knowledge and insights in the field and subsequently, and the National Museums of Scotland for their generous support. Special thanks to the late Adrian Challands, Norma Challands and Bob Randall, at all the above sites for their invaluable expertise and commitment in the geophysical surveys that helped shape the project's direction.

Illustrations and images

We thank the illustrators who contributed to this volume with such talent and care: principally the late Judith Robertson, Antonia Thomas, Amanda Brend and Crane Begg, with Steve Bellshaw, Patricia Edwards, Jill Sievewright and Jo Mincher. Images have also been kindly supplied by the Society of Antiquaries of Scotland, Historic Environment Scotland, National Museums of Scotland, Orkney Museums, Special Collections (Colin Renfrew), University of Kent, Sarah Maclean (Orkney Archive), Lindsay Dunbar, Sue Dyke, Kathleen Gaudie, Steven McKell, Ronan Toolis, Sigurd Towrie and Keith Wisbey. Photographs taken by the late Adrian Challands, Raymond Lamb, John Hedges, Lionel Masters (Jack Scott) and the late Judith Robertson have also been included.

Other Orkney burial sites

- *Moan*: we thank the late Eion Scott for access to the land and his support. Eland Stuart directed the excavations with support from University of Glasgow students.
- *Blomuir*: thanks go to Mr Gaudie and Mrs Kathleen Gaudie, who generously provided the evocative Figure 3.8.
- *Riff:* thanks go to the landowner Mr Sinclair and to Tom Muir and Matilda Webb who participated in the excavation.
- *Geroin*: we are grateful to Ronan Toolis and Ciara Clarke at AOC Archaeology for granting permission to include this site in the volume, and to Kirsty Owen for organising access and facilitating the work, and HES for funding the work. Ronan Toolis AOC would like to thank Mr and Mrs Henry, Howe Farm, Harray, for granting access and assisting the excavation of the site. Also, thanks to Martin Cook who participated in the excavation, Graeme Carruthers and Alan Hunter Blair who prepared the illustrations. Advice and comments were kindly received from Patrick Ashmore (HES), Julie Gibson Regional Archaeologist, the late Anne Brundle (Orkney Museum) and Alison Sheridan.
- *Queenamuckle*: with this site too, we are grateful to Lindsay Dunbar and Ciara Clarke at AOC Archaeology for granting permission to include this site in the volume, and again to Kirsty Owen (HES) for organising access and facilitating the work, and HES for funding the work. Lindsay Dunbar would like to thank Mr Davies, Giles Carey and Christopher Gee who discovered the urn burial. Particular thanks go to Julie Gibson for liaising with the landowner to assure access and for advice during excavation. Special thanks are also due to Dawn McLaren for her analysis and research of the steatite urn, and the context of the artefacts. Thanks, are also due to Rachel Ives for undertaking the analysis of human remains. Richard Jones kindly undertook work on the rare earth analysis of the steatite vessel, and Jackaline Robertson performed environmental analyses. The drawings were produced by Jamie Humble and Sam O'Leary, and Mike Roy and Ciara Clarke helpfully commenting on and edited the original report.

Over the last years leading to the completion of this volume we have had extensive help and support from Siobhan Cooke-Miller (Orkney Museum), Tom Muir (Orkney Museum), Sarah Maclean (Orkney Archive) and Paul Sharman (Regional Archaeologist). Special thanks to both Ciara Clarke (AOC) and Kirsty Owen (HES) who despite being overworked have been great in arranging for information and material from unpublished excavations to be located at speed! Stuart Wilson (AOC) kindly provided information about the Links of Skaill cist and the recently discovered cist at Sandquoy, Sanday, as did Paul Sharman. Mr Graham Henry kindly relocated the position of the Geroin cist to establish its relationship with the Howe cist. Thanks also go to Tom Muir who helped us track down the exact location of the Riff cist. Some of the ideas in this volume have been generated and discussed during field visits with members of the 'Orkney Cist Research Group': Sue Dyke, Christopher

Gee and Sigurd Towrie, who we would particularly like thank for fine and stimulating days out.

Throughout the course of this project, we have benefited enormously from conversations and exchanges with many scholars working in the field of Bronze Age burial studies. We are particularly grateful for the insights and collegiality of John Barnett, Richard Bradley, Chris Fowler, Vicki Cummings, Paul Garwood, Catriona Gibson, Ollie Harris, Andy Jones, Jonathan Last, Lesley McFadyen, Mary Ann Owoc, Mike Parker Pearson and Niall Sharples.

We are very grateful to Richard Bradley and Mike Parker Pearson who kindly read and commented on sections of this book. Alasdair Whittle read the book in its entirety and provided detailed and extensive comments on all aspects of the text, ranging from poor grammar (CR) to new ideas, and we give him our heartfelt thanks. Of course, all errors remain with the authors.

The patience of Julie Gardiner and Jessica Hawxwell at Oxbow Books have been pushed to the limits and beyond over the years with this book and we would like to say how much we have appreciated their support and good humour, particularly during recent months through the final push!

Above all, we wish to pay tribute to the late John Barrett, by dedicating this book to him. John's vision and scholarship shaped the earliest stages of the Orkney Barrows Project and his influence has resonated throughout. His research has been a guiding light, not only for this project but for the wider field of Bronze Age archaeology. John sadly passed away as this volume was being finalised. We are profoundly grateful for his intellectual leadership, mentorship and encouragement.

The book is also dedicated to Adrian Challands who also sadly passed away during the preparation of the volume. Adrian, often aided by his wife Norma, undertook all the geophysical surveys for the Orkney Barrows Project. This work was often undertaken in extremely poor conditions and mainly with good humour! However, the results were extraordinarily good and frequently revealed quite unexpected discoveries. Adrian also participated in the majority of the excavations and generally added to the overall enjoyment of the project.

This volume is dedicated to their memory, with admiration and heartfelt thanks.

1

Animating the Orcadian Bronze Age

1.1 An anticipation of death in Orkney during the third and second millennia cal BC

While the dead of Late Neolithic and Bronze Age Orkney may have been recognised as unpredictable and capricious, the manner in which they were treated was most certainly not. Perhaps of all the rites of passage that a person undergoes, those surrounding death are the most judicious in the care and attention given to sequence and structure (see Bloch and Parry 1982; Metcalf and Huntington 1991). A clear awareness of what to do with the corpse and when, together with an anticipation of how these particular actions will affect and facilitate the progression of the deceased through to an altered state of being, would have been absolutely essential (Parker Pearson 1999, 22–7). This is because such ontological shifts bring with them periods of uncertainty and danger for both the participants and the dead. And above all, this takes time which in turn focuses attention on the treatment of the body, especially how it is stored. The latter is of great consequence and throughout this period of transition, material strategies of containment, wrapping and removal come to the fore. In this study it will be argued that the procedures surrounding stages of death have a higher degree of anticipation and planning than seem to be suggested in the recent literature. In particular, we are interested in the social and material strategies of storage, containment and treatment which structure the mortuary process.

Since the period covered by this book spans nearly two millennia, from c. 3100 to c. 1200 cal BC, it would be foolish to argue for a consistency in the social strategies surrounding death especially as during this time across Britain the treatment of the body varies considerably, as does the manner of burial (Johnston 2021, 75–98). Yet, running through these different mortuary practices like a strand of silk is the question of anticipation and the projection of intentionality into the future through funerary practices and architectures (cf. Barrett 1990, 185; Bradley 2002, 86–96). It will be suggested that thinking more about anticipated futures as opposed to the production of memory (see Mizoguchi 1993; Barrett 1994; Last 1998; Chesson 2001; Jones 2007; Walker 2009), is more fruitful for a reconsideration of the changing nature of burial practices occurring in Orkney through the third and second millennia cal BC. As we will see, this applies directly to the treatment and conservation of the body and the materiality and architecture of containment.

In Orkney, the burial of single inhumations (or body parts) in stone cists and pits with capstones begins much earlier than for most of the British Isles and can be traced back to the final centuries of the fourth millennium cal BC (discussed in Sections 3.4 and 8.2.2; Griffiths: Appendix 28). At this time cist and pit burials (the latter covered by a capstone) appear in a range of different contexts including the central chambers of passage graves and the interiors of houses before becoming more widely distributed across the landscape from the first decades of the third and into the early second millennia cal BC. Through the third millennium, the Orcadian cists are primarily dug into natural knolls or occasionally inserted into abandoned settlement mounds or chambered cairns, for instance at Taversoe Tuick, Rousay (Turner 1903; Davidson and Henshall 1989, 161; Mamwell 2018, 140–2).

At first the cists and pits contain inhumation burials and are cut into the natural till and bedrock. Because these burials have no covering earthen mound and appear unmarked, they are termed unobtrusive cists. Curiously, apart from one possible example, Beaker burials with their typical assemblage of grave goods do not occur in Orkney although are present just across the Pentland Firth in northern Caithness and Sutherland (Gourlay 1984; Hoole *et al.* 2017; Scholma-Mason 2018).

The treatment of the dead body changes early in the second millennium cal BC with the introduction of cremation but, as occurs elsewhere, initially the deposition of cremated human bone – the act of burial – remains the same, being interred in subterranean unobtrusive cists. In this continuation of interment it appears that the new form of bodily destruction does not impact the mode of burial. Interestingly, this continuity of burial tradition is seen elsewhere, for instance in Denmark, where it has been noted that 'the practice of cremation does not emerge as a coherent package replacing an older disposal practice' (Sørensen and Bille 2008, 267). As Katherina Rebay-Salisbury describes nicely for central Europe:

> it usually takes a couple of generations before the burial practices within regions were fully changed from an inhumation ritual, focussed on the wholeness of the body, to a treatment of the body that deals with it as fragmented and contained in an urn. The transition period, therefore, takes different forms in different regions…. in addition, the wide range of variation and 'experimentation' suggests that the beliefs or ontologies affecting the change in burial practices are not fixed, but in the process of becoming formulated. Only at the end of the transitional period can we argue that a normative understanding of cremation burials has emerged. (Rebay-Salisbury 2013, 21–2)

In Orkney the maintenance of cremation burial in the large early cists extended longer than a couple of generations, especially – as will be presented in Chapter 3 – a large proportion of the early unobtrusive cists were built to be accessible through a removable side slab. However, towards the end of the third and beginning of the second millennium, groupings of cists in small cemeteries develop (Section 8.3.1). As seen in such a cemetery at Lochside, Stenness, West Mainland, Orkney (Greig 1931; Hedges 1980) the sizes of subterranean cists diminish through time as cremation becomes established. As the Early Bronze Age progresses, c. 1800–1600 cal BC, cists become smaller, free-standing structures which are covered and sealed by barrows and cairns. During the Middle Bronze Age in Orkney, as across Britain, cists decrease even further in size as small cremation cemeteries develop adjacent to burial mounds, as occurs at Linga Fiold (Section 5.9.5.3) and Quoyscottie (Hedges 1977). That a complete transformation from inhumation to cremation does not occur throughout the Orkney archipelago is demonstrated by the mixed burials discovered within a flat cemetery associated with contemporary double-houses at the Links of Noltland, Westray (Hilts 2022; Moore *et al.* 2022). Therefore, inhumation continued to be practised within cists and barrow contexts until the late second millennium cal BC, after which, in common with the rest of Britain, burial evidence of any kind becomes rare.

The emanation of these different forms of mortuary practices belies the fact that during this entire period 'burial was a relatively rare event … with the majority of the population having left little or no archaeological trace' (Parker Pearson 2023, 146), and it should be kept in mind that cist burial was just one strategy of removing the dead from the living (Barrett 1994, 50). However, for the selected dead of Late Neolithic and Bronze Age Orkney who underwent these different modes of burial, all endured a measure of transmutation; a physical and ontological change in state from one form of being to another. Manifest in the treatment of the corpse and the manner of burial resided an anticipation and acknowledgement of re-emergence and 'becoming'. One important consequence of such a perception regardless of its precision or accuracy (cf. Barrett 1994, 110–12) is that the initial treatment of the dead may not have been an act of perpetuity but one of contingency. Taking this further, under such circumstances the architecture of containing and holding the dead may *be one of transient storage as opposed to permanent deposition*. Clearly, in the former the dead were not initially fixed to a place as is so often assumed to be a quality of Early Bronze Age burials (cf. Barrett 1994, 63–5, 112), but to what degree are we able to distinguish between the two? Indeed, it can be wondered whether there is any certainty that, after a period of curation, a formal resting place for the transformed body was even a feature of the mortuary process (cf. Brück and Booth 2022a, 440–1).

Turning to Bronze Age burial mounds and cairns, it has long been recognised that they are not merely raised to immediately cover a central single burial but embody long and tangled material and structural biographies (e.g. Mortimer 1905, 154–5; C.M. Piggott 1943a; Fox 1959; Ashbee 1960, 41–65; Christie 1967; Green and Rollo-Smith 1984; Barclay and Halpin 1999). This unfolding sequence of events inevitably raises the question of intention and to what degree the burial mound is the product of an anticipated chain of events, as opposed to an arena of pragmatic practices based on manipulation and appropriation as suggested many years ago by Paul Lane (1986). The latter notion of Early Bronze Age mortuary practices and barrow building emphasises burial ritual and barrow building as potent contexts for constructing and recreating memories (e.g. Mizoguchi 1992, 45–6; Barrett 1994, 125–8; Jones 2001b). In this respect, actions 'created and routinized through past practices ... were, at the same time, transformed by those practices. In this way, the rules which would have been embedded in people's consciousness would have been continuously transformed yet still conceived of as "unchanged", "cyclical" or "frozen"' (Mizoguchi 1993, 232). Here, any notion of anticipation and future-orientated planning is largely negated and reduced to 'the accumulation of "unintended consequences" of human practices' (Mizoguchi 1992, 46; 1993, 233; see also Barrett 1994). Conversely, it should not be forgotten that great monuments such as Stonehenge were being raised at roughly the same time as the burial rites

discussed by Mizoguchi (1992; 1993). Although Stonehenge underwent a series of modifications, the erection of the great trilithons and sarsen circle as integrated elements demanded a high degree of forward planning and anticipation of a final outcome which was crucial to their success. Equally, these were lengthy construction projects extending in many cases beyond the lifetimes of the builders, hence, monument projects may have unfolded in a variety of ways but, in many cases, required a high degree of forethought and continuity.

Although discussed more frequently in Neolithic contexts, including the linear architecture of chambered tombs (Fowler 2022, 79) and development of stone circles and enclosures (see Bradley 2002, 85–96; Whittle 2006, 21; Richards and Wright 2013, 45–6), the question of anticipation in Bronze Age mortuary practices has infrequently been raised. For example, due to the complex character of sequential burial and architectural modification at a number of Bronze Age barrows, Paul Garwood admits that 'it is possible that many mound-builders imagined a future process of architectural elaboration and future burial events when they built these new monuments, whether this was realised or not' (Garwood 2007, 37). Jonathan Last ponders the same point in asking whether there was a planned sequence 'or does the mound represent a fundamental change in the nature of the site, an act of appropriation or closure?' (Last 2007b, 156). A degree of neglect in an appreciation of anticipated futures is understandable given that planned sequences with outcomes have been eroded by a portrayal of building or making things, including earthen mounds as unfolding, open-ended projects: 'the mound is never complete' declares Ingold (2010b, 254).

Clearly there are different degrees of forward planning. For instance, Barrett notices that 'although most [Early Bronze Age] graves would have had to be re-excavated for the addition of any further deposits, a more complex technology is sometimes encountered which seems to have been designed to leave the grave visible or even to have prepared it for future access' (Barrett 1994, 124). Here, the future trajectory is instigated by the very first act of burial at what will become a barrow site, although almost certainly the specifics of subsequent funerary activity are uncertain. Alternatively, as we will argue for cist burial in Orkney, funerary architecture may be created in such a way that clearly anticipates precisely how it will function. Arguments for there to have been far more anticipation of future uses of this burial architecture are strengthened by two converging chains of evidence. First is the important recognition of preservation and mumification of bodies in the Outer Hebridean Bronze Age (Parker Pearson *et al.* 2005; Parker Pearson 2023). The other is a general acceptance that, along with other things (see Woodward 2002), the curation of bodies and body parts is a common feature of mortuary practices in the early second millennium cal BC (cf. Brück and Booth 2022b). Indeed, Ann Woodward could be describing body treatment when she says that things may be curated 'for short or long periods due to deliberate storage, burial or other forms of deposition. Subsequently items may have been recovered and, in whole or in part, returned to circulation' (Woodward 2002, 1040).

Previously, in a number of cases, it seems as if any form of forward planning or anticipation on the part of Bronze Age barrow builders was a surprise to the archaeologist. Take for example an account of burial cairn architecture at Manor Farm, Borwick, Lancashire:

> The presence of the outer kerb, however, both defining the extent of limestone, and clearly underlying the edge of the cairn, suggests at the very least that the large blocks of limestone were carefully positioned (for whatever reason) separately and prior to the construction of the mound. It is therefore assumed that the setting of limestone was the result of deliberate forethought, presumably to fulfil a specific function, and that it was not merely an integral part of a single phase monument. (Olivier 1987, 171)

The above example relates to cairn architecture and its constituents, and although 'a specific function' is mentioned it is the monument as an 'object' which is being discussed. However, despite an acceptance that Early Bronze Age burials are quite regularly re-opened (Barrett 1994, 125; Barrett and Boyd 2019, 139), frequently when re-use is evident it is portrayed as almost accidental as in the example of the Mordington Mains cist:

> it may well be that the secondary use of the cist is broadly contemporary with the use of the nearby pit for burial. It may be speculated that the cist, discovered accidentally in the process of digging a pit grave, was cleared out and modified for re-use as a simple pit grave. (Barber 1982, 35)

Thinking about projected futures in relation to the funerary architecture facilitating a journey of the body from living person to a different state of being raises ancillary questions of containment, time and danger, and contingency, all in relation to the necessary context of storage. It is the social and material strategies surrounding these themes, particularly curation and storage, and how they are negotiated that will be developed through this volume.

1.2 A northern world of extraordinary islands

Despite being familiar to many, it is worth detailing some of the unique characteristics of the Orkney archipelago which comprises over 70 islands and skerries. In relation to Britain, Orkney is situated off the north-east coast of Scotland, and further to the north lies Fair lsle and the islands of Shetland (Fig. 1.1). Today 20 of the Orkney islands are inhabited which, interestingly, is substantially fewer than were settled, or at least had monuments built upon them, in the Neolithic and Bronze Age periods. The geology of Orkney is for the most part Old Red Sandstone which provides laminating

strata that is excellent for building and is, together with a long tradition of soil amendation stretching back 5000 years, the basis of Orcadian architecture and agriculture. Glacial action has moulded the gently undulating topography of most of the islands, which contrasts with the high hills of the island of Hoy. Soaring sea stacks such as the Old Man of Hoy and Yesnaby Castle may not have been standing in prehistory, but others would have preceded them. Dramatic cliffs are present on the western coast of Hoy, western Mainland, South Ronaldsay (see Fig. 6.51) and the northern coasts of Westray, Eday and Rousay. These contrast with some of the other northern isles of Orkney such as Sanday and North Ronaldsay with their lower machair landscapes.

The Pentland Firth which separates Orkney from mainland Scotland is a notoriously rough channel. From the shores of Caithness, Orkney Mainland and the south isles are clearly visible and, despite the treacherous nature of the crossing, people were travelling back and forth from the Mesolithic onwards. To the north, on clear days, Fair Isle is visible from the northern isles of Orkney, such as Sanday

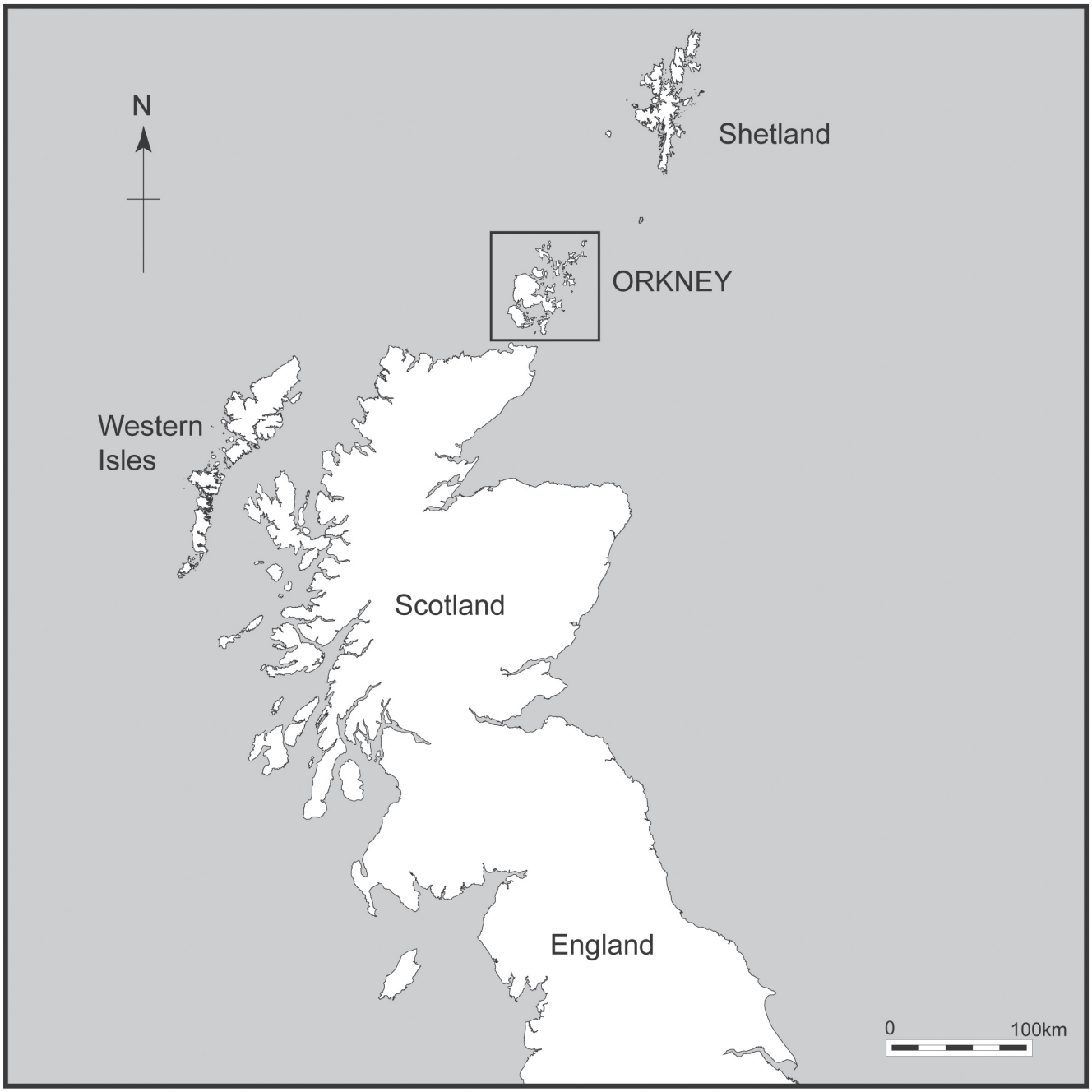


Fig. 1.1 Location map showing Orkney in relation to Shetland and the Scottish mainland.



● = Barrow
○ = Settlement site or burnt mound
□ = Cist
● = Cairns

* = Orkney Barrows Project site

1 = Kraa Tooies, Papa Westray
2 = Rapness, Westray
3 = Loth Road, Sanday
4 = Elsness, Sanday
5 = Geroin, Harray
6 = Tofts Ness, Sanday
7 = Lopness, Sanday
8 = Kewing, Rendall
9 = Quandale, Rousay
10 = Nether Onston, Stromness
11 = Queenafjold, Birsay
12 = Quoyscottie, Birsay
13 = Ferndale, Rendall
14 = *Vestrafiold, Sandwick
15 = Sandfield & Links of Skaill, Sandwick
16 = Skara Brae, Sandwick
17 = Mousland, Stromness
18 = *Linga Fiold, Sandwick
19 = *Redland, Stromness
20 = *Knowes of Trotty, Harray
21 = *Howe, Harray
22 = *Moan, Firth
23 = *Gitterpitten, Rendall
24 = *Varme Dale, Rendall
25 = *Riff, Rendall
26 = Wasbister, Sandwick
27 = *Upper Bigging, Harray
28 = Crossiecrown, St Ola
29 = Holland, St Ola
30 = Auskerry, Stronsay
31 = Long Howe, Tankerness
32 =*Blomuir, Holm
33 = Skaill, Deerness
34 = Isbister, S. Ronaldsay
35 =*Queenamuckle, Rendall
36 =*Quarrel Geo, S. Ronaldsay
37 = Ramberry, St Ola
38 = Werne Cists, Harray
39 = Newbigging, St Ola
40 = Links of Noltland, Westray
41 = Quanterness, St Ola
42 = Brough Ness, S. Ronaldsay
43 = Lochside Farm, Stenness cist cemetery

Fig. 1.2 Location map with principal sites mentioned in text shown.

and North Ronaldsay, and Fair Isle is also visible from the southern isles of Shetland. Consequently, Fair Isle is a pivotal place and in the Bronze Age perhaps acted as a gateway between the two groups of Northern Isles (see Chapter 8).

Orkney is prone to some of the fiercest gales and stormy weather in Britain, but there are also almost magical qualities attached to these northern latitudes. For example, mirages, caused by the refraction of light earthward when warm masses of air hover over the colder water of the sea, can bring distant islands and coasts closer (Lopez 1999 [1986]). Even today people speak of Bergen, Norway, at a distance of over 500km appearing clearly to those looking out to the east from Orkney. Mirages, the 'fata morgana', also cause images of islands which do not exist physically to appear; a phenomenon which occurs not infrequently today, and that has enriched Orcadian folklore (Tom Muir pers. comm.). It should not be forgotten however, that although the Orkney climate is relatively mild, its terrain is not mountainous and its fertile soils provide rich grazing, it is at the same time part of the subarctic zone, with distinct habitats for animal, bird and plant species. Such northern latitudes bring extremes of daylight hours in summer and darkness in winter, the latter providing the conditions for regular displays of the aurora borealis.

These extremes relate to the movement of the sun which varies much more through the annual cycle the further north one is located. In Orkney, as in the north of Scotland and Shetland, the sun would rise in the east and set in the west only at the equinoxes in spring and autumn. Sunrises and sunsets move steadily towards the north in the summer, until the summer solstice when sunrise is in the north-east and sunset in the north-west. Conversely, in winter, sunrises and sunsets occur in the southern half of the compass until the winter solstice, where extremely short days are a consequence of the sun rising in the south-east before setting in the south-west just a few hours later. As such, the dramatic variation between light and darkness throughout the annual cycle presumably defined the changing routines of prehistoric and historic life in the Northern Isles, just as it does today. It is therefore unsurprising that orientation in relation to the winter and summer solstices was clearly important in the Neolithic period with the best-known evidence coming from the architecture of Maeshowe. Here the passage is orientated to the south-west in order that the sun's rays at midwinter sunset shine from the direction of the hills of Hoy, over the Barnhouse standing stone and illuminate the inside of the passage grave. In this instance, the rays of the sun towards the north-east replicates the inclining path taken to enter the tomb and a different domain (Richards 1996).

In Chapter 5 we will see that the development of the linear barrow cemetery at Linga Fiold is in a northerly direction and also running upslope, qualities that have been interpreted as expressive of a sacred axis (Downes and Thomas 2013). This ontology, which draws on experience and understanding of the northern world, unsurprisingly connects with wider Scandinavia Bronze Age cosmological schemes (cf. Kristiansen and Larson 2005; Bradley 2006). Here, the east to west axis is associated with the land of the living, and the north to south axis incorporates the vertical where north is associated with height, sky/heaven and daylight, and south with downwards, water and darkness (Downes and Thomas 2013, 76). This is the extraordinary island context in which this account is situated.

1.3 An invisible and impoverished Bronze Age?

Because the burial evidence reported and presented in this book (Fig. 1.2) runs from the final century of the fourth to the late second millennia cal BC, it straddles the three sequential Late Neolithic–Chalcolithic–Bronze Age periods. Consequently, a contrast is inevitably created between these periods by default, one which juxtaposes the most extraordinary monumental architectural accomplishments of the early third millennium, including 'village' settlements, with a subsequent period where building large monuments and living in conglomerated habitations cease. This disparity has tended to be interpreted as a broad trajectory of social decline:

> With the decline of Late Neolithic settlement in Orkney, it is perhaps no coincidence that previous connections and networks also lapsed, as evidenced by the sparse Beaker presence in the archipelago. History had moved elsewhere. (Bayliss *et al.* 2017, 1186)

Certainly, as the middle of the third millennium cal BC is reached and the Late Neolithic period draws to a close, so the archaeological visibility of what must have continued to be substantial island communities diminishes. Whilst this decline may well be more variable and partial in extent, being to a degree a product of a Bronze Age bracketed and overshadowed by highly visible and architecturally spectacular Neolithic and Iron Age periods, it has had a detrimental impact on both an appreciation of the Bronze Age and its research. For instance, Colin Renfrew's investigations in Orkney began and ended with the Neolithic period (Renfrew 1979). Even more recent accounts of earlier Orcadian prehistory cease as the end of the third millennium is approached, although there are hints of a realisation that social trajectories into the second millennium are of equal interest and significance (e.g. Downes and Thomas 2013; Richards *et al.* 2016c, 243–53; Mamwell 2018).

Fifty years ago, the 'problem' of the Orcadian Bronze Age was articulated by Graham and Anna Ritchie:

> The second millennium BC in Orkney is remarkable for the scarcity of finds which can be used in chronological comparison with better documented areas of Scotland. This is an unexpected reversal of the situations of both the third

> millennium (with a large number of chambered cairns) and the later first millennium BC and early first millennium AD (with considerable numbers of brochs). Many barrows and cists have been excavated with varying degrees of scientific method in Orkney, yet there are few of the beakers, food vessels or recognisable types of cinerary urns on which burial chronology is based in mainland Scotland. (Ritchie and Ritchie 1974, 37)

The absence of the familiar Early Bronze Age grave goods, with the notable exception of Knowes of Trotty (see Chapter 4), does not just inhibit chronological indicators, but tends to nurture the view of impoverishment. The continued use of a range of material items such as plain, flat-rimmed pottery and coarse stone tools that appear unchanging over hundreds of years also contributes to this image of social malaise in the latter centuries of the third and on in the second millennium cal BC. A possible cause was identified by Øvrevik when she ventured that the inhabitants produced 'little in the way of a surplus to enable the development of a leisured class' (1985, 131) and suggested that the perceived paucity and poverty of material culture were due to 'a growing insularity in the Bronze Age' (1985, 137).

This narrative of impoverishment continued through the later twentieth century, as exemplified in Anna Ritchie's 1995 book *Prehistoric Orkney*, where her chapter about the Bronze Age is entitled 'A prehistoric recession?'. This opens with the statement that 'Orcadians seem to have gone into a period of economic recession towards the middle of the third millennium BC' (1995, 86). The chapter ends in the same vein with the concluding paragraph lamenting that '… Orkney's Bronze Age seems a dull time and has certainly not left many monuments at which to marvel' (Ritchie 1995, 95). More recently Mamwell has re-assessed this view, affirming that to archaeologists 'the luminosity of the Orcadian Neolithic … casts a long shadow from which the Bronze Age of the [Orkney] islands struggles to emerge' (2018, 316). The overall conclusion is that, while attention remains on the social efflorescence of the Neolithic period, as recognised by the construction of the stone circles, passage graves and settlements, the Bronze Age in Orkney 'is destined to relative obscurity' (Mamwell 2018, 316).

However, things may not be as they seem. Although traditionally monumental scale has been employed as an index of social complexity, particularly evolving political authority (e.g. Renfrew 1973; 1979; 1985), an alternative interpretation can be offered that the construction of monuments acts as an arena of social competition and risk, instigated by political rivalry and instability (Richards *et al.* 2013a; 2016c, 239–46). Equally, whilst broad geographic connections may be identifiable in material distributions, for instance, the spread of Grooved Ware pottery that extends as far south as Wessex and Ireland (see papers in Copper *et al.* 2024), as Barrett and Boyd note, 'they do not reveal the nature of the political networks that had once activated either the exchange of material or the movements of people' (2019, 68). In short, the apparent richness, social stability and complexity assumed by many commentators for the Orcadian Neolithic period, especially in the third millennium cal BC, may be to a degree illusory.

However, it is not just the cessation of Orcadian monumental architecture and abandonment of many Late Neolithic villages by the middle centuries of the third millennium cal BC that provides a sense of social collapse and dislocation, but the lack of Beaker burials and associated rich grave goods (for Shetland, see Sheridan 2013). In attempting to grapple with this absence in the Northern Isles it is curious that Beaker burials are present just across the Pentland Firth. For instance, the rich Beaker burial of the woman 'Ava' at Achavanich, northern Caithness, dated to 2300–2145 cal BC (SUERC-71005) (Hoole *et al.* 2017, 106), also provided aDNA evidence that she was 'a relatively recent descendant of a population of Beaker users who migrated into Britain from continental Europe around 2500 bc' (Hoole *et al.* 2017, 88; see also Olalde *et al.* 2018). Another Beaker burial, possibly part of a cemetery, was excavated at Chealamy, Strathnaver, Sutherland, again near the northern coast of mainland Scotland (Gourlay 1984), which together with the burial of 'Ava' effectively demonstrates the presence of migrants into the extreme north of mainland Scotland directly across the Pentland Firth from Orkney.

However, Beaker pottery is present in Orkney but in very small quantities and mainly from non-mortuary contexts. At the Late Neolithic village of Rinyo, Rousay, Childe and Grant discovered Beaker sherds from a single vessel (1939, 26); further sherds were also present at the Links of Noltland, Westray (Moore and Wilson 2011). A small Beaker assemblage was discovered in the Red House at Crossiecrown, Mainland (Jones *et al.* 2016, 334). Curiously, at the same site Grooved Ware forms of pottery were present with Beaker decoration (Jones *et al.* 2016, 356), and similarly at the Ness of Brodgar (Towers and MacSween 2020, 258). Beaker sherds were also present at the settlement of Ha'Breck, Wyre, Orkney (Antonia Thomas pers. comm.). Beaker is also present in Shetland and Mamwell (2018, 206) identifies similarities between the Beaker pottery from Ha' Breck and that from House 1 at the Ness of Gruting and the Stanydale house, Mainland, Shetland (see also Sheridan 2013, 56–8).

Beaker sherds were also found outside the entrance to the passage grave at Howe (Ballin Smith 1994, 25). Other chambered cairns such as Calf of Eday Long (Davidson and Henshall 1989, 79), Holm of Papa Westray North (Ritchie 2009, 25) and Knowe of Yarso, Rousay (Callander and Grant 1935, 334–5; Davidson and Henshall 1989, 79) have also produced Beaker pottery in small amounts. Yet, with two possible exceptions there is an apparent absence

of Beaker burials in Orkney. The first is at Odin, Stenness, where an almost complete Beaker was present within the disturbed fill of an oval rock-cut pit that had a small post-hole at one end. This may have contained a marker post for the grave (Challands *et al.* 2005, 215–16). A second possible disturbed Beaker burial was in the stalled cairn of Knowe of Yarso, where not only were Beaker sherds present but also a barbed and tanged arrowhead (Callander and Grant 1935, 335).

As components of the 'Beaker package', barbed and tanged, and Early Bronze Age tanged arrowheads are present in Orkney, but not in large quantities and mainly discovered as surface finds (Christopher Gee pers. comm.). As noted above, a barbed and tanged arrowhead was present in the stalled cairn Knowe of Yarso, Rousay (Callander and Grant 1935, 335), others come from Ha'Breck, Wyre (Hugo Anderson-Whymark pers. comm.), the Ness of Brodgar (Anderson-Whymark 2020, 219), and Crossiecrown where two complete and two possible blanks were discovered (Anderson-Whymark *et al.* 2016, 438–9). Tanged arrowheads are also present at Crossiecrown (Anderson-Whymark *et al.* 2016, 438–9).

To conclude, in comparison to the rich Beaker burials further south, particularly those occurring in the north-east of Scotland, the cist burials in the Northern Isles appear impoverished. Yet, the picture is clearly more complex. This is because it is difficult to accommodate the very rich burial in Mound 1 at the Knowes of Trotty containing gold and amber (Chapter 4) into a narrative of impoverishment. Equally, this applies to other examples of 'exotic' items discovered in Orkney, such as a jet or shale necklace from a burial at Skaill Bay, Sandwick (Section 2.2), a bronze razor with a cremation in Laughton's Knowe, Holm, a cache of fine artefacts including a V-bored jet button cached with a mace-head, three polished axes and a polished flint knife at Isbister chambered tomb (Hedges 1983) and an unprovenanced incense cup from South Ronaldsay (Øvrevik 1985; Ritchie 1995; Cooper *et al.* 2022).

Despite the absence of Beaker burials and paucity of Beakers overall, the study of ancient genomes through the sampling of the Bronze Age population at the Links of Noltland, Westray, has now evidenced Early Bronze Age immigration on the female side into Orkney and has shown continuance from the Neolithic on the male side (Dulias *et al.* 2022; Moore *et al.* 2022). These findings challenge the interpretations of increased Orcadian insularity during the Chalcolithic and Early Bronze Age periods and indicate instead a matter of choice and selectivity in architecture and material culture and a degree of influx of newcomers (Section 8.6). This seemingly paradoxical situation is both curious and interesting and will be explored further throughout this volume. Here, it is worth briefly considering further the wider social context that provides the conditions under which these extremes in burial practices are situated.

1.4 Changing places in the Northern Isles during the third and second millennia cal BC

Another supposed index of social complexity, the presence and scale of settlement 'village' architecture seen during the Late Neolithic – the later fourth to the mid-third millennium cal BC – also diminishes in the subsequent Chalcolithic and Early Bronze Age periods. As Ballin Smith observed 'there are few known early Bronze Age domestic sites on Orkney and even fewer published' (2014, 141), echoing Øvrevik's (1985) findings 30 year earlier. This situation has changed to some degree over the past few decades through an appreciation of the complexities and changing nature of dwelling through the late third and early second millennium cal BC (see also discussion in Section 8.1). First is the recognition of a change in settlement organisation, particularly the increasing numbers of paired or double-houses which become the dominant house form in Orkney and Shetland during this period (see Downes and Lamb 2000; Downes and Thomas 2013; Card *et al.* 2016; Brend *et al.* 2020). Second, a change in settlement that appears to occur c. 2600–2400 cal BC, particularly the apparent abandonment of many Late Neolithic 'villages', is increasingly recognised to be part of a far more complex process (Chapter 8; Griffiths 2016; Richards *et al.* 2016c, 243–6; Bayliss *et al.* 2017; Mamwell 2018, 162–87).

Whilst we do see several of the large Late Neolithic Orcadian settlements, including Skara Brae, Stonehall, Pool, Ness of Brodgar and probably Rinyo ceasing to be fully inhabited by c. 2400 cal BC, the overall picture of settlement trajectories through the entirety of the Late Neolithic is far more blurred (Towrie 2019). Indeed, the large late fourth–early third millennium settlements or 'villages' in Orkney are deceptive because their superimposed stone-built houses and large middens seem to indicate continuity in their occupation. On closer scrutiny it is clear that these settlement sequences are punctuated by short periods of abandonment and spatial shift throughout their duration. In some instances, such as at Barnhouse, after abandonment (c. 2800 cal BC), re-occupation does not occur (Richards *et al.* 2016a). A similar break in occupation is apparent at Skara Brae, but re-occupation (and rebuilding) does occur, as represented by Childe's periods 3 and 4 (Childe 1931, 65–71). This may be an example of settlement shift as geophysical survey has revealed a substantial area of settlement to the east of the visible settlement (see Brend *et al.* 2020, 47–52). On the island of Sanday, we see three completely different settlement histories. First, at Pool, three distinct phases of Neolithic occupation occur through the fourth and third millennia (Hunter 2007), including after phase two a claimed lengthy abandonment period of c. 115–235 years before re-occupation occurs in phase three (MacSween *et al.* 2015, 299). Second, in the west of the island at the Late Neolithic settlement at the Bay of Stove (Bond *et al* 1995),

a definite spatial shift occurs from the coast to inland during the third millennium. Finally, at Tofts Ness in the east of the island, settlement continues through the final centuries of the third millennium cal BC and into the second without abandonment but seemingly with episodes of house rebuilding (Dockrill *et al.* 2007). Consequently, the changes in settlement which occur during the final centuries of the third millennium become less singular and distinctive when considered in the broader context of the punctuated and shifting residential patterns of many Neolithic Orcadian 'villages' (Towrie 2019).

Despite this fluidity, we can still observe a general trend towards the abandonment of a number of Late Neolithic settlements c. 2600–2400 cal BC. However, this is a messy and blurred picture because such abandonment can take the form of settlement shift, with varying degrees of separation from the earlier Late Neolithic settlements (Richards *et al.* 2016c; Mamwell 2018, 309). For Orkney therefore, discontinuity or abandonment of the large 'village' settlements in the latter half of the third millennium cal BC is a little variable, but overall seems to represent a broad pattern. At odds with the picture for the rest of Northern Britain (Pope 2015), the appearance of double-houses in Orkney marks the beginning of a more 'post-village' dispersed form of settlement. Intriguingly, a more careful examination of the villages, despite claims to the contrary (Mamwell 2018, 196–7), does reveal a history of double-house architecture running back into the early third millennium (O'Connell 2018). This is identifiable at Barnhouse when House 1 was added to House 6 to create a double-house arrangement (Fig. 1.3) and possibly Houses 2 and 9 (Downes and Richards 2005, 107–12; O'Connell 2018). At Crossiecrown, a double-house is created by remodelling an earlier Late Neolithic dwelling – the Red House – and adding a facing building – the Grey House (Figs 1.4 and 8.9). The double-house occupies a central location in the ruined and robbed settlement which runs back into the fourth millennium (Fig. 1.4; Card *et al.* 2016).

The trend towards individual or groups of double or porched houses does not initially mark a complete break with the larger Late Neolithic settlements. Hut 8 at Skara Brae lies directly adjacent to the main settlement and was originally thought to be part of the Late Neolithic village by Childe (1931, 40–53) and subsequent commentators (e.g. Clarke and Sharples 1990), who all considered the building to function as a workshop. More recently, it has been recognised as a 'porched house' of probable Chalcolithic date (Fig. 8.2; Downes and Thomas 2013, 83; Richards *et al.* 2016c, 246; Brend *et al.* 2020, fig. 3.26). Interestingly, architecturally there is a strong resemblance between the porched Hut 8 and some previously assumed Neolithic Shetland houses, including the Benie Hoose, Yoxie and Stanydale (Calder 1950; 1958; Downes and Lamb 2000), with the latter (with porches) now assigned a Chalcolithic–Early Bronze Age date due to the presence of Beaker sherds and late third millennium cal BC radiocarbon dates (Sheridan 2012). It is now thought that most of the Shetland houses are in fact of Chalcolithic date (Downes in Downes and Lamb 2000, 119–23; Sheridan 2012). For example, a deposit of charred grain found under the wall of Ness of Gruting has been dated to c. 2000 cal BC. This house is similar in form to the Stanydale House and Gruting School, both of which are oval and have rounded cellular recesses set into the walls (Downes and Lamb 2000, fig. 40).

At the Links of Noltland, Westray, at least four Early Bronze Age double-houses together with an associated cemetery, were discovered c. 35–200m to the south and east of the early third millennium settlement (Moore and Wilson 2011, 24–8; Moore *et al*. 2022). Geophysical survey south of the large Late Neolithic settlement mound at Muckquoy, Rendall, West Mainland, revealed at least three probable groupings of double-houses in close vicinity (Richards *et al.* 2016c, fig. 9.43), while at Skaill Bay, West Mainland Orkney, geophysical survey detected a double-house and a small settlement, including paired houses, of probable Early Bronze Age date c. 4–500m to the south-east of Skara Brae (Brend *et al.* 2020, 59–61). On Sanday, a likely double-house has been discovered at Spurness by the authors, which overlooks the Bay of Stove early to mid-third millennium settlements (Fig. 1.5), which has similarities in layout to the Shetland houses (see Chapter 8). Similarly, at Wasbister a Bronze Age settlement was established to the north-west of the Ring of Brodgar comprising a large double-house and other smaller buildings (Fig. 8.8; Brend *et al.* 2020, 128–31). The Wasbister settlement is in sight of a very large unexcavated Late Neolithic settlement complex at Bookan (Brend *et al.* 2020). Extensification of settlement during the Bronze Age is a widely noted phenomenon, which *may* relate to a change in inheritance (Moore *et al.* 2022) as well as to a change from a focus on cattle in the Neolithic economy to sheep husbandry (Downes and Thomas 2013).

Not all Orcadian Late Neolithic settlements were completely abandoned after c. 2400 cal BC. For example, a degree of continuity in settlement through the third into the second millennium cal BC is more easily demonstrated at Tofts Ness, Sanday, where the badly preserved Structure 2, assigned to the Early Bronze Age, lay south of a later Neolithic structure and associated middens (Dockrill *et al.* 2007, 24–9). From all these examples, a picture emerges of partial fragmentation of settlement into smaller units incorporating double-house architecture. Initially this occurs near the abandoned (or diminished) Late Neolithic villages but then spreads more broadly across the landscape. However, through to the middle centuries of the second millennium, these smaller settlement units seem to maintain a degree of association with the now abandoned and ruinous Late Neolithic villages.



Fig. 1.3 House 1 was added to House 6 at Barnhouse to form a double-house early in the third millennium cal BC (after Downes and Richards 2005).

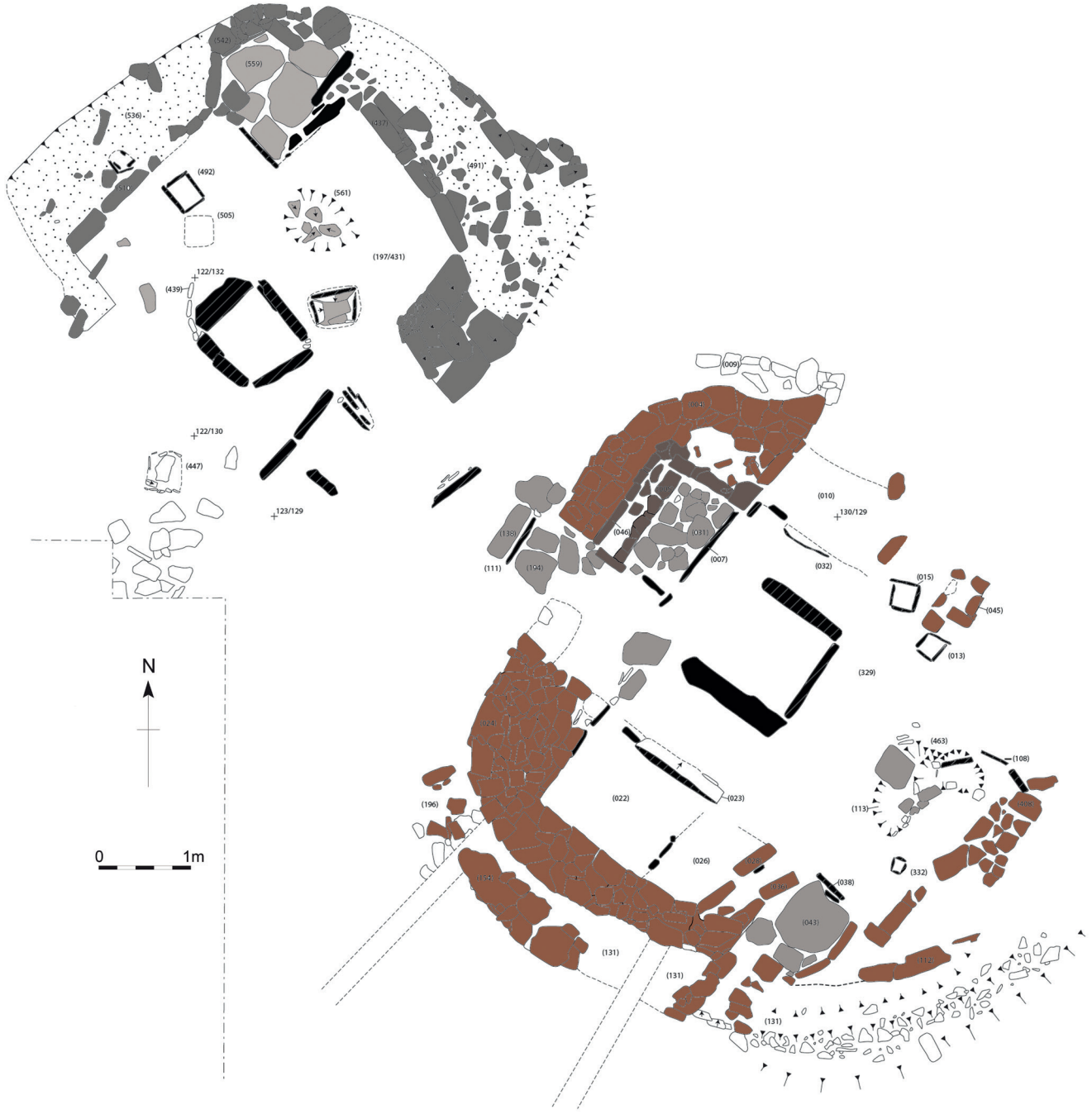


Fig. 1.4 The Red and Grey double-house at Crossiecrown was created after the demolition of the Late Neolithic settlement. The Red House formed part of the earlier settlement, and the Grey House was added subsequently (after Card et al. *2016).*

Further north, double and porched houses are also present in Shetland, representing unequivocal evidence for converging spheres of interaction. Interestingly, here the development of this house architecture appears to follow different trajectories. First, as exemplified by both Yoxie and the Benie Hoose, Whalsay (Fig. 8.21), the double-house with its 'figure-of-eight plan' is produced through a process of single house embellishment and enlargement (Calder 1956; 1961), which occurs during the late third and early second millennia.

In contrast, the double-houses at Kebister, Shetland (Owen and Lowe 1999) and Sumburgh, south Mainland, Shetland (Downes and Lamb 2000), were both initially created during the Early Bronze Age as timber structures. The latter was associated with Beaker pottery and subsequently recreated in stone as a small south-facing building,



Fig. 1.5 A Chalcolithic–Early Bronze Age house under excavation at Spurness, Sanday, showing a double-house structure with small porch or extension in the foreground. This site overlooks the Bay of Stove Late Neolithic settlements.

which then had a larger house added to the south to become a double-house (Downes and Lamb 2000). This building underwent modifications through the second millennium and was finally remodelled at the end of the Bronze Age. These houses are characterised by longevity, being inhabited seemingly for a millennium. The houses were built through an organic method of construction by the continuous addition of midden to outer walls, which was periodically revetted in stone until the structures became massive and monumental (Downes and Lamb 2000, fig. 40).

A double-house in Orkney very similar to Sumburgh was excavated at Skaill, Deerness (Buteux 1997). The proposed development of the stone–built structures at Skaill was firstly the building of a sub-oval house with south-east-facing entrance, next to which a smaller house with a north-facing entrance was built. The two were later remodelled and linked by an adjoining south-west-oriented entrance. Like the Shetland houses, this structure was at first wooden and the walls grew massive through time, being revetted periodically. The settlement at Skaill is thought to have been Middle–Late Bronze Age (Buteux 1997). Therefore, while some double-houses appear to have been occupied only during the late third to the middle second millennia cal BC, such as Spurness (Fig. 1.5; O'Connell 2018), others in both Orkney (Skaill) and Shetland (Sumburgh and Kebister) have a much longer currency running through the Late Bronze Age into the Early Iron Age (Buteux 1997; Downes and Lamb 2000; Brend *et al.* 2020, 233–4). Settlement Mound 11 at Tofts Ness, Sanday is unusual in that it contained settlement remains that bridged the Neolithic–Chalcolithic–Early Bronze Age divide (Dockrill *et al.* 2007, 382), and round houses which span the Late Bronze Age and Early Iron Age (although it was not possible to excavate enough of the mound to show continuity between the latter periods).

It is not only double-houses that demonstrate a convergence between Orkney and Shetland in the second millennium cal BC. The well-preserved Neolithic–Bronze Age settlement in machair sands at the Links of Noltand, Westray has provided important evidence for a diversity within Bronze Age settlement (and burial) complexes in Orkney (Moore and Wilson 2011; Moore *et al.* 2022). A number of double-houses constructed of stone and timber are grouped around a flat cemetery of 56 burials containing both inhumations and cremations. This Bronze Age settlement also includes a 'sophisticated subterranean "burnt mound" complex, buildings for crop drying, processing and storage, and a well house' (Moore *et al.* 2022, 544). Bronze Age burnt mounds were also part of the settlement and funerary complex at Tofts Ness (Dockrill *et al.* 2007), and John Hedges (1975, 74) commented how dense the distribution of these monuments is in the Northern Isles with one estimated every four or six square kilometres and a rough total of 230 in Orkney. These can be quite massive monuments and in the Northern Isles they are characterised by a crescentic heap of fire-cracked stone surrounding a tank or pit, often associated with structural elements such as walling, furniture and a hearth (Dockrill *et al.* 2007, 393). After excavations at Liddle and Beaquoy, Hedges (1975) concluded that these Middle–Late Bronze Age structures were domestic sites. Sandra Øvrevik followed this interpretation by including burnt mounds in her assessment of the distribution of domestic settlement, which is why hundreds of burnt mounds are shown as 'habitation sites' (Øvrevik 1985, fig. 7.1). However, various subsequent investigations of burnt mounds in Shetland and Orkney have resulted in a different interpretation of burnt mounds as not constituting regular or permanent domestic buildings but instead forming a 'specialised role within the Bronze Age landscape' (Dockrill *et al.* 2007, 394). The complex or 'developed' forms of burnt mounds in Orkney are not only closely comparable to those in Shetland (Moore and Wilson 1999), but also those in the Western Isles of Scotland (Moore *et al*. 2022, 555). The development of settlement from the Late Neolithic villages to double-house complexes, and the inter-relationship between Orkney and Shetland will be returned to in Chapter 8. Here this brief outline is intended to provide a context for the changes in burial practices through the third and second millennia cal BC that will be presented in the next six chapters.

1.5 Introducing the Orkney Barrows Project

1.5.1 Background

Bronze Age burial mounds in Britain have attracted antiquarian and archaeological interest for centuries. These monuments are, or were, abundant in most parts of Britain

and have been the subject of very many investigations. The desire to understand the nature and structure of Bronze Age society from the burial evidence has been strong through centuries; Peterson summarised the prevalent views, observing that nineteenth century antiquarian investigations revolved around a notion of round barrows being associated with a high-status person or chieftain, with secondary and satellite burials being the remains perhaps (quoting Greenwell) of 'wives, children or slaves' (Peterson 1972, 22–3). In Orkney, attempts to discover 'status' as revealed through grave goods have not been fruitful mainly because such complexity and variety in burials were rarely encountered as were diagnostic or datable artefacts. This state of affairs prompted George Petrie to lament that 'the paucity of relics in the graves and barrows of … Orkney affords but little opportunity of forming any idea of the social condition of the early inhabitants' (Petrie 1927, 27).

Due to many of the interventions of antiquaries and archaeologists in the past having concentrated on the retrieval of artefacts and selected skeletal remains from (mostly primary) burials, little information of what were complex burial rites was recorded. Perceptively, Peterson identified

> the need widely felt at the close of the nineteenth century barrow digging epoch to develop a rational framework into which the large mass of … data could be placed. The problem was most easily approached by way of the grave furniture associated with burials in the barrows, and attention was consequently directed almost exclusively to objects associated with particular burials rather than to barrows as a whole. (Peterson 1972, 23)

Today, it is widely accepted that it is problematic to correlate directly the way in which people were buried with their rank and status in society; things are much more nuanced. Nor can progressing from such observations of levels of monumentality and wealth of grave goods achieve a viable reconstruction of Bronze Age society. This shift in approach to the interpretation of burial evidence arises from an appreciation that the criteria governing procedures following a death are decided by the living not the dead (Parker Pearson 1982) and, equally, that the treatment accorded the dead is not just determined by the obligations to the dead, but is concerned with the 'reallocation of rights and duties amongst' the living (Barrett 1990, 182).

Therefore, focus has shifted from the 'burial' to the wider context of funerary and mortuary rites and the differing kinds of architectures they created. Burial mounds which are excavated under modern excavation conditions almost always display complexity in the different phases and variation in amounts and types of burial. The importance of the mound structure, and what the funerary architecture tells us about mortuary rites, was a concept that Cyril Fox first sought to investigate through his work (1959, xxv–xxvi). To some degree Fox's call for greater attention being placed on the constituents or material fabric of a barrow has been answered but a clear difficulty exists in plough-truncated landscapes where all above ground evidence has often been lost.

Furthermore, in Bronze Age burial studies, much of the focus of recording, analysis and theoretical debate had been on inhumation burial even though, from the earlier Bronze Age onwards, cremation was the dominant rite across Britain and further afield. Indeed, in earlier periods of investigation cremated remains were not always retained, even at sites such as Stonehenge, and it was not until the later twentieth century that cremated bone was subjected routinely to specialist analysis: as Jacqueline McKinley noted at the time 'cremation burials have been the "poor relation" of British cemetery studies' (1994, 132). As Bronze Age cremations are not as commonly accompanied by grave goods, and when present these tend to be seen as 'poorer' than those from inhumations, it was often concluded that those cremated were of lower status. Equally, the fact that cremated burials were frequently secondary burials inserted into an existing burial mound or lie unmarked within flat cemeteries, combined with the above noted poverty of grave goods, seemed to imply less effort being expended on the interment. This translated into interpretations of greater equality in society and a lessening pre-occupation with burial rites (cf. Burgess 1980; Megaw and Simpson 1979). Rowlands (1980, 51) expressed this view unambiguously with inhumation and the survival of bones representing continuity as prerogative of high rank, as contrasted with cremation and the burning and destruction of individual identity equalling low rank for the Bronze Age of Europe as a whole. During the formulation of the Orkney Barrows Project, it was considered surprising that this idea endured with few challenges, despite an acknowledgement of the substantial resources expended in cremating a body and its spectacular nature.

The research framework for the Orkney Barrows research was established to attempt to redress these biases in research as far as possible, and thus to better contextualise Bronze Age burials with consequences for the interpretation of the burial record elsewhere in Britain and Northern Europe. The project aimed to move the focus from primary or central burials to include other burials, and to examine the architecture of barrows and landscape position with particular attention placed on their relational characteristics. The emphasis was set on viewing both inhumation and cremation as burial technologies and as suites of different rites occurring within specific contexts.

A further aim of the project was to examine the funerary rites as a journey through space and time (cf. Barrett 1990), to better understand mortuary rites and variability, and importantly to contextualise mortuary and funerary rites within ontological and cosmological understandings of the world. These approaches are employed here in a

consideration of the rites of passage triggered by a death, viewed as a journey taken by the corpse and the living, where the relations once forming the deceased are negotiated in different ways by various mortuary practices and treatments of the corpse. This approach to mortuary and funerary rites was informed to some degree by an ethnoarchaeological study undertaken of Hindu Balinese cremation (Downes 1999a). Equally, a key concern which guided interpretation throughout the project was to identify the strategies employed to negotiate and in some instances arrest (see Section 3.5) the severing of relationships in which the deceased was enmeshed. An emphasis on practice and materiality was hoped to facilitate a broader understanding of how third and second millennia cal BC social worlds were ordered and re-ordered through mortuary rites. These complex rites of passage and their identification and interpretation are considered in this volume through the results of the Orkney Barrows Project excavations and other cists excavations, with a focus on cremation rites in Chapter 7.

Despite the negative perceptions of the Orcadian Bronze Age, the burial record is relatively rich, characterised by numerous earthen barrows, cairns and sophisticated stone cists, and flat cemeteries. As a precursor, the excavation of a small, truncated barrow at Mousland in West Mainland (Fig. 1.6), had effectively demonstrated that much information could be gained from even a limited excavation of a burial monument (Downes 1994). Earthen barrows are not common in Scotland as cairns tend to dominate the record, making the Orcadian barrow resource more significant. Certainly, stratigraphic information, particularly the substances and sediments of which the mounds are composed hold significantly greater potential for recovering evidence regarding both barrow construction sequences and composition. Moreover, the history of less intensive cultivation in Orkney than in other areas of Britain where barrows proliferate was thought to offer potential for better survival not only of burials but also of any features or traces of activities relating to funerary rites, such as cremation pyres.

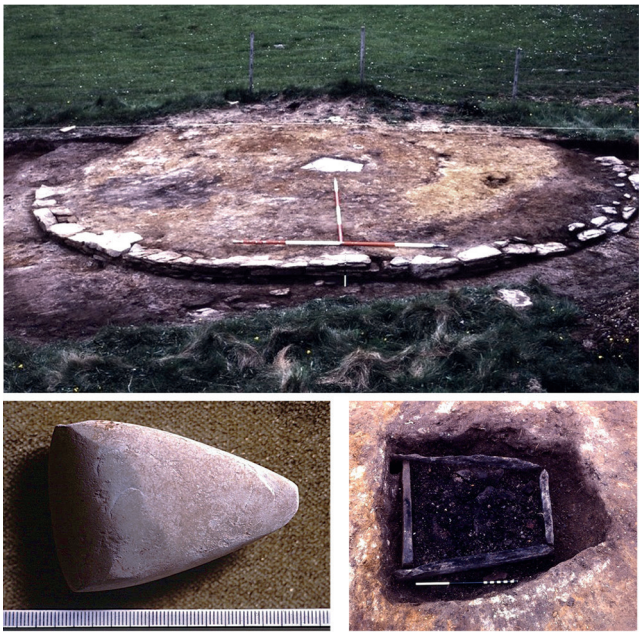


Fig. 1.6 Mousland barrow, Stromness, West Mainland. viewed from south, showing stone lid of the cist in the centre of the barrow, and a stone kerb surrounding a mound formed of stacked turves with different shades of clay and a dark band of organic material (top). The cist in a pit contained cremated bone and pyre debris (lower right). A small stone axe was placed outside the cist; scale in mm (bottom left).

In the later nineteenth century F.W.L. Thomas had reported barrows in Orkney to be very numerous, estimating 2000 to be present (Thomas 1851). Yet, Thomas himself was lamenting the destruction of archaeological monuments through agricultural practices (Thomas 1851, cited in Øvrevik 1985) and the reduction will have been due to agricultural expansion to produce greater quantities of oats and barley during the agricultural 'improvements' of the mid- to late nineteenth century. Many of the barrows and cists that were investigated by antiquaries in the nineteenth and earlier twentieth centuries were brought to light through plough disturbance. The depletion in barrow monuments was apparent when the then Royal Commission on Ancient Monuments of Scotland undertook their survey in the late 1920s (RCAMS 1946).

By the end of the nineteenth century, livestock formed the more significant part of the Orkney economy. This reliance on livestock greatly increased between the First and the Second World Wars, in terms of both sheep and cattle. These processes have resulted in much moorland being taken in for use as pasture and today cattle and sheep rearing is the dominant form of agriculture in Orkney. In terms of the amount of land given over to agriculture (including rough grazing), there was a very sharp increase between 1936 and 1952 from 36,213 ha to 71,600 ha, and this has continued to rise steadily. In 1981 80.9% of the total land area was used for agriculture (Berry 1985) and this increased further during the 1980s through European Commission subsidies. The major increase in cultivated land during and after the Second World War was followed by grants for the farming sector to take marginal land into cultivation, resulting in large areas being drained and turned over to pasture. This included many that had not been in agricultural use since prehistoric times thereby compounding the destructive nature of agricultural improvements during previous centuries. Many barrow cemeteries were levelled or, if they survived, entered a cycle of land management associated with a cattle-based economy that would lead to fairly rapid erosion.

1.5.2 The Orkney Barrows Project

The Orkney Barrows Project was conceived after a number of visits to Bronze Age barrow cemeteries undertaken as part of background research for the Mousland barrow excavation report (Downes 1994). At virtually every site there were visible signs of barrows suffering acute erosion principally through the effects of ploughing, livestock (Figs 1.7, 5.7 and 5.81) and burrowing animals (Fig. 4.18). Additionally, many also showed characteristic signs of having been dug into in the past with hollows in their tops and stone cists remaining exposed (Fig. 4.19). Through these observations, questions were formulated about the remaining archaeological potential that the mounds might still hold after varying combinations and amounts of damage, and this aspect of monument management was factored into the embryonic project design.

As a consequence of this fieldwork, a project which fused research with resource management was formulated with and funded by Historic Scotland (now Historic Environment Scotland). The objectives of gaining a better understanding of Bronze Age burial rites while simultaneously assessing the condition of the monuments and exploring improved management regimes lay at the heart of the project. The resulting Orkney Barrows Project aimed to address both the poor understanding of the Bronze Age and the impact of the loss of the archaeological resource, and took place in the following stages:

1. *Orkney Barrows Survey*: a resource assessment undertaken in 1993–4 entailing visits to every known or putative Bronze Age burial mound to ascertain the nature and character of the monuments and also their condition. A database of this information was created (Downes 1997 annex 1; all information in the National Record of the Historic Environment (NRHE) trove.scot (https://www.trove.scot/), the results were interrogated and interpreted, and a report was formulated recommending three levels of response to the problems of the erosion of the monuments: Level One – education, Level Two – active management, Level Three – active preservation (Downes 1997). All these responses were predicated on gaining a better research-based understanding of the monuments for improvement of management which could not be undertaken without knowledge of the nature, extent and setting of the barrows.
2. *Linga Fiold, Sandwick excavation*: extensive investigation of a linear barrow cemetery, in order to gain a better understanding of the spatial and temporal arrangement of funerary rites and to excavate a range of apparently different types of barrows which had suffered various forms of damage (previous excavation, cattle damage, rabbit burrowing and ploughing) to varying degrees. The results of the Orkney Barrows Survey were used to provide a benchmark of archaeological potential against which the results of the survey could be measured. The site selected for excavation in 1994 was Linga Fiold, Sandwick (Fig. 1.2: Site 18; Chapter 5). These archaeological investigations provided evidence of a large number of features within, underneath and, perhaps most significantly, outside the mounds, as well as allowing an opportunity to look at the prevalent forms of damage to this class of monument on a macro- and micro-scale.
3. *Orkney Barrows excavations*: smaller scale investigation of six 'barrow' sites, excavated in 1998, selected on the basis that they characterised the various types of barrows identified through the Orkney Barrows Survey (Downes 1999b). The selection of sites was also on the basis of a wide geographic distribution as each excavation was to be a 'demonstration sub-project' with the aim of involving the widest spectrum of community possible, since it was thought that education was key to helping the survival of the monuments (Downes 1997). The six sites chosen for this part of the project were Vestra Fiold, Sandwick; Seven Knowes, Gitterpitten, Rendall (Section 6.3); Varme Dale, Gorn, Rendall (Section 6.2); The Ruff, Burray; Setter, Eday; and Ward Hill, Shapinsay. The latter three sites proved to not be barrow sites but were instead an agricultural feature (The Ruff), a small Early Neolithic chambered cairn at Setter (Downes *et al.* 2013) and a potentially Viking or Norse beacon on Ward Hill (Downes 1999b).
4. *Survey* of selected complex barrow sites in 1996: Kraa Tooies, Papa Westray, Elsness Sanday (Downes 1998; Downes and Thomas 2013, fig. 4.1).
5. *The Knowes of Trotty, Harray excavations*: formed an extension to the project and work at this site provides a good example of research and management strategies



Fig. 1.7 Cattle standing on top of the single mound which is all that remains of the Sandyhall or Sandyha' barrow cemetery in Rendall, West Mainland, which once numbered at least six substantial mounds (see also Sections 6.1 and 6.7).

put into practice. Archaeological survey and excavation undertaken between 2001 and 2005 served to define the extent of the cemetery and give an improved understanding of the nature of this significant site (Chapter 4). Unexpectedly, Early Neolithic houses were discovered through geophysical survey and excavated as part of these investigations (Downes *et al.* 2016).

6. *Rescue sites*: results from cists, pits and a cairn excavated between 1981 and 2005 by a number of different people are reported and analysed within this volume (Chapters 3 and 6).

Components 2–6 of the Orkney Barrows Project provide the basis of Chapters 3–7 of this volume. Here the survey element of the Project, the results of the Orkney Barrows Survey (OBS) undertaken in 1993–4, will be summarised.

The previous most complete survey of burial mounds and cairns prior to the current survey had been undertaken by the Ordnance Survey in the 1960s, building on the Royal Commission for Ancient Monuments survey undertaken by Mr Corrie during the 1920s (RCAMS 1946). This information, together with all other relevant sources, was drawn from the Orkney Records (Historic Environment Record) to form the basis of the 1993–4 Orkney Barrows sites to be visited during the survey. Key information concerning mounds thought to be extant was entered on the Orkney Barrows Survey database (Downes 1997). Information from the Historic Scotland Monument Warden reports was also added as appropriate. Each burial mound was entered individually and cross-referenced to others if part of a group.

Site visits comprised measuring the height and diameter of each mound, which was photographed, and the condition, type of land use and other attributes noted. The condition of the mound was quantified by recording in 20% increments of the proportion of the mound judged to be damaged; above 80% damage and the mound was categorised as effectively destroyed. Visible features were noted and the visibility of the monument in terms of its position in its contemporary landscape expressed in terms of whether it was prominent (visible from all directions and/or from a distance), visible principally from the north, south, east or west or not visible from a distance or from any particular direction. Proximity of the monument to other mounds or cemeteries and to other types of sites and monuments was noted. If a site comprised more than two mounds the layout and attributes of the group were described and sketched on a separate sheet.

The total number of individual *mounds* recorded in the Orkney Records as still extant before the Orkney Barrows Survey took place was 652. The total number of *sites* – that is cemeteries or groupings of barrows - was 275. The number of mounds found to be surviving through the Orkney Barrows Survey was compared against the Ordnance Survey total to identify the number of mounds destroyed in the c. 30 years between surveys (mounds which are above 80% damaged are usually termed as destroyed, although other factors are taken into consideration such as the archaeological potential a given site still holds and the nature of the damage). The total number of *mounds* which were identified through the Orkney Barrows Survey field visits to have been destroyed was 147 (21%). Altogether 550 mounds were found to be extant. The total number of extant *sites* (single mounds and groups of mounds) was 250; sadly 46 (18%) were found to have been recently destroyed.

Analysis of the levels of damage incurred by all mounds across Orkney showed that the largest number of mounds fall into the categories of 40–59% (149) and 20–39% (112) damage incurred. In both these categories the damage is for the most part ongoing and it is this finding that was the cause of greatest concern due to the incremental nature of that damage.

The situation can be looked at in more detail through the parish-by-parish analysis, where it can be seen that losses vary across Mainland and the other islands, findings that can be shown by parish as a distribution map (Fig. 1.8). Densities of mounds vary greatly across Mainland and the islands (see Figs 2.6–2.8) and this relates in part to a real distinction based on how the mounds were sited and in significant measure to the survival of mounds which varies according to both land type and land use. Construction technique, whether using earth, stone or a combination of both, also affects the durability of a burial monument, with earthen mounds being more vulnerable to damage through agricultural processes. Apart from these factors the distribution is also related to the varying degrees of antiquarian activities and survey intensity which was focused to the greatest degree on West Mainland. The number of upstanding mounds known from each parish varies from 107 mounds in Sandwick, to two examples each from Deerness and Hoy & Graemsay. The parishes that stand out as suffering the greatest losses are Sandwick (recent loss 65), Birsay (recent loss 22) and Harray (recent loss 11). These are all West Mainland parishes and the losses relate to the intensity of land use (see above) and the high frequency of barrows and barrow cemeteries in this area of Orkney.

When the recent loss of mounds is viewed as a percentage of the number of mounds in the Orkney Records per parish, West Mainland is again shown to have suffered the greatest losses. Stromness mounds have reduced in number by 71%, Sandwick by 44%, Birsay by 27% and Evie by 30%. These percentages are high when it is called to mind that 21% of the mounds overall have been destroyed. Of the remaining five parishes of West Mainland, Orphir, Harray and Stenness suffered 28–35% losses while the notable exceptions with very low percentage losses were Firth and Rendall at 4%.

The parishes of east Mainland suffered an equally high average of losses, 34% overall, compared with 32% average in West Mainland. Fifty-three percent of the mounds in

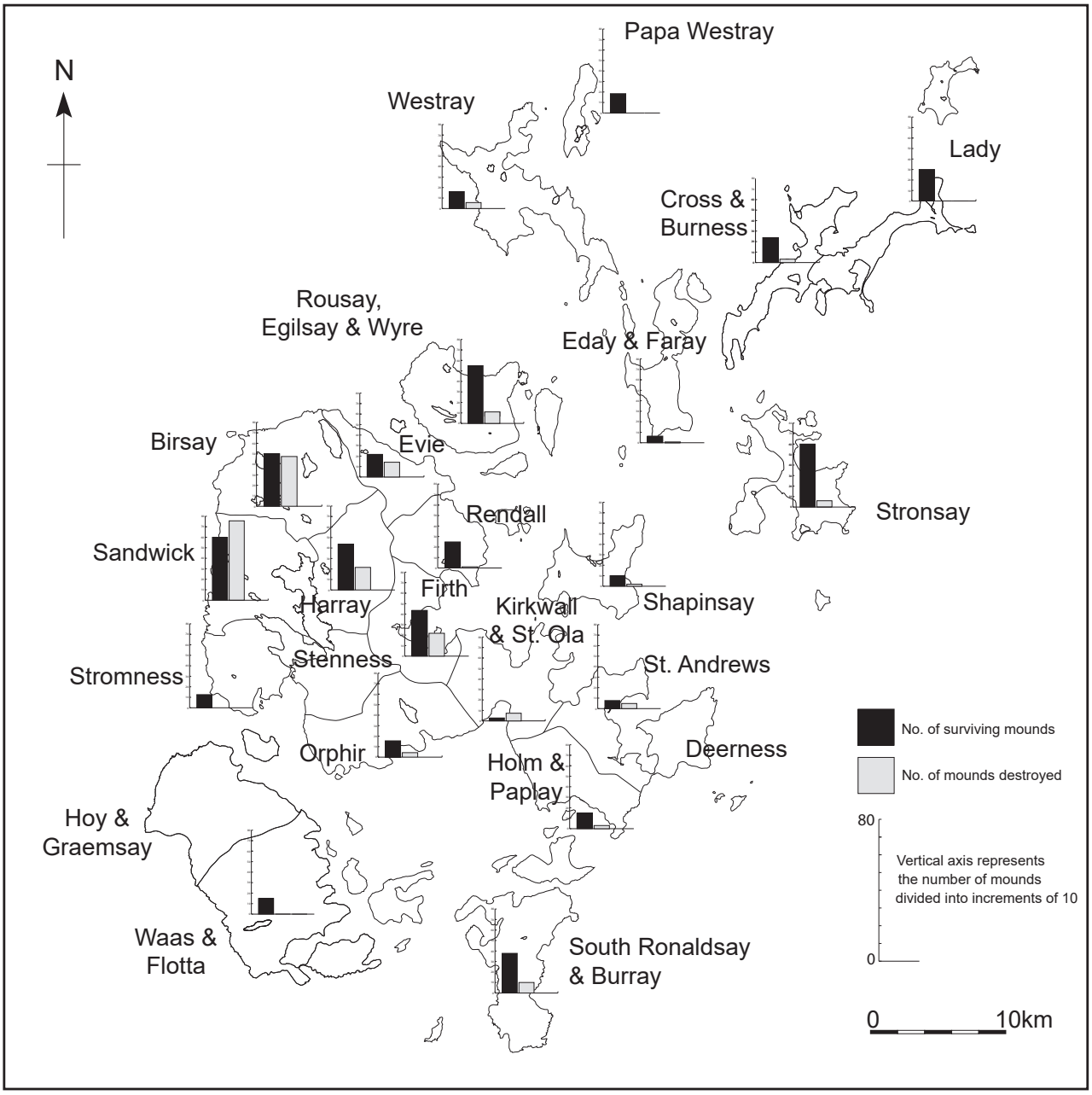


Fig. 1.8 Orkney Barrows Survey: Bar charts showing numbers of Bronze Age mounds destroyed, and surviving, by parish.

St Ola were destroyed, 33% of mounds in Deerness, 29% of mounds in Holm and 26% of mounds in St Andrews. This is at marked variance with the figures for the inner and outer island parishes, which average 11% losses. The worst affected by recent losses of the inner islands is Rousay, and of the outer islands Westray (both 18%).

The information held in the Orkney Records was also interrogated to calculate how many mounds are recorded as having been destroyed at some time before the 1960's survey, as this loss of monuments was recorded sporadically from the earlier part of the nineteenth century onwards. The 69 burials that are recorded as having been destroyed are put into a separate category as these were recorded as cists, which in some cases were clearly unobtrusive cist burials never covered by mounds (see Chapter 3), but in other cases it is possible barrows were present. There is a substantial difference between the combined total of 721 barrows/burials recorded in the Orkney Records as destroyed together with the 652 that are extant, and Thomas's estimate of 2000 barrows in 1851.

The conclusion of the results from the Orkney Barrows Survey was that this was a class of monuments at risk and if the trend of destruction continued few barrows would remain. The effects of climate change – notably increased rainfall and storminess and sea level rise (Day *et al.* 2019) will have been compounding the impacts of stock on the earthen mounds and increasing erosion of barrows and cairns on the coast since the OBS was undertaken. New research undertaken by Jem Brewer in 2022 involved revisiting a sample of 20 barrow sites (42 mounds) in the West Mainland parishes of Sandwick, Harray and Birsay. This study ascertained the condition of the monuments in relation to the original OBS findings which by then were 30 years old (Brewer 2022). The conclusions were that damage to the barrows through agricultural land use is continuing and, in the parishes Harray and Sandwick, it is increasing. In those parishes 41.6% and 46.6% respectively of the barrows within the sample had been destroyed since the OBS, and between 38% and 66% had been damaged (Brewer 2022, 44).

The report *Survey Results and Management Strategy* (Downes 1997) synthesised the information from the OBS and the information relating to condition, survival and archaeological potential derived from the Linga Fiold excavation. The selection of sites for further investigation in Stage 3 of the OBP was thus informed by the strategy and based on the following criteria:

Site variability: the barrow sites were selected in part for the variety which they exhibit in their form and make-up, their grouping and their location in relation to topography (see Chapter 2). This allowed such issues as regional variation, variation in burial rite and funerary monument, variability in grouping of mounds, mound size and construction methods to be investigated. These variables were also measured against survival.

Condition: the sites selected for investigation had all suffered damage through either ploughing, stock or rabbit encroachment, weathering or a combination of these agents. None of these sites was in a stable condition, although some are under greater threat and are eroding faster than others. Low-cost methods of determining the extent of rabbit damage through geophysics were employed and the results tested through excavation.

Survival: it had become apparent that associated features exist outside burial mounds. For management purposes it was important to determine how common this is. The areas around and between mounds were assessed both by non-invasive (geophysical and topographic survey) and invasive (excavation) techniques.

Assessment of Potential Rating: by investigating sites considered to hold a range of archaeological potential from low to high it was hoped to test the validity of the assessment of potential allocated to mound sites in the OBS results (Downes 1997, annex 1).

To conclude, the Bronze Age barrows of Orkney are unusual in being so numerous and in exhibiting forms of layout, particularly the linear barrow cemeteries which are rare in northern Britain. Their fascinating forms and characteristics are reviewed in the following chapters. As has been shown so clearly above, this interesting form of prehistoric monumentality is disappearing. However, the results of the Orkney Barrows Project survey have fed into beneficial changes in monument management and, as the succeeding chapters aim to show, our understanding of the overlooked Orcadian Chalcolithic and Bronze Ages is transformed.

2

Situating the dead in Orkney during the third and second millennia cal BC

with contributions by S. Towrie

2.1 Introducing the funerary sphere of Chalcolithic and Bronze Age Orkney

In the following chapter we will see that inhumation burial in cists or capstone-covered pits begins at the very end of the fourth millennium cal BC and continues through the Late Neolithic into what are commonly known as the Chalcolithic and Bronze Age periods. Our point of departure is whether an apparent absence in the Northern Isles of the richness of burial goods accompanying inhumations, particularly metalwork, which is present across Britain from c. 2400 cal BC onwards is a consequence of an impoverished Orcadian Chalcolithic and Bronze Age. Alternatively, is this absence merely a consequence of a different trajectory in the social practices surrounding death and burial in Orkney? Clearly, judging from the evidence, the final centuries of the third running into the first half of the second millennium cal BC in the highlands and islands of Scotland assume the appearance of a period of turbulence, disruption and change. However, as was noted in the assessment of the settlement evidence discussed briefly in Chapter 1 (Section 1.4), the picture is very mixed, and some changes seem to have their roots in the Late Neolithic period (see also Sections 8.2.1 and 8.3). Against this background is it possible to sustain the view of the Chalcolithic and Early Bronze Age as a period of paucity, impoverishment and recession? Indeed, far from a decline and 'growing insularity' occurring in this period (Øvrevik 1985, 137), a different reading of the evidence could indicate the changes to represent the dynamism of shifting social relations away from those of an unstable Late Neolithic period. This is hinted at in the burial record, where changes to individual inhumation in cists or capstone-covered pits occur from the late fourth into the third millennium; a splintering of the 'collective' at the very time when settlement was becoming increasingly conglomerated and monumental. Certainly, a more detailed examination of the development of burial and funerary rites during this period is necessary to tease out the nuanced and seemingly paradoxical trajectories of habitation and mortuary practices. Examining the treatment of the dead and funerary monuments through the Late Neolithic, Chalcolithic and Bronze Age periods reveals a surprising diversity of funerary architecture and burial.

In this chapter we will focus on the Bronze Age, providing a historiography of burial investigations through focusing on different times and places across Orkney that have been the subject of more intense investigation. The differing forms of burial and monument types are characterised, setting them in the context of the findings from the Orkney Barrows Survey Project (Section 1.5). In presenting this additional evidence we intend to provide a glimpse of the rich texture of burial assemblages which has tended to be suppressed by the pervasive notion that the Orcadian Bronze Age is a diminished reflection of the Late Neolithic period.

2.2 Building a picture: Early Bronze Age burial investigations

S. Towrie

In common with other parts of Britain, Orcadian barrows were a focus of quite intense antiquarian activity and through these investigations a wonderful array of burials came to light. Also, in common with antiquarian activity elsewhere, not many investigations were recorded at all or, with notable exceptions, those that were described lacked any methodological or detailed information. Repeatedly, comments refer to the high numbers of barrows in the landscape, together with remarks concerning the differing manner of bodily position. However, occasionally, various combinations of

disposition and method of burial were observed, as were the precise methods of construction and complexity of the stone-constructed burial cists.

In Orkney, interest in these antiquities is attested from the seventeenth century. The Links of Skaill, Sandwick (Figs 2.1 and 2.2) lying to the north-east of the famous Neolithic settlement of Skara Brae (which at this point lay undiscovered and covered by thick sand), served as a golf course for the landowners, the Grahams of Skaill. The earliest published observations of the cists uncovered here were those of the Rev. James Wallace in 1693:

> in the Links of Skeall, where sand is blown away with the wind, are found several places built four square, about a foot square, with stones about, well cemented together, and a stone lying in the mouth, having some black earth in them. The like of which also are found in the Links of Rowsum in Stronsay. (Wallace 1883 [1693], 29)

Although findings undoubtedly continued to be made, the better documented investigations were those undertaken in the early 1770s at the same Links of Skaill. In October 1772, Sir Joseph Banks and his retinue arrived in Orkney after an expedition to Iceland. As well as taking in some of the local sites, accompanied by Orkney resident Rev. George Low, they specifically made their way to the Links of Skaill. There they, along with other 'Gentleman and Servants, and many of the Natives with Spades ... open'd two Ancient Tombs or Tumuli' (James Roberts' diary account cited in Lysaght 1972, 288).

According to Roberts, two of the cists opened contained the bones of a man and a woman placed on coarse mats. In one of the cists, the contracted skeleton of a large man was accompanied by bones, thought to be those of a woman, contained within a coarse bag laid at his feet (see Lysaght 1974, pl. 39; Megaw 2004, fig. 9). Banks notes in his journal (Lysaght 1972) that the area was covered in an immense abundance of tumuli which appear to have comprised large amounts of sea-worn stones covered in sand, and that burials were sometimes cremations (ashes), sometimes inhumations and sometimes both (Fig. 2.1). It seems likely that the Banks operation followed an episode of 'grave-digging' on the Links of Skaill a month or two earlier. In a letter to Dr Robert Ramsay in Edinburgh, dated 23 September 1772, the landowner Robert Graham outlined his investigations of three cists, including the significant find of a jet or shale disc bead necklace with a larger lozenge (or 'locket') of a different material (which did not survive the lifting):

> One of them … in which I found some human bones lying at the widest end, and in the other a great many burnt bones among which was about 200 small black beads of which I have hereby sent you some and amongst these beads was a piece of bone which I take to have been Ivory, but the colour much altered, & from a hole being in it we conclude to have been a locket ...
>
> In another Urn [cist] a little larger I found a human body which seems to have been set on its backside, as the skull and ribs and backbones were all lying about the widest end, and the thigh bones and legs stretched out at full length … the burnt ashes in one of the ends was covered over with some kind of covering, which appears to be made of hair, of which I have sent you also a small quantity.
>
> In another Urn [cist] about three feet only in length I found the bones of a child whole and entire with its knees a little bended, as people generally lie in bed … All these Urns [cists] are covered on the Top with a great quantity of stones and are raised from the plain into what we call hillocks.
>
> There are many hillocks of this kind all having the appearance of being full of urns [cists] ... (Orkney Museums Service Archives).

Dr Ramsay sent a copy of this letter to Joseph Banks on 20 December 1772 but it is clear from Banks's notes that he knew about Graham's discovery from his earlier Orkney visit. With the letter, Ramsay enclosed one of the two presumed jet or shale disc beads that Graham had sent him, along with a small quantity of the 'hairy substance' recovered from a cist by Graham. Rev. George Low's written accounts of the Banks investigation were more detailed than those of the others present, and he also reported the opening of burial mounds by Graham of Skaill (Low 1879).

Although there is no doubt that Graham and Banks both opened burials mounds at the Links of Skaill, the nature and brevity of the different reports means there are discrepancies. In Robert Graham's letter to Ramsay, for example, he states there were 'about 200 small black beads' (Orkney Museums Service Archives). A month later, Banks's notes record 400. By 1795, the Old Statistical Account record of the parish had reduced this number to 'about four dozen' (Clouston 1795, 459). Compiled by Rev. William Clouston almost a quarter of a century after the events, the Old Statistical Account repeats information from earlier sources but introduces a number of new elements. Graham's hair covering, for example, becomes 'a quantity of chestnut covered hair' which initially appeared rotten but which, when exposed to air, 'was found to be strong' (Clouston 1795, 459). It is also perhaps the varying accounts of the finds

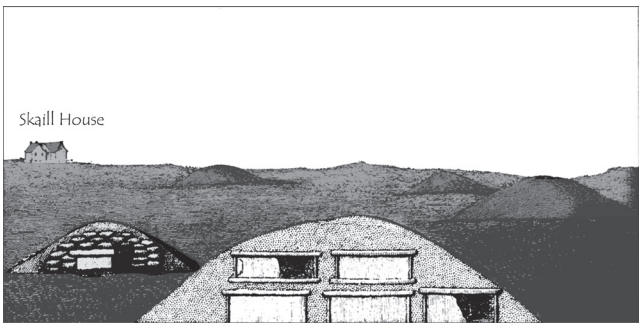


Fig. 2.1 Mounds near Millhouse, Skaill Links, Sandwick showing different construction types (after Low 1879).

over time and the different numbers of beads mentioned that causes some confusion over whether there was another jet necklace from the area. The only other definite finds of Chalcolithic or Early Bronze Age jet-like material from Orkney are items which would be found more commonly in a burial context but which were recovered from cached or hoard contexts: the V-bored button associated with a macehead, flint knife and three polished axes found in the outer stonework at Isbister chambered cairn (Øvervik 1985) and the decorated spacer plate found in a peat moss at Grind, Tankerness (Kirkness 1935). Rev. Clouston adds that, again at the Links of Skaill:

> Several other tumuli have been opened, which had much the same appearance. In some of the tumuli were found stone chests of about 15- or 18-inches square, in which chests were deposited urns containing ashes; in others of these chests were found ashes and fragments of bones, without urns. (Clouston 1795, 459)

Low also notes the variances in the structure of the burial mounds, describing two forms of 'tumuli' or mounds within which the cists are contained, all of which appear outwardly as sandy hillocks. His illustration (Fig. 2.1) shows smaller mounds, which could be described as cairns, within which a cist was supported by rough flags and covered with a mound of sea-worn stones and sand and had a 'cone' shape (Fig. 2.1 background), as distinct from larger mounds which have cists at different levels throughout a sand matrix and are of a larger more rounded appearance (Fig. 2.1 foreground). This latter type has greater similarity to barrows elsewhere in Orkney that are formed of earth, with primary cists of varying numbers placed on the ground surface and others inserted or incorporated as remodelling phases of the barrow (see for example, Chapter 5 Linga Fiold).

None of the 18th century accounts provides an exact location for the cists opened by Graham and Banks, although an illustration by F.H. Walden, one of Banks's retinue, suggests they lay at the southern end of the Links (Lysaght 1974, pl. 5). When the Royal Commission survey was undertaken in the 1920s, the area was found to be 'studded with so many sand-dunes that it is impossible to distinguish three "tumuli" marked on the O.S. map' (RCAMS 1946, 268). The sandhills or 'tumuli' mapped lay c. 500m to the south-west of the unobtrusive accessible cist at Sandfiold (see Fig. 3.43; Dalland 1999) being situated in the vicinity of a rock-cut cist discovered recently in 2021 on the



Fig. 2.2 View across the Links of Skaill to Skaill Bay with cist site highlighted in red (top left); the Links of Skaill cist within fenced area (top right); view of broken cist capstone within the pit (bottom left), and pre-excavation view into the cist (bottom right) (Sigurd Towrie).

lower slopes of Sandfiold, overlooking the Links of Skaill (Fig. 2.2). This cist was within a deep pit and contained an inhumation (Fig. 3.1). Both recent discoveries were made by machinery accidentally breaking through their capstones (see Section 3.5).

Nor do any of the antiquarian commentators refer explicitly to cists being dug into the ground or bedrock around Skaill Bay. This suggests that these subterranean 'unobtrusive' cist burials were not marked above ground as they would have been visible to those examining features in the eighteenth century, for this dynamic and fragile landscape was changing through both natural and agricultural processes. During the Orkney Barrow Survey, it was not possible to see any of the low barrows or distinct aforementioned sand dunes as the Links have been smoothed out for use of the area for pasture, as well as sand extraction in places (Fig. 2.2).

In 1849, lamenting the loss of tumuli in the neighbouring parish of Sandwick, where Skaill Bay is located, George Petrie wrote:

> [A] few years ago about a hundred were to be seen ... but these interesting memorials of the past are everywhere fast disappearing before the agricultural improvements of the present age which appropriate and swallow up the materials of which these old sepulchral monuments are constructed, and what is more provoking still without any attention being given to preserve a record of their construction and contents. (quoted in Davidson and Henshall 1989, 15)

The skeletal and other organic materials present in cist burials overlooking the Bay of Skaill, West Mainland, where they are undisturbed, remain well-preserved even to this day. The preservation conditions at the Links of Noltland, Westray, where a Bronze Age cemetery and cist with multiple burials have been found more recently (Moore *et al.* 2022), are similarly exceptional due to the alkaline nature of the machair, lime rich shell-sands, which occurs in bays and beaches on most of the Orkney islands. This is in stark contrast to the neighbouring parish of Stenness, West Mainland, where more acidic soil conditions may account for the partial preservation or complete lack of skeletal remains within the parish's few discoveries and investigations of cists and barrows. As a consequence, Stenness lacks the richness encountered at the Links of Skaill and other machair locations such as the Links of Noltland. Indeed, preservation aside, documented cist discoveries in Stenness, a parish renowned for its numerous Neolithic monuments and settlements including Maes Howe, the Stones of Stenness and Barnhouse, are surprisingly rare.

The scarcity of burials in Stenness is perhaps also linked to widespread agricultural improvement from the early nineteenth century onwards (see Chapter 1). However, another explanation may lie with the parish's topography, in particular a ridge of hills to the south-east. Lying outside agricultural land, this high ground and its lower slopes have remained largely untouched, and not well studied, over the years. There are, however, a few historical accounts of human burials found in the area.

At Summerdale (see Fig. 2.10), for example, Low wrote: 'the bodies (many of which are found to this day) are thrown down without order or distinction into pits, without coffin, and few of them with a shroud' (Low 1879, 17–18). Given the location, these were traditionally linked to the Battle of Summerdale in 1529, a connection that was questioned as far back as the early nineteenth century. Rev. George Barry, in 1805, was clear. Describing 'a number of little hillocks or artificial tumuli' between Stenness and Firth, he wrote: 'though this has evidently been a field of battle, as the style of the monuments refers to a remote period, it cannot contain the graves of the Earl of Caithness and his troops who fell at the [battle of Summerdale] in the sixteenth century' (Barry 1805, 28). An excavation at Summerdale in 1960 exposed a cist containing cremated remains, confirming a prehistoric origin for at least one of the 10–12 documented mounds. This cist was a focus for later funerary activity, including another cremation burial and an inhumation (Ashmore 1974, 42).

Despite the apparent paucity of cists in Stenness, the few known examples highlight variations in construction and contents. In 1915, for example, a 'peculiar' cist was discovered in a quarry on the land of Tormiston Farm. The only known account of the cist is an article in *The Orcadian* newspaper (14 August 1915), which reported that the cist was on 'perfectly level ground', contrasting with others in the area which were typically found on 'raised ground or small mounds' (see also Johnstone and Johnstone 1920, 164–5). Although the cist was empty, save a layer of 'brown and black ashes' at the bottom, this cist stands out because of its construction; three sides and the capstone were formed by the usual flagstone arrangement (see Chapter 3), but at the southern end was a 'rough building with a small doorway about 24 inches by 18 inches [0.61 × 0.46m]' (Johnstone and Johnstone 1920, 165). If this 'doorway' was indeed an entrance, the implication is that it was built to allow repeated access to the interior, a feature that is far more common in Orcadian cists than was previously realised (see Sections 3.4 and 3.5). In this respect, it is interesting to note that, like the Sandfiold cist, Sandwick, and many other identified cists which could be re-opened from the side (Section 3.4), the Tormiston cist was also built in a rock-cut pit, measuring c. 1.6 m deep from ground surface to the base of the cist. The newspaper article informed its readers that prior to the Tormiston discovery, the last cist found in Stenness was on the farm of Lochside (*Orcadian* 14 August 1915; Johnstone and Johnstone 1920, 165), about 800m to the north-west of Maeshowe. The date is unknown, but the cist contained two skeletons, which both 'crumbled away when exposed to air' (Johnstone and Johnstone 1920, 165). In 1928, another six cists were found

at Lochside. These were 'carefully constructed in the usual manner' with one described as a 'double', consisting of the main cist with a smaller adjoining on the west side (Grieg 1931, 61). All but one, which contained cremated bone, were empty (Section 8.3).

On 12 January 1869, *The Orcadian* newspaper reported the discovery of three barrows/cists at Quoynamoan, near Tormiston and Maeshowe. However, details of this find have not made their way into the official records. Although a series of possible cists were found in the 1970s around the southern end of the Stenness Loch, there are no written accounts of these findings (Ballin Smith 2014, 110). The only published cist excavation was that undertaken by Beverley Ballin Smith in 2002, at Nether Onston (Fig. 1.2, site 10) after agricultural work disturbed its capstone. The Nether Onston cist, also at the south end of the loch, lay c. 3km to the south-west of Maeshowe. Constructed using stone side slabs in a pit and capped by three flagstones, any hopes of well-preserved skeletal material were soon dashed. The only evidence it might have been used for the deposition remains were mottled-brown soil in its north-western corner and a fibrous substance the excavator felt may represent decomposed bone (Ballin Smith 2014, 115). The lack of cremated deposits and grave goods supported the interpretation that the cist was built to receive an inhumation, being 'only designed for the burial of a single individual, or for individuals placed inside at the same time' (Ballin Smith 2014, 116). Interestingly, there was no sign of a mound or marker and that 'once the backfill had bedded down the position of the grave was, to all intents and purposes, lost' (Ballin Smith 2014, 116), a situation consistent with the ubiquitous Orcadian unobtrusive cists of the third millennium cal BC (Section 3.4).

2.3 The changing nature of burials in Orkney: cists

Many hundreds of 'short cists' have been discovered in Orkney and reported or recorded to varying degrees over the past three centuries. Attempts to summarise, classify or date many of these cists have foundered due to a combination of their unparalleled variety of construction and to the 'problem' described above of a lack of diagnostic grave goods (cf. Petrie 1927; Hedges 1980). To quote Anna Ritchie, 'what Orkney lacks in the way of fashionable artefacts is compensated by a unique variety of short cists' (1995, 95). Furthermore, classification of monument or site types has been problematic because the description 'short cist' is used to distinguish a Bronze Age cist built to contain a crouched or flexed inhumation from the long cists of the Late Iron Age and early medieval period onwards, which contain extended inhumations (Corrie 1929; Ritchie 1995). Short cists are most commonly described as being set into the ground and some appear not to have been covered by a burial mound; however, the term is also used to describe cists that occur within or around barrows and that are set on the ground surface under barrows.

John Hedges (1980) published 11 'short cists' which had been excavated between 1968 and 1978 by amateurs and himself. In each case, the dimensions, orientation, structural form and contents are given with the majority containing cremated bone (those without were empty). All were set into pits in the ground. Unfortunately, no datable material was recovered from any of the sites. He surmises that the cists may well date to the Bronze Age, but also ventures the suggestion that, given how little we know about, for instance, Iron Age burials, we should not assume they are all of this date (Hedges 1980, 50). He also points out that rather than excavating single burials it would be best to search for any associated burials in the hope they may have datable contents. The cremated bone from Werne, Harray (Figs 3.24 and 3.42; Section 3.4) has been radiocarbon dated subsequently, as part of the Dating Cremated Bone Project (Sheridan 2003b), to 2350–1960 cal BC (at 94.3% probability, GrA-21627), placing it securely in the Chalcolithic/Early Bronze Age (but see Griffiths: Appendix 28 for modelling of these and other dates). John Hedges sought to classify the cists according to a period and was frustrated by the lack of datable evidence. This echoes Petrie's concerns of many decades previous, who bemoaned the paucity of relics within the graves, maintaining that the collecting of more data about the position of the graves, the nature of the grave goods and the mode of interment will elucidate the 'rude social condition' of the period (Petrie 1927, 27). What the evidence does show is the extreme complexity and variability in the nature and context of third and second millennia cal BC burials in Orkney.

Because 'short cists' are so often accidental finds and in the past were so seldom fully excavated, it is not clear how many might have been originally covered by burial mounds or associated with other burial features (cf. Petrie 1927; Hedges 1980). In his appraisal of short cists from Orkney, Hedges (1980) decided that the short cist was an architectural 'type'. Whilst we can agree that the 'unobtrusive' short cists cut into the natural till and bedrock are distinct from those later forms of free-standing cists erected on the ground surface within earthen barrows or cairns, or the very small cists clustered into discrete groups such as occurs at Linga Fiold (Chapter 5; Figs 5.58, 5.70 and 5.73), there is some disparity within the 'unobtrusive' short cists. For example, some are associated with Late Neolithic passage graves and houses, and others distributed across the landscape frequently cut into natural knolls and mounds. There is also a difference in accessibility, for example the early third millennium cal BC cist at the Links of Skaill (Figs 2.2; 3.1, 8.20; Sections 2.2 and 8.6) appears not to have been built to allow future re-opening, whilst the large number of unobtrusive accessible cists discussed in Sections 3.4 and 3.5 were clearly designed to be opened and re-used.

Newbigging, St Ola (Figs 1.2 and 2.3) and Sandfiold, Sandwick (Figs 1.2 and 3.43), and Links of Noltand (Hilts 2022; Moore *et al.* 2022) exemplify the complex and often re-enterable subterranean cists. At Sandfiold, a large, almost square rock-cut chamber 3.4m north–south by 3.1–3.4m east–west was dug to accommodate a large cist which was designed to be re-opened (Dalland 1999, 375). Access to the cist was gained by a roofed passage within the chamber, with the cist being entered on the west side (Fig. 3.43; see also Ferndale, Fig. 3.48). The front slab of the cist fitted under the capstone without touching it and so could be removed and replaced relatively easily. Although the sequence derived from the radiocarbon dates and stratigraphy is not unproblematic, it appears that the first deposits c. 2860–2500 cal BC (UT-1483) to be made were a quantity of cramp (fuel ash slag) placed behind the cist during construction, and a human foetus placed within the cist c. 2880–2500 cal BC (UT-1485). During the second period of use, two further burials were inserted into the cist. The first was an inhumation of a young adult, c. 1990–1750 cal BC (UT-1484). Second were the cremated bones of an adult individual, possibly male, contained within a large urn of Food Vessel type which had fallen over and was subsequently righted and repaired (Dalland 1999, 383–6). Both burial deposits were covered by a form of matting (Carter *et al.* 1999, 387), which produced dates of 2130–1780 cal BC (UT-1559) for the inhumation, and 2170–1880 cal BC (UT-1487) for the cremation. Analysis of the plant remains and pollen revealed that meadowsweet had been laid in the cist and urn as a funerary floral tribute (Carter *et al.* 1999, 397). Finally, the cremated bones of an adult, possibly male, and a quantity of cramp had been placed in the centre of the cist, partially covered by a mat of organic material which provided a date of c. 1000–800 cal BC (UT-1560). The authors accept this with reservations, which would indicate a period of nearly 1000 years between the second and third periods of use of the cist for the deposition of human remains.

The Links of Noltland cist has yet to be fully published, but it seems to be similar with a well-preserved sequence of burials (Moore *et al.* 2022, 547–50). Because of the superb preservation at this site, an entire assemblage of skeletal remains was recovered consisting of 22 individual inhumations from three main levels within the cist. These included:

> nine adults (four males, two females, three unsexed), four non-adults ... (one male infant, three female perinates/neonates) and at least nine other unsexed non-adults (five perinates/neonates, one infant, one child and two unassigned). Nine individuals were represented by complete or near-complete skeletons. The others comprised less complete remains, disarticulated concentrations, and single bones. In several instances, bodies were positioned in this grave in a manner suggestive of close association in life. (Moore *et al.* 2022, 549–50)

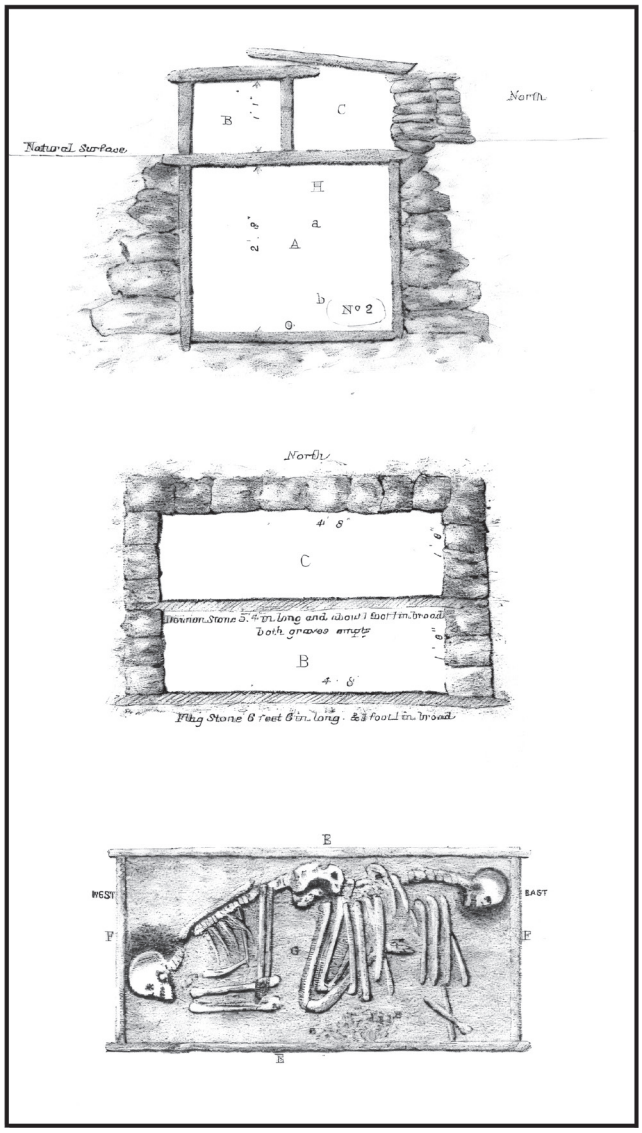


Fig. 2.3 Illustration of Newbigging cist by George Petrie, showing a section through the cist (top); plan of the upper part of the cist (centre) and inhumations in lower chamber of cist (bottom). Reproduced from Petrie (1866) by kind permission of the Society of Antiquaries of Scotland.

Unlike Sandfiold and Links of Noltland, the Newbigging cist is described as being covered by a barrow, c. 9m wide and 1.5–1.8m high (Petrie 1866, 411) and was one of a number of barrows on the slope of the west side of the valley between Scapa and Kirkwall bays (Fig. 1.2), none of which survives today. Petrie was alerted to the site by the landowner informing him of a small steatite or soapstone (a talc-schist from Shetland) urn containing cremated remains that had been found close to one of the barrows. Beneath a mound formed of a heap of stones under the clay matrix, the upper storey of the cist was segmented into two parts that were both empty (Fig. 2.3 top and centre). One of the

two large side slabs was notched to create a form of handle to enable removal: a feature seen on many other cist slabs. Furthermore, like Sandfiold, Newbigging contained both inhumations (Fig. 2.3 bottom) and cremated bone, the latter being located between two skeletons. It was clear to Petrie that the skeleton with its head to the west and the cremated bone and cramp deposit were subsequently overlain by the second inhumation, which was 'so huddled together that it readily conveyed the impression either of having been previously interred and afterwards reburied in the cist, or of having been dismembered *before* interment, that it might occupy no more space than the corner allotted to it' (Petrie 1866, 412: original emphasis). Petrie (1927) also noted the close similarity between the dispositions of the inhumations in the Newbigging cist and one he had excavated at Isbister, Rendall, West Mainland.

In 1909 another two-storeyed cist was found nearby at Crantit, c. 500m east-south-east of the Newbigging cist, when a horse broke through the top (Cursiter 1910). Here too, the smaller top storey was empty, with the bottom compartment containing both cremated and unburnt skeletal remains. Towards each end there was a pile of cremated bone and at the east end of the cist, partly overlying the cremated bone, was the flexed skeleton of a young person (Cursiter 1910, 216). At the back of the skeleton a red deer antler 'hammer' was found, which has been dated to the Early Bronze Age, 2130–1740 cal BC (OxA-4607, trove. scot c14 index 141720). Although designated a 'hammer', similar artefacts have been described as mattocks or axes, for example as found in a pit in Bidwell West, Bedfordshire (although dated later at 1618–1506 cal BC – SUERC-110492), and another from a bowl barrow at Durrington, Wiltshire (Cotswold Archaeology 2023).

Another large and probably re-enterable (accessible), cist was found in the same field at Crantit in 1924, again with cremated bone deposited at either end, but no inhumation (RCAMS 1946, 164). Moving on to 1998, a tractor fell into the top of a subterranean tomb at Crantit, located in the adjacent field to the north. The ensuing excavations led by Beverley Ballin Smith revealed two cists set into the ridge close to the tomb, one of which, Crantit South, another accessible cist (Section 3.4), contained nothing within the cist but 21 unburnt teeth from a child. Unfortunately, because of a degree of confusion about the location of the teeth (compare Ballin Smith 2014, 30 with Roberts 2014a), it is uncertain if they were recovered from the lowest fill of the cist or beneath the basal slab. The second accessible cist Crantit West (Fig. 3.46), contained two large piles of cremated bones mixed with cramp, associated with woven containers (Ballin Smith 2014, 31–2; see Section 3.4 and Chapter 7).

Virtually all the subterranean unobtrusive cists were accidental finds, many not recorded or located precisely, and others associated with barrows as was the case with Ferndale, Evie (Fig. 3.48; see Section 3.4). Under these circumstances it is difficult to ascertain how common they were, and the number that date back to the early third millennium cal BC. Consequently, they are under-represented in the overall distribution maps (see Figs 2.6–2.8), which are based on the information available in the Orkney Records at the time of the Orkney Barrows Survey.

Because burials within barrows are effectively cists sealed within an earthen mound or cairn, it appears that they were not built to be accessible, but this presupposes that the free-standing above-ground cists were covered immediately. At West Puldrite, Rendall, a pair of barrows close to Varme Dale (Section 6.1: Fig. 6.3) were investigated by Mr Corrie and others while undertaking his survey for the RCAMS (Corrie 1929). The large cist exposed in one of these mounds (and still visible today) was constructed on the ground surface and contained the remains of three inhumations. However, two of the skeletons were more decomposed than the other and, 'crowded together in the south-east corner', appeared to have been pushed out of the way for the third body which 'had been deposited with great care in a contracted position' (Corrie 1929, 191; see Section 6.1 for further detail). The 'West Puldrite discovery furnishes another example of these multiple or successive interments in a short cist' (Corrie 1929, 191), and provides evidence that cists remained freestanding for a prolonged period before being encased within a mound. This burial sequence supports a process that is hinted at by the more recent evidence obtained from Linga Fiold (Chapter 5) and Varme Dale (Section 6.2.2).

Surprisingly, and despite the universal broad-brush characterisation that describes a succession from multiple or collective burials in chambered tombs in the Early Neolithic to single inhumation in the Late Neolithic–Chalcolithic–Early Bronze Age, to cremation appearing in the Early–Middle Bronze Age, there are few cist burials in Orkney containing just a single inhumation. As is detailed and discussed in Chapter 3, cists start to be utilised towards the end of the fourth millennium cal BC and, in a number of instances, contain multiple burials often a mix of inhumation and cremation deposits, inserted over a period of time. Given the identification of unobtrusive accessible cists, which were constructed with the anticipation of future entry and re-use, this is less of a surprise. Of the cists and burials in pits with capstones those at Howe (Section 3.3.4), Moan (Section 3.3.7), Lopness (Innes 2016), Links of Skaill (Figs 2.2 and 3.1) and Pit A at Quanterness (Renfrew 1979) are the sum with single inhumations that have been dated. The sequence of dates for the recent discoveries of single inhumations within the cemetery at Links of Noltland has at the time of writing only been partially published (e.g. Moore *et al.* 2022).

Amongst unobtrusive and accessible cists there is undeniably much variation in both their contents and length of use, reflecting a high degree of complexity in mortuary rites.

The cist with 22 inhumation burials inserted over time at the Links of Noltland on Westray is estimated to have begun life c. 1730–1530 cal BC and continuing for between 510–745 years (both 95% probability) (Moore *et al.* 2022, 550). This example reveals that, although unobtrusive cists were being used early in the third millennium cal BC, such features were part of the funerary architecture and mortuary processes continuing from the Late Neolithic through to the Middle Bronze Age. In Chapter 3, by drawing on previously unpublished cist excavations and re-assessing older examples, we will offer new interpretations of the context and role of these cists.

2.4 The barrow diggers

with S. Towrie

Being mostly invisible, below-ground cists tend to be found by accident. The same was not the case for barrows which were prominent features in the Orcadian landscape. Constructed from earth and stone, barrows and other highly visible tumuli in Orkney were a magnet for nineteenth century antiquaries. Perhaps the most notorious of these was James Farrer, the MP for South Durham, England. His friendship with the Earl of Zetland gave him access to huge swathes of land and, from the 1850s, he set his sights on barrow-digging in Orkney. Unfortunately, Farrer's work was excavation in name only and even by the standards of the day 'scandalously casual' (Davidson and Henshall 1989, 6). A degree of his attention was directed to the Brodgar peninsula where, apart from the impressive Neolithic archaeology, a number of Bronze Age barrows, including two linear arrangements lie to the south and east of the stone circle. These contain nine surviving barrows of varying size and form, the largest and most obvious being the three to the south of Brodgar stone circle (Fig. 8.17). Although an unknown number have been lost, some were 'investigated' in the past. But what was found in them, if anything, was not recorded. Some investigations of the Brodgar barrows caused substantial damage as exemplified by Farrer's hurried investigation of 'Plumcake Mound' to the north of the Ring of Brodgar (Fig. 8.8), which all but destroyed it. His haphazard approach was matched by poor, or non-existent, documentation, hence, what is known of Farrer's exploits is due to the Orcadian George Petrie. If Petrie was not accompanying Farrer, he followed in his wake, compiling detailed accounts, where possible, of the excavations. Petrie's dismay at Farrer's methods is implicit in his account of the Burray short-horned cairn investigation, where he suggested the propriety of leaving the building undisturbed, and of the careful removal of the rubbish, both outside and inside (Petrie 1859, 57).

In 1854, Farrer continued his attention to the large mounds surrounding the Ring of Brodgar. Despite 'a very considerable cut' into the north end of Fresh Knowe, to the north-east of the stone circle, nothing was found. An opinion prevalent at the time was that the mound was nothing more than the pile of earth and stone, made from the material removed during the digging of the Ring of Brodgar's ditch. Petrie strongly disagreed, noting instead that there was 'evidence of far more care in its construction than was likely to be expended on a mere heap of rubbish' (Petrie 1859, 59). There was, however, no further excavation.

At the nearby Plumcake Mound, Petrie noted that Farrer was not the first to dig into the barrow. Nonetheless, they pressed on with their diggings and found a cist 'placed 5 or 6 feet [c.1.5–1.8m] southwards from the centre' that held a steatite 'urn' containing cremated bone (Petrie 1859, 59). A second cist, roughly the same size, was found a short distance away. It contained a clay pot, also holding fragments of cremated bone. Within the body of the mound itself the excavators found a broken stone pestle and 'a block of stone, with two rows of incised rings round it' (Petrie 1859, 60). Petrie believed the mound contained at least one inhumation, but no further excavation took place. Around 1861, Farrer began digging into Salt Knowe, the large tumulus 100m to the south-west of the Ring of Brodgar (Fig. 8.8). The only details of this are contained within a letter to *The Orcadian* newspaper but, to his dismay, his diggers found nothing. However, today there is a cist still visible at the top of the mound but it is not clear when it was uncovered, or by whom.

Although we owe much to George Petrie, his output was matched by that of a visitor to Orkney, Lieutenant F.W.L. Thomas, the commander of the Royal Navy survey ship *Woodlark*. While Petrie focused on excavation, Thomas was a surveyor. Both were significant contributors to the antiquarian barrow-digging operations and drawing together information about the efforts of others. Together the pair (Thomas 1851, 91) excavated the Black Knowe in Rendall, finding a cist with a 'stone urn' (steatite) inverted over bones (presumably cremated) and ashes 6 ft [1.8m] below the top of the mound. Thomas (1851) also carried out detailed surveys of the Stenness and Brodgar area in 1848, producing plans of various monuments as well as a detailed map of the Brodgar peninsula. He also took part in a few excavations, including two barrows at Linga Fiold (Chapter 5) and at the Knowes of Trotty (Chapter 4).

Described as a 'large conoid tumulus' by Thomas (1851, 106) Skae Frue was one of seven barrows to the west of the Ring of Bookan, the rest of which are now gone but vestigial remains are discernible by remote sensing (Fig. 2.4). Apart from Fresh Knowe, which is not proven a Bronze Age barrow, Skae Frue was probably the largest Bronze Age barrow in Orkney at c. 23m diameter by 3m high. Thomas was among the 'ladies and gentlemen' present for the second attempt to open the mound, because the first had been abandoned after no structural remains were found (Thomas 1851, 107). The 1850 excavation was more

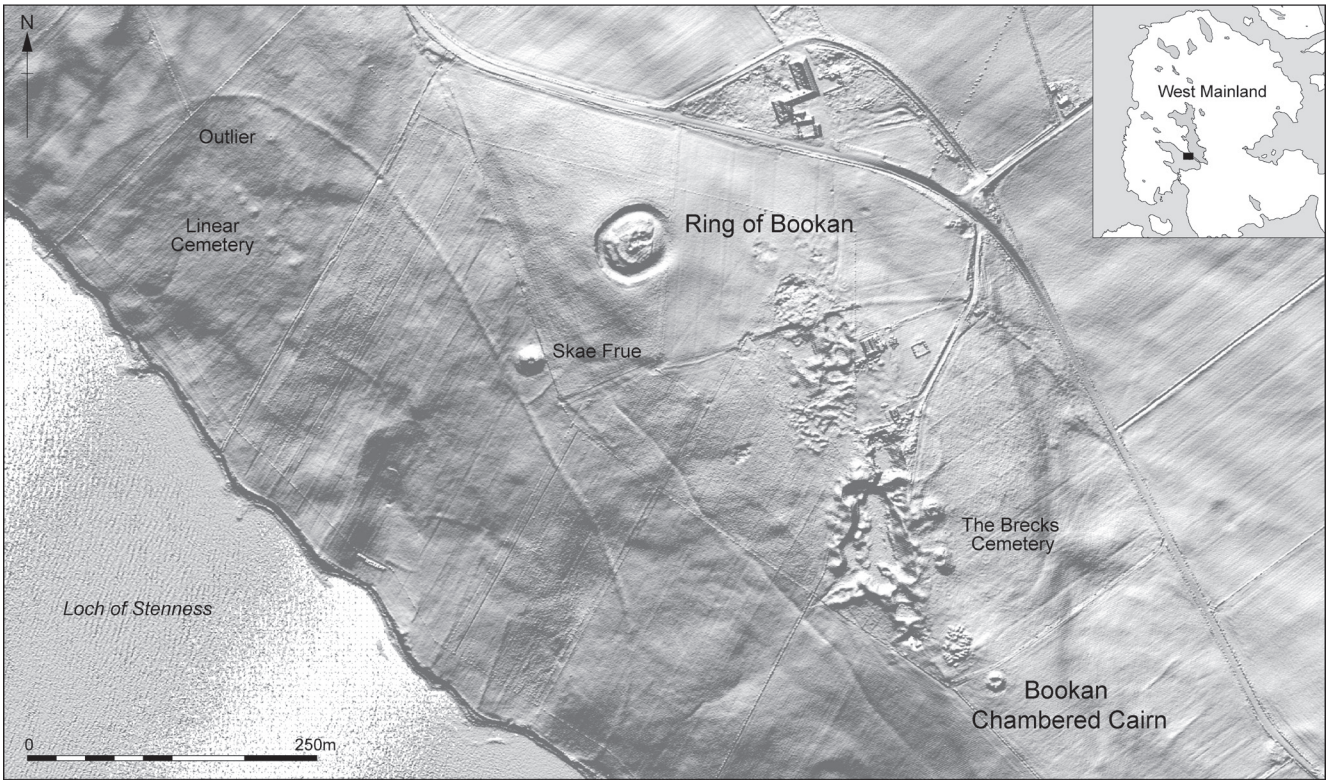


Fig. 2.4 Airborne Laser Scanning (LiDAR) image of the area around the Ring of Bookan, showing barrows and linear barrow cemeteries (after Brend et al. *2020, fig. 5.10).*

successful, revealing three cists containing human remains. A complete inhumation, said to be female, was in the south-eastern cist, disarticulated remains of a 'large man' in the north-western cist and a few bones of a child in the eastern (Thomas 1851, 108–9). Their position within the mound led Thomas to speculate there would be a fourth in the western side, but excavation did not continue. To Thomas the cists represented a 'family tomb for father, mother, and child' and he noted that the bodies had not been cremated but 'interred in a bent posture' (Thomas 1851, 109).

Petrie himself 'opened upwards of fifty of the bowl-shaped barrows' (Petrie 1927, 25), and a singular investigation he detailed was that of the Knowes of Trotty at Huntiscarth (Petrie 1859; see Chapter 4). In a summary of his work, he noted the variation in the situation of the graves, some of which are under artificial mounds, and others which either were never covered by a mound or from which the mound has been removed.

What is noteworthy in these investigations, of which the method was usually to start digging from the top and explore outwards and downwards until remains were encountered, is how frequently inhumations were encountered in a position higher up in the barrow. Given that the higher inhumations are obviously secondary burials, in many cases they are located above primary cremation burials, as was discovered at Mound 5 Linga Fiold (Section 5.7) and Holland (below). This occurrence problematises the sequence of inhumation to cremation funerary practices, which seems to become reversed at certain places in Orkney as the second millennium cal BC progresses. As adverse processes of agriculture have denuded the barrows, the finding of secondary burials is less common and so the record is skewed to primary and negative features such as flat burial cemeteries which are more commonly cremation burials. At the Links of Noltland on Westray, cremation and inhumation rites were seemingly practised in parallel for the whole of the Middle and into the Late Bronze Age (Moore *et al.* 2022).

At Vestra Fiold (Section 6.4), Thomas surveyed the linear barrow cemetery and noted 'a very interesting but obscure remnant of antiquity' at the southern base of the hill (Thomas 1851, 117). This was the 'large, irregular inclosure [*sic*], approaching to a square in outline, and fenced by large flags' (Thomas 1851, 117) first recorded by Rev. Charles Clouston a few years previously (Clouston 1845, 54). Thomas was perplexed and could offer no interpretation: 'the great size of the inclosing flags, uselessness for keeping out cattle, &c., and the barren piece of land, which has never been of any agricultural value, are the proofs of its antiquity, and I commend this inclosure [*sic*] to the notice of practical antiquaries' (Thomas 1851, 117). Thomas' antiquaries were presumably busy with more promising sites and the enclosure remained un-investigated. A notable omission from

Thomas' account is the huge quantities of 'cramp' in the vicinity of this feature (see Section 8.4.1). As will become evident throughout this volume, cramp is an extraordinary form of materiality produced in the heat of the cremation pyre being a vitreous fuel ash slag in texture (Fig. 7.7b; Chapters 7 and 8; Carter: Appendix 26; Photos-Jones: Appendix 27).

In 1936, J. Graham Callander wrote his influential article drawing attention to the presence and abundance of this material; a 'vitrified substance known in Orkney by the name of Cramp' (Callander 1936, 442). He cited Edmonston's glossary of 1866 where cramp was defined as 'small heaps of vitrified glass and stone found in ancient tumuli' (Callander 1936, 444). Although cramp also occurs in Shetland, it is curiously abundant in Orcadian Bronze Age burials as well as other contexts. Intriguingly, Callander had been informed by Corrie that 'he had found it, often in considerable quantities, on the islands of Mainland, Papa Westray, Sanday, and Stronsay' (Callander 1936, 445). In fact, the abundance of cramp at Elsness, Sanday, had been detailed under the heading of 'Vitrified Remains' by a Dr Hibbert in 1831 who encountered over 20 vitrified cairns on the ness (Fig. 8.16). These barrows he interpreted as beacons due to the intense and repeated nature of burning which would have taken place to cause the vitrification observed (Hibbert 1831). Erosion of surface deposits at all the areas noted as being covered in cramp has resulted in the disappearance of these spreads, but they are perhaps indicative of the intensive and extensive nature of cremation activities across Orkney (see Section 8.4).

Callander described two areas in Sandwick where cramp was abundant, one being burial mounds c. 450m north-west of the Ring of Brodgar (probably the disc barrow and associated mounds since disappeared, see Brend *et al.* 2020, 165). About the other Sandwick site, Callander wrote:

> At the second place there were great quantities lying on the surface, some of the masses being used as copestones on a garden wall. This was at Vestrafiold, near the large enclosure which adjoins the [megalith] quarry that is pointed out locally as the place where the tall pillar-stones in the circles at Stenness and the Ring of Brodgar came from … (Callander 1936, 445)

This ties in with a brief comment by Orcadian George Marwick from 1892: 'A great deal of fire had been used in the vicinity of the [Vestra Fiold] quarry, the ground being in some places covered with ashes and vitrified bones' (cited in Muir and Irvine 2014, 71).

The presence of huge quantities of cramp suggests the enclosure is Bronze Age and may have been the site of cremation on an extraordinary scale (Section 8.4). A Bronze Age date is also supported by the presence of the Vestra Fiold barrow cemetery on the hill's summit (Chapter 6). Cramp was also deposited adjacent to two quarried megaliths on Vestra Fiold, although the fieldwork found no evidence of *in situ* burning in the vicinity. This led to the suggestion that the large piece of cramp between the two prone megaliths was deliberately placed after their abandonment (Richards *et al.* 2015, 135). Such placement echoes the large pieces of cramp inserted outside cists containing inhumations, such as Sandfiold (where cramp is referred to as FAS (fuel ash slag) in Dalland 1999, 382–3; see also Chapters 3 and 7).

Turning to the island of Rousay, like West Mainland it had a multitude of Bronze Age barrows (Fig. 2.7), and it too had been a focus for tomb building (and probably settlement), in the Early Neolithic period. Walter G. Grant, together with J. Hewat Craw on occasion, directed the excavation of many sites including Bronze Age mounds on Rousay in the 1930s (Grant 1933; 1937). Many of these barrows were located at Quandale, the conglomerations shown on the north part of the north-east facing coast in Figure 2.7, and others along the same coast at Trumland (Craw 1934), and close by at Geord of Nears (Grant 1933). Both of the latter were relatively well recorded and each of which contained or were associated with features very similar to some encountered at Linga Fiold (such as the boat-shaped setting at the Geord of Nears) detailed in Section 5.8.3. The barrow at Trumland was of construction typical of Orkney barrows, a compact earthen mound retained by a well-built stone kerb (Craw 1934, fig. 1) as exhibited at Mousland too (Fig. 1.6). The nature of the cists and their contents have much in common with so many of the findings of the Orkney Barrows Project excavations at Linga Fiold (Chapter 5), Varme Dale and Gitterpitten (Chapter 6) and numerous other barrow investigations in terms of architecture, burial deposits and artefactual remains, such as Loth Road Sanday (Sharman 2007), Quoyscottie (Hedges 1977) and Queenafjold (Ritchie and Ritchie 1974). A central stone cist within the Trumland barrow was placed on the ground surface and supported by substantial flagstones leant up against the box of the cist, and the lid covered by three layers of thick flagstones. The cist contained cremated human bone and a small fragment of pottery. Another cist nearby held cremated bone, 'much burnt matter' (Craw 1934, 70) and some fragments of steatite urn, whilst outside this cist were more fragments of the same urn and more burnt material. Beyond the kerb of the barrow was a shallow cist, again with no bone but full of burnt material. It was perceptively observed that 'from the peculiarity of the structure, position, and contents, it may have been used not for burial but for the reception of the products of a fire' (Craw 1934, 70). That many cists and pits within and surrounding barrows contain minimal human remains but extensive burnt material from the pyre, as detailed and explored in Chapter 7 (see also Section 5.9.2). Slabs within the mound material at the level of the top of the central cist indicate that the barrow was two-phased, with a higher, second central cist (empty) being inserted as part

of the secondary refurbishment. This again is a feature of several of the Linga Fiold barrows (Chapter 5) and occurs also at Varme Dale (Section 6.2).

Several well-recorded barrow excavations in the 1970s were published as part of a slight upsurge in interest in the Orcadian Bronze Age that continued into the 1980s with Sandra Øvrevik's analysis of the period (Øvrevik 1985), following her excavation of a group of barrows at Quoyscottie, Birsay (Hedges 1977). The barrow group comprised ten scattered mounds at the time of excavation (subsequently removed through land improvement), of which the four best preserved were chosen for excavation. A short distance to the north of the Knowes of Quoyscottie lie the Knowes of Cuean, seven largely destroyed barrows likely to be part of the same cemetery (Hedges 1977, 130). It was astutely observed that the numerous diffuse groups of small 'unimpressive' mounds in Orkney are characteristic of Middle/Late Bronze Age burials, and this is borne out by the findings at Gitterpitten, Rendall (Section 6.3) which has so many similarities with Quoyscottie, as do later elements of Linga Fiold, especially the small cist cemetery around Mound 7 (Section 5.9.5).

The four Quoyscottie mounds which were excavated at Quoyscottie ranged between c. 8.5m (Knowe 1) and 5m in diameter (Knowe 3) (Fig. 6.61). Knowe 1 was constructed from earth mixed with burnt stone, cremated bone and charcoal. A heap of burnt stone lay next to the central cist which had been disturbed and contained only a few specks of burnt bone. The cist was erected on the ground surface and surrounded by large boulders which supported the cist slabs. The central cist of Knowe 2 was constructed in a similar manner, and contained the cremated bones of a child, and a sherd of pottery. The central cist of Knowe 3 had no supporting stones. It contained cremated human bones, probably of a child, and three sherds of pottery. A further small heap of cremated animal bones was found on the outside of the cist. Knowe 4 contained no burials.

All four of the barrows were constructed with a stone kerb which was integral to the mound structure. Knowes 1, 2 and 3 had ard points, or stone plough shares, on the kerbs, the discovery of which was significant as this was the first time that this association was noted as a feature. Subsequent excavations at Linga Fiold and Gitterpitten have affirmed the placing of stone agricultural implements on the kerb or at the edge of the mound as a consistent feature which will be explored further (Clark in Appendices 13 and 14; Chapters 5–7 below). In fairness, however, Petrie had earlier drawn attention to the consistency of association between 'rude stone implements', and 'kistavens' (Petrie 1868a, 135–6). The 'rude stone implements' were identified as flaked bar forms of plough shares and mattocks relating to agriculture by Sian Rees (1977) from the findings at Quoyscottie. Indeed, these crude artefacts often escaped notice, and still do to a certain extent, so they are probably under-represented in Orcadian barrow explorations. Petrie both pointed out this difficulty and also called attention to the likeness of these artefacts in frequency and form between Shetland and Orkney by noting:

> When on a visit to Shetland … a large hoard of stone implements were discovered, so rude in form I would have hesitated greatly in accepting them as implements, had I not previously discovered those in Orkney, which were found… in circumstances that left no doubt of their character. (Petrie 1868a, 136)

At the Quoyscottie barrow group, an area between Knowes 1 and 2 was investigated and 33 cremation pits in a flat cemetery were discovered, the majority of which clustered around the north-east part of Knowe 1 (Fig. 6.61; Hedges 1977, fig. 4). Most of the identifiable human remains from the pits were, like the central cists, those of children. The cremation cemetery had developed over a period; four of the pits were found to pre-date the construction of the mound, whereas others were inserted into the mound. Many of the burials cut into or were cut by other burials indicating that existing burials were not visible when others were added to the cemetery, although at least two of the burials were marked by upright stones (for a similar occurrence at Gitterpitten see Fig. 6.26; Sections 6.3.1.1 and 6.3.2.1). Twelve burials contained pottery sherds that were thought to have been through the pyre due to adherence of charcoal. Nine of the pits did not contain any burnt bone, and the amount of burnt bone in others was variable. The pits also contained ash, cramp, burnt stone and charcoal in varying proportions. The cemetery is in many ways similar to Gitterpitten (Section 6.3), and to Mound 7 and its surrounding flat burials at Linga Fiold (Section 5.9).

Moving c. 3.8km north-east of Quoyscottie, a single barrow at Queenafjold, Birsay, was excavated by Graham and Anna Ritchie in the early 1970s (Ritchie and Ritchie 1974). The barrow is situated alone, but 200m to the north-west is an extant group of barrows which is sited on the lower slopes of Ravie Hill towards Loch of Boardhouse, and there are more barrows close by to the south, south-west and east of Queenafjold on the slopes of Ravie Hill (Fig. 1.2). The surface of the subsoil under the barrow was 'marked with a series of long parallel grooves or channels' which were interpreted as weathering (Ritchie and Ritchie 1974, 33) but it must remain a possibility that these were ard marks. Pottery sherds were found within contexts underlying the barrow and within the mound material. A cist had been built upon the surface of these earlier layers, which in turn had been covered by mound material. It was apparent that previous investigations had been made at the site, indicated by a trench dug into the side of the barrow. The base of a steatite urn, now in Tankerness House Museum, Kirkwall, is said to have come from this excavation. The central cist contained the cremated remains of two adults, possibly one

female and one male, and the cremated remains of deer. This finding marks a departure from previous investigations, with a closer analysis of cremated bone that enabled determination of different individuals present, as well as animals. As more cremated materials have been treated in this manner, it has become more common to identify multiple burials and the inclusion of animal remains of which deer, and sheep, are a common feature.

A small amount of cremated bone had been deposited underneath the base slab of the cist. A fragment of bone from within the cist conjoined with a piece from underneath the cist, suggesting that the two deposits resulted from the same funerary event. It is a relatively common feature to recover bone from both under and within a cist (see Chapter 5) and the conjoining nature of the bone observed here helps us to understand that, in some examples at least, these are parts of the same deposit. A stone pot lid had been placed in the cist, covering an area of cremated bone that was free of charcoal and other materials. This denotes an element of sorting of the pyre material and structuring of the deposit. Stone potlids are part of the repertoire of coarse stone artefacts found in both domestic and funerary contexts, in a range of sizes. Within burial contexts they can have cremated bone placed upon them, cover the lids of vessels, or form part of the cist structure: as with coarse stone tools and cramp these were noted in the very earliest observations as being characteristic of Northern Isles burials.

At Holland, St Ola, again under rescue conditions because of destruction through deeper ploughing, one mound of a group was excavated in 1978–9 (Neil 1981). When previously visited by the Royal Commission in 1928 the site had comprised five mounds and two enclosures, with a further three mounds, of which one is a burnt mound, c. 200m to the east. As such, the complex is similar to so many cemeteries with more dispersed barrows such as at Quoyscottie and Cuean (above), Queenafjold and Ravie Hill (above) and Varme Dale (Section 6.2).

Two cists were found in the excavated barrow, one of which had cut into and disturbed the other. The earlier of the two comprised a large basal slab which was set upon burnt mound material, an occurrence also discovered at Mousland (Downes 1994). The sides of the cist were surrounded by rounded boulders, which were then covered by more burnt mound material and a capping of clay. The cist contained some cremated bone (probably a single adult) and burnt pottery but it had been very much disturbed by the construction of the second cist, which removed two sides of the original cist, part of the boulder cairn material and much of the burnt mound material. The secondary cist contained the remains of the crouched or flexed inhumation of an adult male. Two radiocarbon dates were obtained from the inhumation of 1190–1310 cal BC (GU-1373) and 1080–1200 cal BC (GU-1374) (Stenhouse 1981). Apart from demonstrating an unusual cremation–inhumation sequence the later burial was approximately contemporary with the cremations from Quoyscottie.

Excavations on the outer isles of Orkney have shown many almost identical features to those on Orkney Mainland. Two larger and a miniature cairn were excavated at Bu Farm, Rapness, the southern point of Westray in 1985 (Barber *et al.* 1996) as they were threatened by coastal erosion. The largest of the three (Cairn 1) had a well-built stone kerb surrounding the cairn material, which comprised randomly dumped slabs into which the kerb was keyed. Towards the centre of the cairn, layers of large slabs interleaved and inclined towards a cist which rested upon a spread of burnt soil, charcoal and burnt (presumably pyre) material, which in turn rested on the buried ground surface. The cist itself had been disturbed and was empty. Cairn 2 lay c. 4m to the south-east of Cairn 1 and, although being smaller at c. 9m in diameter, was constructed in a similar manner. The central cist contained the cremated bones of an individual adult and again the basal slab rested on further burnt material including bone. The interesting feature of this bone is that the specialist interpreted it as having been burnt while dry or fleshless (McSweeny 1996), which may indicate that cremation was secondary burial rite with the body having been stored for some time before cremation (see discussion in Sections 3.4 and 3.5; Chapters 7 and 8). The smallest kerb cairn measured just 1.5m in diameter and is similar to those found at Linga Fiold (Section 5.9.5.2). A pit containing charred material was enclosed by the kerb.

Two cairns at Loth Road on Sanday were excavated in 1991 ahead of road development (Sharman 2007). A cist containing a steatite urn covered by a potlid contained some cremated human remains and pyre debris and other cists and pits contained mostly pyre debris, with very little cremated bone from the site as a whole (see Chapter 7 for further discussion). A kerb cairn – again small with an internal diameter of 1.5–1.9m – was built apparently randomly over the pits (Sharman 2007, 10). The kerb cairn is similar in shape to Structure 1 at Linga Fiold (Section 5.9.5.1). The finds from the Loth Road site were typical of the repertoire of Early–Middle Bronze Orcadian burial sites: cramp, fragments of steatite vessel as well as the complete vessel, five undiagnostic sherds of pottery, five flaked stone bars, of which one was an ard point and the other mattocks, stone discs and a flint flake.

The consistency of association between flaked stone bars and the kerbs of barrows was highlighted again during the investigation of a disturbed barrow on the long glacial mound, Long Howe, next to Mine Howe in Tankerness (Card *et al.* 2004; Robertson and Woodward 2007). Here seven flaked stone bars, as well as a stone cleaver, were found in association with the excavated quadrant of the outer kerb of this small barrow (Fig. 2.5). The large central cist containing a cremation deposi had been disturbed by antiquarian activity and had possibly replaced a smaller burial. A fascinating



Fig. 2.5 Barrow at Long Howe Tankerness: a large disturbed central cist was surrounded by an inner kerb of unusual construction comprising small edge-set upright stones. The outer kerb of larger stones can be seen in section (Judith Robertson).

aspect of this excavation was the discovery of Mesolithic flint and quartz artefacts and contexts which had been truncated by the primary barrow construction, and indeed the cist was cut through. The barrow builders would have been aware of the other, earlier activity, through the quantity of tools and artefacts including microliths, and features such as the pit or hearth and stakeholes, that were unearthed by their work. Further consideration of this attachment to very much earlier places in chosen location for barrows is undertaken in Chapters 4, 6 and 8.

2.5 Barrow architecture and siting

The majority of the Orkney barrows appear from the surface to be bowl barrows, built of either earth or stone. Although they are ditchless, evidence from survey of barrows at the Ring of Brodgar (Brend *et al.* 2020) shows quarry scoops or scrapes around some of the mounds. As will be seen in Chapter 5, certainly at the Linga Fiold barrow cemetery each barrow began life as a circular island of turf surrounded by large areas of stripped topsoil. Stone kerbs were noted in 50 barrows during the Orkney Barrow Survey, but it is likely this number is much higher, as all excavated examples were found to have kerbs. Where barrows exhibited other forms, they were classed in the survey as 'fancy' barrows, also known as Wessex barrows (Ashbee 1960). Paul Ashbee distinguished between 'ubiquitous' bowl barrows, which are found across Britain, and Wessex barrows. The latter he divided into 'bermed barrows' of three types (bell barrow, bell-disc barrow and disc barrow), pond barrows and saucer barrows (Ashbee 1960, 24–6). Notably there are 12 barrows in Orkney which fall into the 'Wessex' designation: four disc, six bell, one banked and one possible pond barrow. For the most part the distribution of the 'Wessex' barrows is restricted to West Mainland. As with barrows around Stonehenge, the range of barrow types in the vicinity of the Ring of Brodgar is most varied, with the largest barrows in Orkney being located close to the stone circle; Fresh Knowe and Skae Frue (Fig. 8.8).

As noted in Chapter 1, earthen barrows are the dominant type of Bronze Age burial mound in Orkney (no = 456). Cairns are far fewer (no = 62), tending to be located for the most part outside the zone of modern intensive agriculture, in coastal margins or islands where the land type is similar to that found in the coastal margins. The greatest number of cairns occur in the parishes of South Ronaldsay (no. = 19), Cross and Burness (no. = 11), and Lady (no. = 12). Clearly, the decision to build a cairn as opposed to an earthen barrow could be argued to reflect the immediate availability of resources with cairns being built in more stony environs. However, although soil and glacial till cover varies across Orkney, it is hard to argue, for instance, that the cairns of South Ronaldsay are a consequence of a lack of deep soil and glacial till, as opposed to the earthen round barrows of West Mainland. A good example is the large barrow cemetery at Brough Ness, South Ronaldsay (ND 445 829) which, although being badly truncated, appears to be composed of earthen mounds with kerbs (Fig. 1.2; Wilson and Moore 1998, 59; NHRE ID: 9567). These mounds are situated along the rocky coastline with a plentiful supply of broken rock yet appear to be of earthen construction.

Returning to the form of Orcadian Bronze Age mounds, seven examples of large unedged platform barrows survive. Interestingly, rather than the platform being artificially constructed, in most instances a glacial knoll is modified to create a platform upon which the barrow is constructed. Three examples of this form of construction occur in the Knowes of Trotty, Harray linear cemetery (Chapter 4), including the barrow containing amber and gold artefacts described and referred to by many authors as similar to the material characteristic of the Wessex burials (cf. Coles 1969; Clarke *et al.* 1985; Sheridan *et al.* 2003).

Nine possible examples of ring cairns were identified during the Orkney Barrow Survey, and interestingly these were located on the southern isles of Orkney (South Ronaldsay, Hoy and Graemsay and Walls and Flotta parishes). However, it should be noted that small ring cairns not apparent from the surface have been found through excavation, for example, Bu Farm, Westray (Barber *et al.* 1996) and Loth Road Sanday (Sharman 2007). Therefore, small ring cairns are almost certainly more common than appear in the records.

Although in Orkney there are impressive large linear cemeteries of up to 15 barrows (such as the Knowes of Trotty and Linga Fiold), with the exception of the above-mentioned barrows near the Ring of Brodgar and a few other others, the Orcadian burial mounds are relatively small compared to barrows in other parts of Britain – although of course erosion will have taken its toll, particularly the extensive cultivation occurring during the 1940s and onwards. Table 2.1 shows the diameter of the mounds in 5m increments. The larger

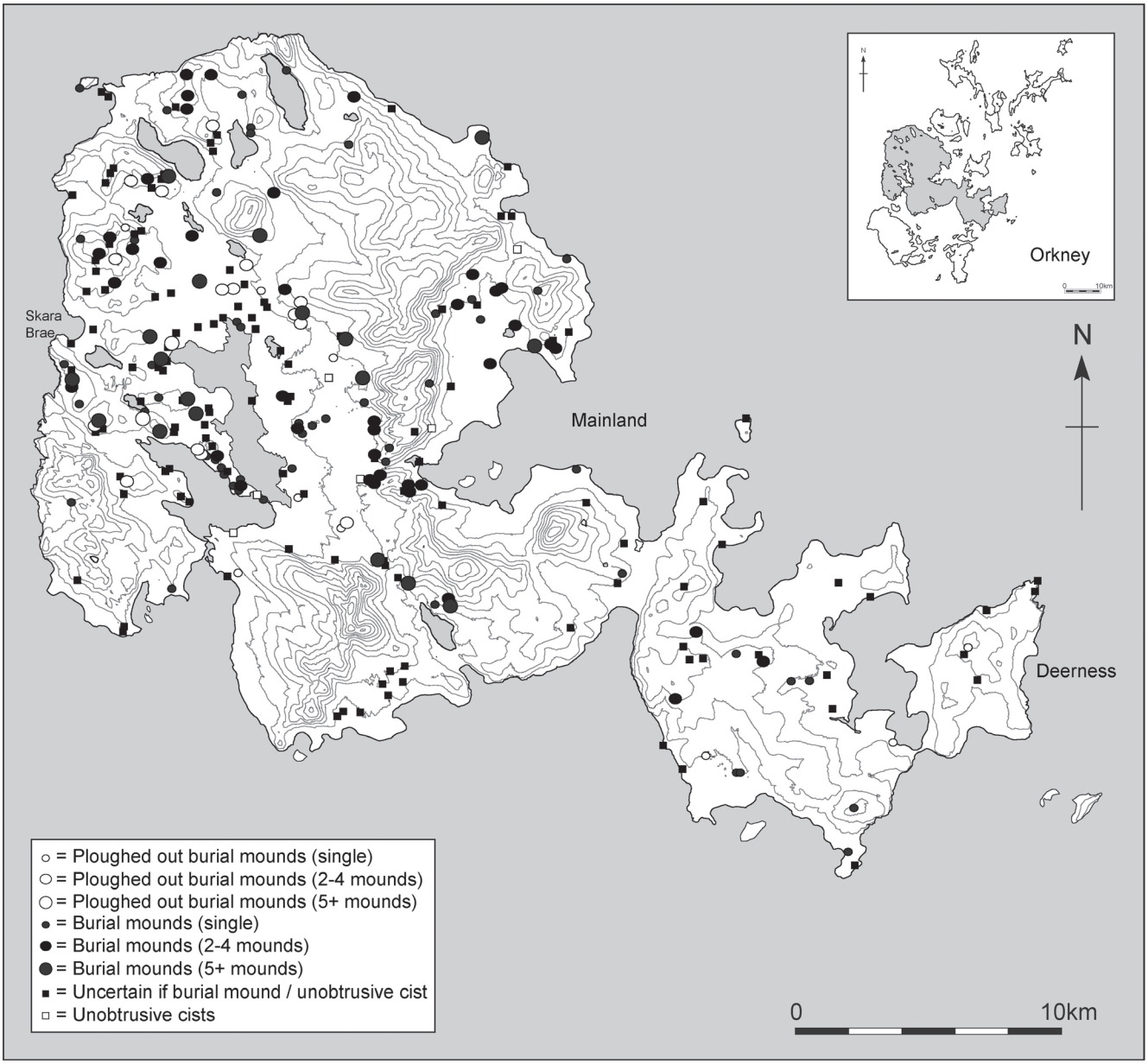


Fig. 2.6 Distribution of barrows and cists in Mainland Orkney.

percentage of the mounds are 5.00–9.99m diameter and the next largest percentage lies between 10.00m and 14.99m.

The heights of the mounds are commensurably low; the greatest number (180) are 0.20–0.40m high and very few (20) were over 0.70m high at the time of the survey. However, mound heights are very susceptible to reduction through agricultural process, and many large barrows have been reduced to a fraction of their height whilst keeping the same diameter or even being enlarged through the mound spreading. In terms of cemetery layout, the three main types of arrangement as outlined by English Heritage (1988; see also Woodward 2000) can be identified. They are the *linear* cemeteries, of which the Knowes of Trotty and Linga Fiold are the best examples (see Chapters 4 and 5), the *nuclear* cemeteries, of which Gitterpitten is a good example (Section 6.3), and the *dispersed* cemeteries, of which Varme Dale, Gorn, is a good example (Section 6.2).

Table 2.1 Diameter of Orkney round barrows in 5m increments.

Size (m)	*0–4.99*	*5–9.99*	*10–14.99*	*15–19.99*	*20+*
No.	58	287	150	38	12
Percentage	10.6	52.7	27.5	7.0	2.2

One particular arrangement is peculiar to the outer isles of Orkney, and that is the setting of cists within an arcing stone dyke, and the placing of cairns or barrows on an

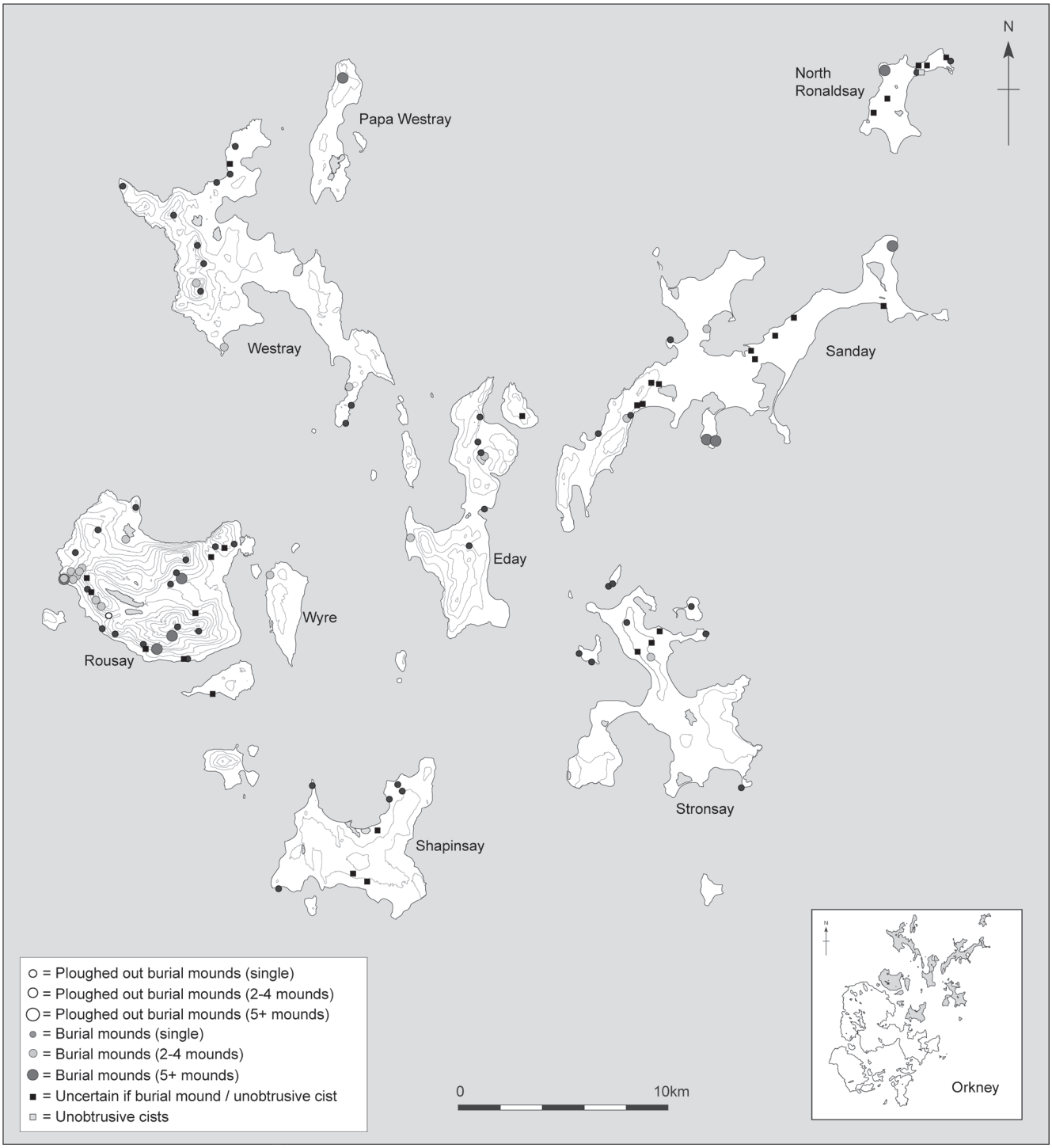


Fig. 2.7 Distribution of barrows and cists in the North Isles of Orkney.

arcing bank, although the former may be the eroded form of the latter. These formations occur in the parishes of Lady and Cross and Burness, Sanday (Lamb 1980). The most impressive example of this formation is at Elsness, Sanday (Fig. 8.16). Here 11 barrows are linked by a bank and surround a chambered cairn (Egmondshowe), which is just south of Quoyness passage grave. There is a large spread of barrows on the west part of the ness, and more existed on the east part before the ground was improved (Hibbert 1831).

The distribution maps (Figs 2.6–2.8) show the variety in size of barrow groupings across Orkney, with these



Fig. 2.8 Distribution of barrows and cists in the South Isles of Orkney.

conglomerations being a widespread feature of the Orcadian Bronze Age burial record. The maps also show the variation in quantities of barrows in Orkney, with the most numerous being in the West Mainland parishes of Sandwick (Fig. 2.9) and Birsay (Fig. 8.19) and the island of Rousay and least numerous in the East Mainland parishes of Deerness, St Ola, and the inner islands of Hoy, Graemsay and Shapinsay.

There are a substantial number and range of barrow groups surviving across Orkney (Figs 2.7–2.9), with many comprising five or more (Table 2.2). To put this number in a broader context, the estimated total of such sites in 1988

Table 2.2 Frequency of different sizes of mound groupings across Orkney by island areas.

	2–4 mounds	*5–9 mounds*	*10+ mounds*
Outer Isles	4	1	3
Inner Isles	11	6	0
W. Mainland	57	23	10
E. Mainland	6	3	0
South Isles	6	2	0
Total	84	35	13

for the whole of England was 300–500 (English Heritage 1988). In the small land mass of Orkney, 48 cemeteries of this size survived at the time of the Orkney Barrows Survey. There is also a marked bias towards West Mainland, Orkney (see Chapter 8), with by far the greatest number of large linear cemeteries located in this area (Figs 2.9 and 8.19). Smaller groupings of 2–4 mounds are also abundant in West Mainland.

The occurrence of so many linear barrow cemeteries in Orkney is a feature of cemetery development and arrangement that is unusual beyond Wessex. In his discussion of regional perspectives on barrow building in Britain, Paul Garwood identifies the 'striking divergence' of practice between the large linear barrow cemeteries in Wessex and other regions where 'linear barrow groups are rare and, with very few exceptions, consist of no more than four or five closely spaced mounds' (2007, 45). In Orkney, certain aspects of the 'Wessex culture' are not limited to the oft-cited finds of gold and amber from the Knowes of Trotty but include other elements of material culture as well as the occurrence of linear barrow cemeteries, 'fancy' barrows and the concentration of these monuments in and around the lochs of Stenness and Harray, with the two great stone circles, the Stones of Stenness and Ring of Brodgar, at the centre (Fig. 2.9).

Earlier studies of the siting of funerary monuments generally and in Orkney (Øvrevik 1985) had tended to focus on the soil type and cultivability of land as a factor determining the siting of the monuments. Such studies inevitably concluded that burial monuments were (consciously) sited on what was marginal land in the past. Not only is this interpretation severely constrained by the fact that land use since the Bronze Age biases the survival of a greater quantity of these monuments to what we now class as marginal land, but little account is taken of the variations in visibility and prominence of some of the mounds, or chronology and different types of burial monuments and cemeteries. The pollen and charred plant macrofossil evidence from the sites excavated and presented in this volume offers a rather different picture of land-use, where barrows were frequently built on pasture, close to cultivated land, and in some instances settlement.

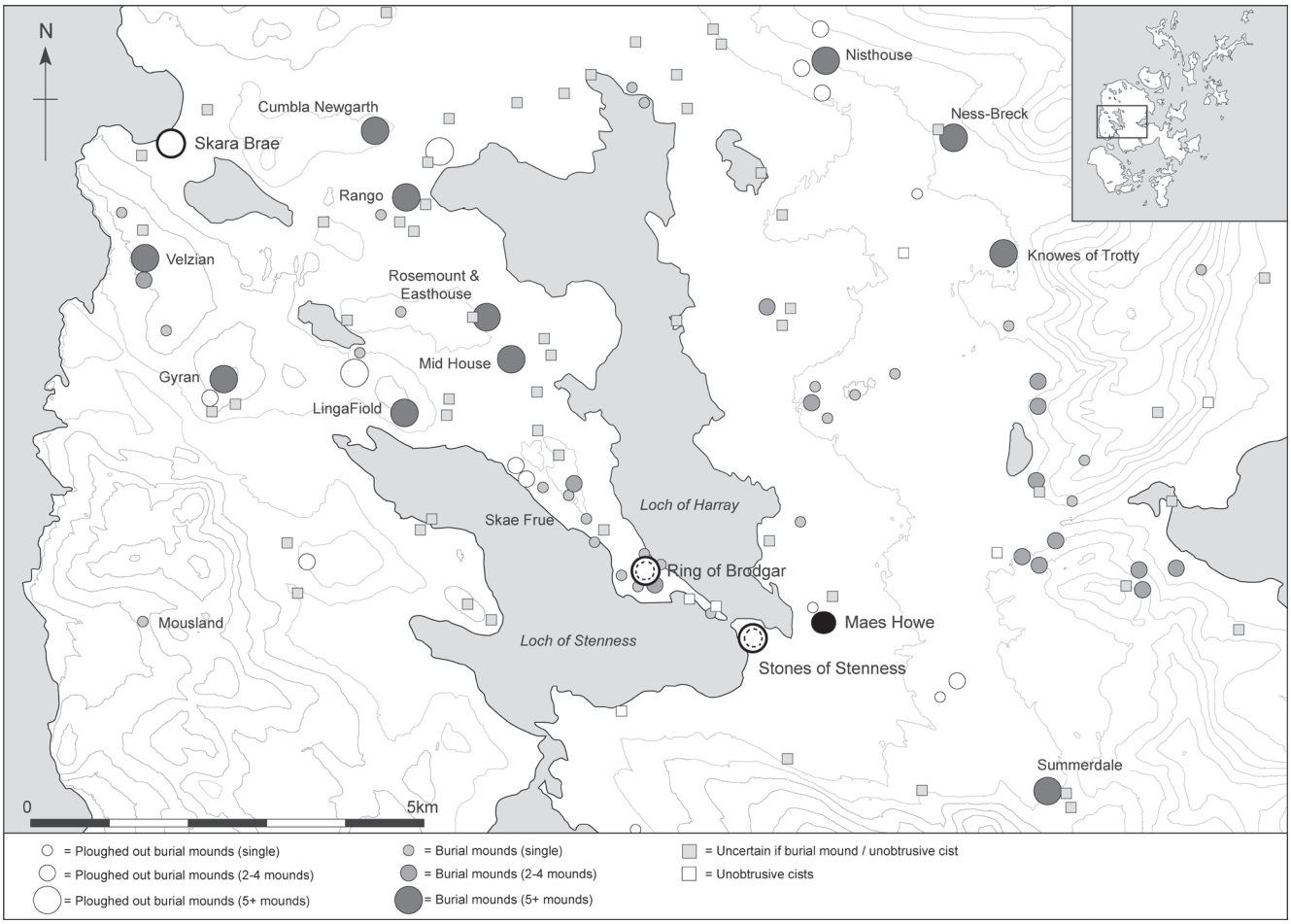


Fig. 2.9 Detail of Bronze Age burials and barrow distribution in the locality of the lochs of Stenness and Harray, West Mainland.

A good example of this is the pollen analysis at Linga Fiold (Chapter 5), from which Bunting and Tipping (Appendix 20) find evidence that the burial mounds were constructed in open grassland areas. Furthermore, they conclude that the assemblages reflect good pasture, or perhaps meadow or occasional arable use, rather than marginal areas with poor grazing. Clearly, the burial mounds were constructed in valuable grazing and arable land, not at the margins of a community's area of farming activity (Bunting and Tipping: Appendix 20). The pollen at Vestra Fiold (Section 6.4), has some indicators of arable agriculture, including *Artemisia* and Brassicaceae, often associated with cultivation. *Plantago lanceolata*, strongly associated with anthropogenic activities, is also present at a constant rate throughout the profile (Wagner *et al.*: Appendix 22). At Varme Dale, the pollen profile spans the Early Neolithic and Bronze Age contexts, and there is an inverse relationship between the prevalence of Poceae (grasses) in the Early Neolithic layers beneath the barrow and *Calluna* (heather) in the Bronze Age barrow material. That a mixed economy of arboreal–pastoral farming was being utilised by people in the second millennium cal BC is indicated by the presence of arable weeds and ruderals (Wagner *et al.*: Appendix 22).

Rather than the dead being positioned in their own domain at a distance from the living, the placing of some of the larger, often linear, barrow cemeteries is clearly in the taskscapes of everyday life. In such a position of local prominence they would be encountered directly on a daily basis and in all probability seen from the settlement. Instead of being 'marginal' this proximity of the dead provided their omnipresence in people's lives. These earlier Bronze Age barrow cemeteries contrasted with the later, smaller, less visible and close groupings of barrows such as Gitterpitten (Section 6.3) and Quoyscottie (Hedges 1977). The discovery at the Links of Noltland, Westray of Bronze Age inhumation burials and an extensive cremation burial cemetery in close proximity to the houses (Fig. 8.5; Moore *et al.* 2022, 243) cannot, on present levels of knowledge, be said to be unique to the island of Westray as there has been very little excavation of Bronze Age houses and none of their surroundings elsewhere in Orkney. This discovery is further indication of the close proximity of the living and the dead, and their intertwined character is further hinted at by the revisits and removals and additions in cist contexts (Chapter 3). The careful employment of the materials of cultivation and probably also fertility with the deposition of ard points and mattocks in barrow kerbs provides a slightly different facet of the relationship.

In conclusion, it becomes clearer that the aspects of the Bronze Age burial record that have eluded and frustrated people are the very things that make these cists, barrows and grave assemblages so extraordinary. It is true that there is great material variation from the early cists of the late fourth/early third to the grouped round barrows of the second millennium cal BC, but there are some common threads in the strategies of the living with regard to the manipulation of the dead. Perhaps of upmost importance is to recognise that these changes and strategies were being played out during extraordinary and tumultuous times, both internally to Orkney and externally across north-west Europe.

3

Storing the dead: the cist burials of Orkney

with contributions by J. Gibson, R.G. Lamb†, D.H. Lorimer†, A. MacSween, R. May, J.I. McKinley, M. Melikian, B. Moffat, J.A. Roberts, E. Stuart and R. Toolis

> Kistvaens, unconnected with barrows have been accidentally discovered from time to time in many parts … generally by the plough, tuscar or spade having struck the covering stone … which being below the surface, escaped notice, until exposed to view in the manner indicated. (Macbeath 1892, 13)

3.1 Introduction: the stone cist

The above quote from *The Orkneys in Early Celtic Times* describes an obvious but overlooked quality of what Macbeath termed *Kistvaens* (cists); that almost every cist, apart from those within barrows or cairns, has been discovered by accident. This is because they were buried below ground with no covering mound or obvious marker, in many cases being set at a considerable depth in rock-cut pits. A few others were concealed beneath the floors of houses and tombs. This is strong evidence that they were never intended to be discovered apart from by those who possessed knowledge of their location. The secrecy of the cist becomes even more significant when, as will be argued below, many were not conceived as permanent places for burial but rather acted as subterranean stone containers for storing the body. In this respect, cists were constructs of anticipation, containers that would perform the role of storing bodies, delaying and suspending the passage from life to death and allowing the potential addition or removal of bodies (or parts) in the future. Yet, once the lid was put in place and the cist sealed there was no intention of lifting it ever again. Here lies the paradox of the cist.

Focusing on Orkney, in this chapter we will explore the subtleties and complexities of burial in stone cists through the third and into the early second millennia cal BC. At first glance, cist architecture appears to be of a very basic and unsophisticated box-like design comprising four or more stone uprights covered by a stone lid or capstone and in many cases, incorporating a flagstone base. Frequently, the earlier cists which tend to be larger are characterised as containing crouched inhumations, as exemplified by the recently discovered Links of Skaill cist (Fig. 3.1; Wilson *et al.* 2021), while later examples are typically smaller and contain cremations. However, in this chapter both the burial evidence and the functional requirements of cists as stone-built containers of the dead will be seen to be far more varied and complex than previously supposed and the simplicity of cist architecture shown to be erroneous.

More generally, because of their apparent homogeneity, excavation accounts tend towards providing only a basic description of cists, supplying information concerning location, dimensions and contents. Unsurprisingly, it is the contents of the cist, either the burial or grave goods, that provide the principal focus for more detailed description and subsequent analysis and discussion. Very rarely are the materiality and architecture of a cist described in greater detail unless something unusual or striking is encountered, such as a bedding of quartz (e.g. Watkins 1982, 60–1; Baker *et al.* 2003, 87), or beautifully dressed and shaped cist slabs (e.g. MacLaren 1969, 112–3) as seen below at Geroin (Section 3.5.2; Fig. 3.32; Toolis 2004a; 2004b). The excavators of the extraordinary Forteviot cist identified this bias contending that 'while the contents of Bronze Age graves often become the focus for analysis and attention, it is important that the architecture of the place of burial is also given due consideration' (Noble *et al.* 2020, 157).

As a closed box containing either inhumations or cremated remains the stone cist marks a departure from earlier forms of communal burial. In the stone box there is an exaggerated emphasis on containment creating an inaccessible space where, in the case of inhumation, the processes of bodily decomposition are concealed. By virtue of incorporating a stone lid or capstone that can be potentially lifted and



Fig. 3.1 The burial cist at the Links of Skaill, West Mainland, Orkney, as exposed in 2021 (Sigurd Towrie).

re-opened (see Cooper *et al.* 2022, 241), it would seem that the possibilities of access remain. Yet, once sealed, lifting the lid of an Orcadian cist appears taboo, and no unequivocal evidence exists for access into the interior via the top. This, however, is not to deny that re-entry was possible and did occur on many occasions but, significantly, this was not achieved by lifting the lid of the cist.

Another consequence of cist burial is that it enabled a more extensive dispersal of the dead; no longer were the dead grouped together and confined in a single chambered tomb, although a late third millennium cal BC burial in Pit C was inserted into the top of skeletal deposits within Quanterness (Renfrew 1979, 60–1), another in the passage of Cuween Hill (Sheridan 2005b; Crozier *et al.* 2016, 201–2), and there were two later burials of similar date in Isbister (Lawrence and Lee-Thorpe 2012; Mamwell 2018, 137). The possibilities of distributed burial allowed interment in different topographic locations across the landscape, including monuments and settlements, creating a new presencing of the dead. The shift in mortuary practices was not without its issues because with the dispersal of the dead came the additional requirement of separation and containment, especially when being placed in close proximity to the living.

Of course, the change in mortuary practices resulting in cist burial is not restricted to Orkney but develops as part of a burial tradition throughout northern and western Britain during the later third and early second millennia cal BC, seemingly in tandem with the influx of groups of people from the continent (Section 8.6; Olalde *et al.* 2018; Armit and Reich 2021). Intriguingly, while Beaker burials are present in nearby Caithness, for instance at Achavanich (Hoole *et al.* 2017), and Sutherland (Gourlay 1984), they do not appear to occur in Orkney, apart from a possible example near the Stone of Odin, Stenness (Challands *et al.* 2005, 211–5). However, single burial in stone cists begins much earlier in Orkney at some time towards the end of the fourth millennium, several hundred years before the appearance of Beakers in Britain (see Bayliss *et al.* 2017). If not part of, or influenced by the Beaker burial tradition in Britain, the question must be asked of what social conditions in Late Neolithic Orkney drove this earlier shift in mortuary practices.

3.2 A time and place for the unobtrusive cist in Orkney

In 1973, during the excavation of Quanterness passage grave, an unexpected discovery was made (Renfrew 1979, 58). In the main chamber, directly beneath a mixed layer of human skeletal material, three large capstones were exposed (Fig. 3.2). Of these, Pit A and Pit B were excavated, while the third (Pit D) was left unexcavated. Each of the capstone-covered features was clearly primary in being cut into the basal glacial clay and bedrock forming the floor of the central chamber (Renfrew 1979, 58–61). Later, the capstones would become covered by substantial spreads of human bone (Renfrew 1979, 52–5; Crozier *et al.* 2016; Crozier 2018). On removal of the capstone of Pit A an oval scoop was revealed containing a crouched adult male inhumation (Fig. 3.3). Pit B was substantially different in being a fully constructed stone cist with a rectangular capstone measuring c. 1.15 × 0.65m (Figs 3.4 and 3.5). Because of different taphonomic processes only small fragments of cranium and the stain of a decayed crouched inhumation were present (Renfrew 1979, 61),

In a redating programme of Quanterness passage grave, employing Bayesian modelling, two new dates were obtained for Pit A, which suggested a range of 3011–2779 cal BC (GU18421), although one sample (GU-18422) gave a date of 3355–3096 cal BC (Schulting *et al.* 2010, table 3). Together the dating indicated the adult male to have been interred in Pit A at the very beginning of the third millennium cal BC. Accepting the contemporaneity of Pits A, B and D cut into the floor of the passage grave, it is curious that little further discussion of either the appearance of cist burials or their presence as a primary element of the passage grave is offered.

A circular cist-like pit was also present in the main chamber of Quoyness passage grave on Sanday. When examined in 1948 it was found to have been emptied by Farrer in 1867

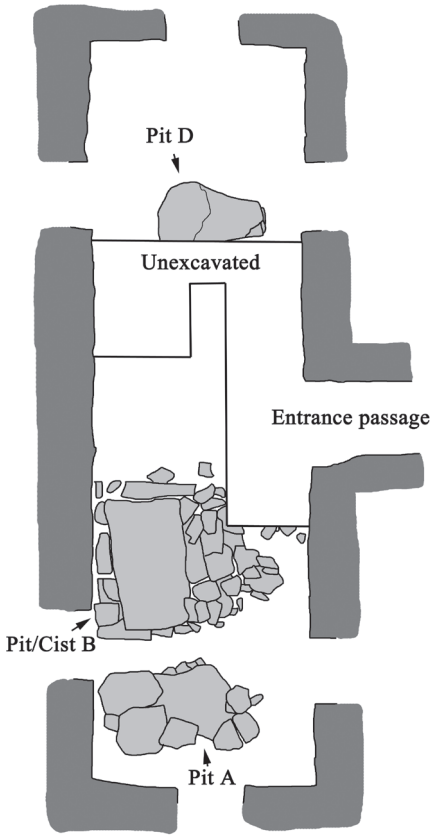


Fig. 3.2 Plan of the central chamber of Quanterness showing the location of the three capstones (after Renfrew 1979).



Fig. 3.3 Pit A was cut into the glacial clay forming the floor of the main chamber at Quanterness; it contained a crouched adult male inhumation (reproduced by kind permission of Colin Renfrew Special Collections, University of Kent).



Fig. 3.4 Unlike Pit A, Pit B at Quanterness was a nicely constructed stone cist with a well-fitting capstone (reproduced by kind permission of Colin Renfrew Special Collections, University of Kent).



Fig. 3.5 After the capstone was removed from Pit B, the cist was seen to be built with side stones but only decayed cranial fragments were present (although the stain of a decayed crouched inhumation was witnessed – see Renfrew 1979, 61) (reproduced by kind permission of Colin Renfrew Special Collections, University of Kent).

and the capstone was missing. Nonetheless, Childe was convinced that the 'three thin slabs resting tightly against the sloping walls of the cist in the S. quadrant are certainly remains of an original lining' (Childe 1951, 126).

A burial pit of similar shape to Pit A at Quanterness was a primary element of House 2 at Barnhouse (Richards 2005, 137–8). Here a stone-supported, large, triangular-shaped capstone covered an oval hollow which contained fragments of decayed bone (Richards 2005, figs 5.13 and 5.14). Because of the disintegrating condition of the skeletal material the nature of this burial remains uncertain, but it can be identified as a cist-like form of burial occurring c. 3100–3000 cal BC (Ballin-Smith 2014, 138; Bayliss *et al.*2017). The undated cist burials encountered by Childe (Childe and Paterson 1929, 254–7) in Hut 7 at Skara Brae also date to the beginning of the third millennium. The rectangular cist, measuring c. 1.1 × 0.85m, lay beneath the western wall of the right-hand 'box-bed' causing considerable problems of excavation (Fig. 3.6). After ascertaining that the cist contained two inhumations, the wall was supported and excavation revealed two crouched female inhumations, one of which had her head resting on a stone 'pillow' (Childe and Paterson 1929, 257).

Early cist burials were not restricted to passage graves or settlements but became distributed across the landscape with a clear preference for interment in small hillocks and glacial moraines. Recently, an early third millennium date of 3099–2918 cal BC (SUERC-107827) has been obtained from an inhumation in a cist at the Links of Skaill, West Mainland, Orkney (Wilson *et al.* 2021). Indeed, more widely across Orkney there is now an emerging set of early third millennium cal BC dates for inhumation burials in unobtrusive cists (see Tables 3.9 and 3.10). Significantly, the Links of Skaill cist (Fig. 3.1), was situated on high ground to the north of Skara Brae and only c. 400m south of the extraordinary Sandfiold cist (Fig. 3.43, below). This date goes some way to supporting the early dates from the Sandfiold cist that originally caused the excavators some uncertainty (Dalland and Barber 1999, 406–7). The dates for the construction and primary use of the Sandfiold cist, which were 2860–2500 cal BC (UT-1483) obtained from cramp behind the cist and 2880–2500 cal BC (UT-1485) from foetal bones within the cist, not only indicate the early employment of inhumation burial in cists but also of accessible architecture (Fig. 3.43).

Judging from these examples, it is unsurprising that over a c. 1500-year period of cist burial in Orkney we see substantial variation in architecture, including an elaboration of the capstone. For example, an unusual form of cist construction is the 'double-decker' architecture where additional elements are present above the capstone. In 1927



Fig. 3.6 The capstone partially lifted from the cist beneath the western wall of Hut 7 at Skara Brae located during investigations in 1928 (Courtesy of the Orkney Archive).

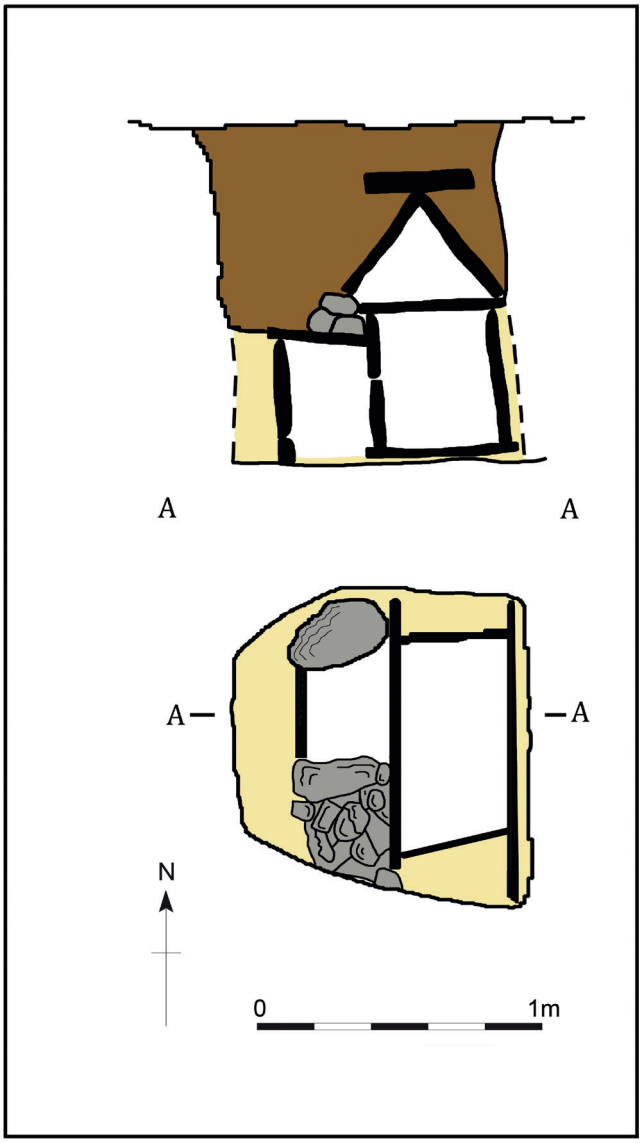


Fig. 3.7 The roof-like structure of the cists at Backakeldy, Holm, Mainland, Orkney (after Marwick 1928).

Hugh Marwick encountered 'a very curious, if not unique, type of burial cist ... on the farm of Backakeldy in Holm' (Marwick 1928, 263). Here two cists were 'placed side by side – a larger and a smaller – the former carefully planned and executed, the latter being rude and primitive in comparison'. The unusual aspect of their construction was the presence of a roof-like structure composed of two angled flagstones mainly covering the larger cist. A horizontal flagstone was then positioned on the ridge of the 'roof' (Fig. 3.7). A substantial number of double-decker cists have been discovered across Mainland, Orkney, including examples on the western slopes above Crantit, St Ola (Cursiter 1910) and Newbigging and Isbister in Rendall, West Mainland (Fig. 2.3; Section 2.3; Petrie 1866).

Further attention will be given to the role of capstones in the final discussion (Sections 3.4 and 3.5), but in general terms we see a chronological shift from subterranean to free-standing cists covered by barrows. The earliest examples are all cut into the ground either within Late Neolithic buildings or prominent natural mounds, although the Skaill and Sandfiold cists were positioned on sloping ground to the north-east of Skara Brae. Visibility does not appear to be an important issue; on the contrary it seems as if the early cist burials are purposefully concealed. In both examples within Late Neolithic houses, House 2 at Barnhouse and Hut 7 at Skara Brae, the capstones were incorporated into and partially covered by the clay floor. At the latter the capstone 'projected forwards some 2 feet in the red clay of the floor and partially covered thereby' (Childe and Paterson 1929, 254), while at the former 'a large triangular cover stone … was actually set in the clay floor' (Richards 2005, 137), some of which required scraping off the upper surface of the flagstone to reveal its full extent. Equally, both the Links of Skaill (Wilson *et al.* 2021) and Sandfiold (Dalland 1999, 375–6), were deeply buried in substantial pits.

The concealment of the earlier cists contrasts strongly with the smaller second millennium cal BC cists which were built as highly visible, free-standing structures that after a period of exposure subsequently become buried beneath a mound (see Chapters 4–6). These were built to be seen, and frequently stood as quite elaborate structures, for example Linga Fiold Mound 9 (Fig. 5.79) and Bu Farm, Westray (Barber *et al.* 1996, illus. 4). Whilst there are particular subtleties to this trend it seems as if what begins as a very secretive and hidden form of burial gradually becomes highly visible. Even though the later free-standing cists eventually become encased and concealed within a mound, the barrow itself is highly visible. In a way this change mirrors the funerary practices in Orkney, beginning with discreet inhumation which changes through time to the flamboyant spectacle of cremation.

To summarise, there is strong evidence in Orkney for cist burial starting in the final century of the fourth millennium cal BC. Indeed, not only is there overlap with chambered tombs, but in some instances such as at Quanterness and Quoyness we witness a convergence of the two modes of burial. How should this juxtaposition be understood? The obvious consequence of cist burial, as opposed to collective burial in chambered tombs, is to enable the dead to be dispersed and distributed across the landscape and allow deposition in widely different contexts. In other words, there is a massive increase in the fluidity of burial, with an emphasis on a strategic placing and manipulation of the dead across a variety of contexts. This is why cist burials more generally occur in such diverse locations, ranging from the centre of stone circles – to hillocks – to beneath the floors of houses in settlements. There is no commonality to cist burials, instead we witness in their positioning the consequences of emergent social strategies of manipulating the dead in a manner not seen before in Orcadian prehistory. For further detail, we now turn to some specific examples of previously unpublished cists where different strategies to militate the tension between access and containment are evident.

3.3 Orkney cists: excavations 1981–1998

The following section details several unpublished excavations of cists over a 40-year period. The chronological range is extensive running from the early third millennium cal BC cist at Howe (Section 3.3.4) to the early second millennium cal BC at Riff (Section 3.3.6) and Moan Farm (Section 3.3.7). Unsurprisingly, there is also considerable difference in both funerary practices and the architecture of the cists, with several new examples of unobtrusive accessible cists, or 'pit cists' (Duffy 2005, 18).

3.3.1 Blomuir (Blomar), Holm, Mainland (HY 4712 0319)

R.G. Lamb and R. May

The parish of Holm occupies a central position in Mainland, Orkney, situated to the south of Kirkwall. It is a topographically interesting part of the island in being relatively flat and gradually sloping down to the southern coast but punctuated with areas of numerous glacial mounds (Fig. 3.8). It is these natural mounds and hillocks which were frequently selected locations for early cist burials (together with the mounds of decaying chambered cairns and deserted settlements). It was on such a glacial mound that the Blomuir cist was discovered by Mr J. Gaudie in May 1981 when his tractor broke through the capstone. The cist was buried just below the surface of the farmyard c. 4m east of the north-east corner of the farmhouse, which occupied the summit of a low hillock (Figs 3.9 and 3.10). Today, the farmhouse and outbuildings have been demolished and replaced by a new house. On being informed of the discovery the late Raymond Lamb, who was at that time Regional Archaeologist for Orkney, came out to investigate and subsequently excavated the cist.



Fig. 3.8 The moraines and hillocks around Blomuir: the new farm and buildings can be seen to the left (Kathleen Gaudie).

The cist was covered by a thin layer of soil below the metalled farmyard surface. Because of time constraints it was decided that only a small area around the cist itself would be excavated, but enough was uncovered to identify the structural remains of the cist, and any contents. Although partially damaged by the tractor, it was immediately obvious that the horizontally laid flat slabs covering the capstone represented some form of superstructure (Fig. 3.11). The stones appeared to be the remains of a corbelled roof that originally covered the structure. It was uncertain if there was a second capstone at the very top of the superstructure as present in the cist arrangement described by Marwick for the cist on the farmland of Backakeldy (Marwick 1928, 263), c. 850m to the west of Blomuir (Fig. 3.7).

After removing the collapsed stonework of the superstructure, the cist could be seen to typically consist of four upright slabs oriented north-north-west–south-south-east along its longer axis (Fig. 3.12). The entire structure had been built in a large pit cut into the glacial till (see below). The two side slabs extended beyond the cist to the east, but only one was fully revealed by excavation. The internal dimensions were c. 0.73m long on the eastern side, and c. 0.76m long on the western side. The end slabs were braced in position by the side slabs which were c. 0.48m and c. 0.52m long at the northern and southern end respectively. They had a uniform thickness of c. 0.03m (Fig. 3.12). The depth of the cist was c. 0.54m from the top of the side slabs to the base which consisted of several small level paving stones set in clay. Each of the upright slabs forming the cists were set into c. 0.12m deep prepared slots cut into the glacial clay below the base of the cist.

Outside the cist, excavation was limited to an area in the east. After removing the compacted upper metalled farmyard surface a large cut for the cist became visible. In the excavated area to the east, the edge of a pit cut through the glacial clay extended back to a distance of c. 0.63m. The open area was filled with horizontally laid flat slabs. At the time this was curiously interpreted as a surrounding cairn, which was extended upwards to form the corbelled superstructure, but this is extremely unlikely. Judging from the excavated area to the east, the substantial pit far exceeded the requirements of cist construction, however, what is uncertain is whether the cist is centrally placed within the pit, or if it was wedged close to the western side. Nonetheless, just as occurs at other 'pit cists' (see Sections 3.4 and 3.5), the area to the east of the cist is large enough to allow the side slab to be removed thereby gaining access to the interior. Re-entry is suggested by the presence of cremated human bone representing at least two individuals (McKinley: Appendix 7).

3.3.1.1 The cremated bone

J.I. McKinley

Debris resulting from the intrusion by the tractor had fallen into the cist and covered a c. 8cm-deep deposit of ashes and very small burnt bone fragments, together with cramp on the cist floor. The total weight of the cremated bone was 671.2g (Table 3.1), including bone fused with cramp, which comprised 188.2g. Several factors lead to the conclusion that two individuals were represented: first, a duplication of the orbital arches in different sizes; second, the obvious size determination in radius and skull thickness; and third, the variable character of the different sized bones (Tables 3.2 and 3.3). The age of the two individuals, a young child (less than 4) and an older child, was assessed from the size of bone and degree of development (McKinley: Appendix 7).



Fig. 3.9 Location map of the Blomuir cist (Blomuir 1), and cremation urn (Blomuir 2).



Fig. 3.10 View of the old Blomuir Farm from the south, showing its situation on the rising ground of the knoll. The position of the cist is marked by plastic sheeting on the ground to the right of the car (Raymond Lamb).



Fig. 3.11 Excavated cist showing the basal flagstones and at the upper right remnants of the stone superstructure overlying the capstone (Raymond Lamb).

Overall, in examining the recovered assemblage there is an discrepancy in fragmentation percentages which is unusually large, the likely reason being that some of the smaller fragments were missed during what amounted to a salvage excavation. Interestingly, the bone caught in the cramp is at times completely coated. Cramp is rarely, if ever, found in a cremation where wood has been used as fuel, and certainly not in these large quantities. The bone was obviously fragmented or disarticulated while the cramp was still in a molten state and had been moved (probably to ensure complete cremation), causing dispersed parts to be fused within one piece of cramp.

3.3.1.2 Blomuir 2: the cremation urn (HY 4718 0311)

R.G. Lamb, R. May, A. MacSween and J.I. McKinley

As an interesting adjunct, two years later, in 1983, Mr Gaudie turned up a fragment of a large urn and cremated bone whilst ploughing in the big field south of the house at Blomuir. The find-spot was on a very stony hillock within the field and was south-east of the Blomuir cist reported above (Fig. 3.9). The find was reported by Raymond Lamb (recorded as Blomuir 2), who also searched for other

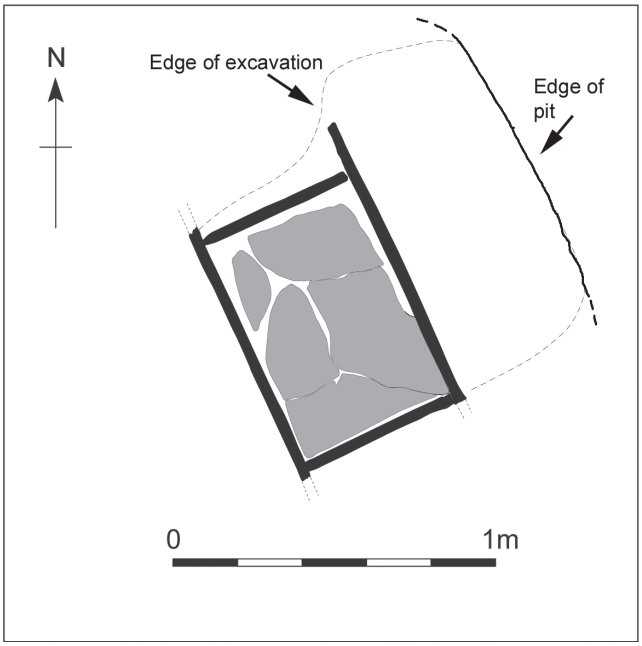


Fig. 3.12 Plan of Blomuir cist, showing excavated area and edge of pit to the east.

Table 3.1 Total of identifiable human skeletal material from the Blomuir cist: 190.7g (28.4% of total).

	Weight	*% total*	*% identifiable*	*Max. length*
Skull	38.0g	5.6	19.9	4.5cm
Trunk	29.0g	0.3	15.3	7.3cm
Upper limb	63.5g	9.5	33.3	7.7cm
Lower limb	60.0g	8.9	31.5	6.6cm

Table 3.2 Identifiable human skeletal parts from the Blomuir cist.

Skeletal part	*Description*
Skull	1 petrous temporal 1 tooth root (canine or incisor) 2 orbital arches (of different sizes & character) Skull vault & cranium, inc. part of glabella
Trunk	10 rib frags 2 vertebrae bodies
Upper limb: Humerus & radius shaft	Ulna shaft & coronoid process
Lower limb: Fibula shaft	Femur shaft, greater trochanter & condylar surface Tibia shaft & condylar surfaces + 2 tarsals/metatarsals of hand & foot (all represented as frags)

Table 3.3 Cremation details of the Blomuir cist (J.I. McKinley).

No. individuals	2
Age	Young child (less than 4) & older child
Sex	Indeterminable
Degree of cremation	Moderate
Fragmentation	Poor–moderate
Collection	Poor
Character	Brittle (young child harder than older child)
Colour	Grey/white (few black)

evidence relating to a burial. Unfortunately, the rest of the urn and the pit in which it was situated, were unlocated.

The sherd was part of the body and base of a large undecorated urn containing burnt bone fragments and cramp (MacSween: Appendix 11). The vessel appears to have been heavy, bucket-shaped with a diameter of c. 270mm. The exterior surface has been finished using a wet-hand finish and smoothed by wiping, evident from the parallel striations on the exterior. The burnt bone weighed 135.1g, and 73% of the bone could be identified as belonging to a specific region of the body. The remains appeared to be those of a single adult individual, possibly male, and probably aged between 17 and 25 years at death (McKinley: Appendix 7). A radiocarbon date of 2040–1730 cal BC (GrA-21738) was obtained from the cremated bone (see Table 3.9; Sheridan 2003a, 169).

3.3.2 Redland, Stromness, Mainland (HY 2647 1319)

R.G. Lamb and R. May

In February 1987 Mr G. Marwick of Redland Farm, Stromness reported that a large slab had been struck whilst deep ploughing one of the outlying fields that had been previously in pasture. Closer examination revealed that a cavity, with visible stonework, underlay the slab. The large slab was clearly the capstone of a cist that had been dislodged by the plough. The cist had been constructed on the south-east edge of the shoulder of a hillock, just before the ground falls away steeply to the south and east, providing a prominent platform above the loch of Stenness, overlooking Deepdale bay, at a height of 30m OD (Figs 3.13 and 3.14). As with Blomuir, the site was investigated, excavated and recorded by Raymond Lamb. Finds from the cist were deposited in Tankerness House Museum, Kirkwall.

On arrival at the site, it was clear that the tractor had disturbed the southern end of the large capstone, which had broken and partly fallen into the cist. Careful investigation of the ploughsoil in the immediate area of the cist revealed that sat within a patch of reddish clay which may be the remains of a platform or mound. A similar patch was visible some c. 15m to the north of the site, which could indicate the presence of a second cist. The capstone of the disturbed cist was at a depth of c. 0.35m which, unfortunately, was just within reach of the deep ploughing.

Investigations revealed the cist to be typically formed of four slabs oriented approximately north-north-west–south-south-east along its longer axis. The side stones were c. 1.09m long on the eastern side and c.1.07m long on the west. The end slabs were braced by the side slabs and were c. 0.73m and c. 0.72m at the north and south respectively. A small 'eke' stone had been added at the south-east corner, where the end slab did not fit perfectly against the eastern side slab. Further stones had been added to the tops of the end slabs to create a level top to the cist. The cover slab exceeded the size of the cist, being c. 0.95m wide and c. 0.99m long (after the southern end was broken by the plough).

The base slab had clearly been fitted after the side and end slabs and did not extend the full length of the cist, resting directly on the natural rock surface, which formed the base of the construction pit. The depth of the cist from the top of the side slabs to the base was c. 0.58m. Due to the need to excavate the cist rapidly before ploughing could continue there was no time to examine further the size of the construction pit. From the size of the cist it is likely to have been constructed to contain an inhumation burial but, due to limited excavation, whether this was another unobtrusive accessible cist is unknown.

It was apparent that the cist had originally been completely sealed by the capstone and apart from the ploughsoil there were no intrusive deposits. After carefully removing the soil, a complete vessel was visible standing at the south end of the cist (Fig. 3.16). To the north, a circular dark stain c. 0.28m in diameter, was visible on the basal flagstone probably indicating where human remains, or another form of organic deposit had been located (Fig. 3.15).

The landscape location of the Redland cist is interesting in overlooking Deepdale bay in the eastern section of the loch of Stenness (Fig. 3.14). The southern slopes at the edge of the loch were densely inhabited with indications of settlements running from the Mesolithic through to the Bronze Age (see Richards 2005, 11–16). In particular, there would have been a substantial settlement at South Seatter 2, lying just c. 450m below the cist to the south-east which at this time may well have been occupied (Richards 2005, 13–14). A pair of burnt mounds is also situated downslope to the south and suspected second millennium cal BC houses lie c. 850m to the east (Fig. 3.13).

3.3.2.1 The Redland urn

A. MacSween

The flat-based vessel or urn discovered within the cist had a slightly everted flat rim and was decorated over the whole exterior surface with incised decoration taking the following form (Fig. 3.16; Table 3.4):

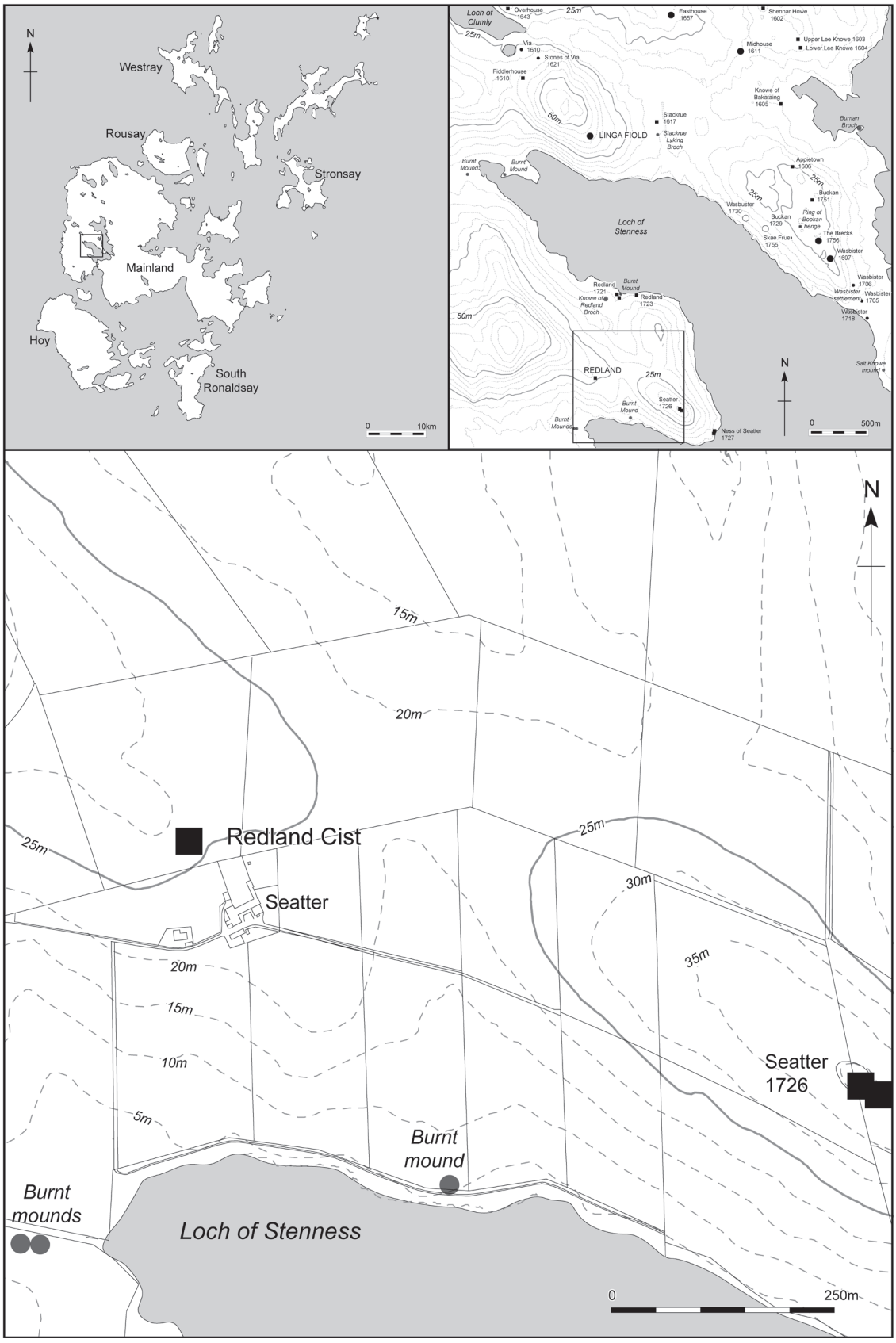


Fig. 3.13 Location of the Redland cist.



Fig. 3.14 View of the Redland cist location from the north. The cist lay on the north-east side of a low hillock overlooking Deepdale bay, Loch of Stenness, which can be see below to the south.

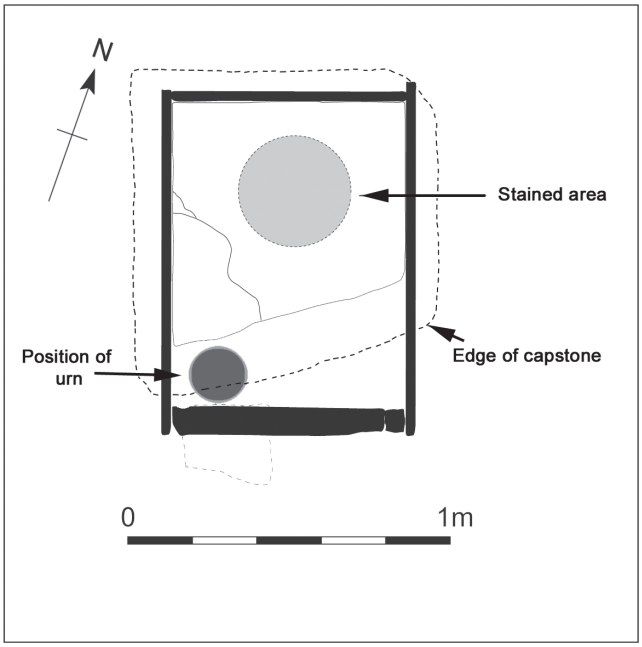


Fig. 3.15 Stylised plan of the Redland cist, showing the position of the urn and dark circular stain.

Table 3.4 Description of decoration variability on the Redland urn.

1.	zig-zag inside the rim/neck
2.	oblique incisions on the neck
3.	zig-zag around the shoulder
4.	oblique incisions below the shoulder
5.	panels of incisions in different directions
6.	rough overlapping 'horizontal' scores above the base

The fabric of the vessel is fine sandy clay with c. 80% of angular rock fragments which have fired hard. The exterior is slipped/wet-hand finished and exhibited patchy sooting across the surface. The dimensions of the vessel are height 13.3cm, wall thickness 1.2cm and base 2.3cm, with a diameter of 13.5cm at the rim tapering to c. 8 cm at the base. The shape of the Redland vessel is similar in many respects to that from Upper Bigging, Corrigall (see Fig. 3.21), and combined with the roughly zoned decoration again suggests a vessel with both Beaker and Food Vessel influences. Some sherds had broken off the pot when the slab was displaced, but the main broken edge appears to

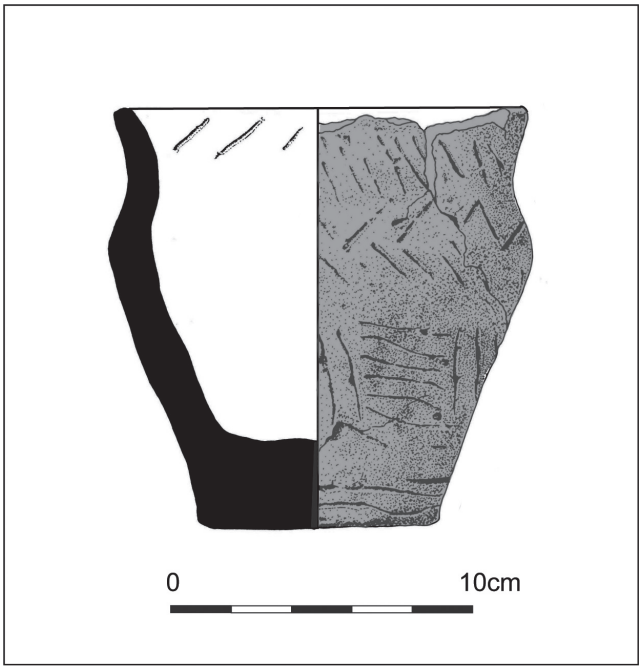


Fig. 3.16 The urn from the Redland cist.

be an old one, indicating that the pot was incomplete when deposited (MacSween: Appendix 11).

3.3.2.2 Food residue analysis of the Redland urn B. Moffat

The urn from the Redland cist yielded the results as shown in Table 3.5 (Moffat 1987). In the absence of a long-term pollen record from the immediate vicinity together with radiocarbon dates for the 'interment' of the pot, inferences will be cautious. The range of plants represented and unrepresented (note the scarce record of the multi-species families, the grasses and the sedges) indicate that the main ingredient of the residue, throughout, is (or was) honey. In Hodges' Calendar of Bee Plants (1978), eighteen major honey plants are listed ('B' on Table 3.5) and 71 minor ('b' on Table 3.5). Almost all of the pollen classes that have been taken to the hive by bees are vital to colony build-up. The clumps of immature pollen of ling (7), other heathers (2) and meadowsweet (3) noted (and not in table) are unlikely to have been airborne. Coarse gathering and inclusion of these in honey, by bees and/or people, is the most plausible explanation. The high content of organic matter, a distinct

Table 3.5 Residues on the urn from Redland cist (B. Moffat).

		'True residue'				*Honey plants*	*'Woody'*	*'Of the soil'*	
Species	*Type*	*D*	*E*	*F*	*G*		*J*	*B*	*H*
Alnus	Alder	1	2	-	1	b	2	2	4
Betula	Birches	3	7	7	16	b	14		
Blechnum spicant	Hard fern					+			
Calluna vulgaris	Ling	5	12	12	38	B		3	1
Campanulaceae	In all probability, harebell	–	2	-	-	b			
Caryophyllaceae	Family of chickweeds, etc	3	7	2	4	bx			
Chenopodiceae	Family of oraches, fat hen	1	-	4	-				
Compositae liguliflorae	Composites with 'latex'	8	11	16	5	Bbx		3	1
Compositae tubuliflorae	Composites without 'latex'	3	-	-	3	bx			1
Coryloid	Hazel, bog myrtle	4	1	-	-	b			
Cruciferae	Family of mustards, etc	1	3	9	3	Bbx			
Cyperaceae	Family of sedges, cotton grasses	2							
Dryopteris filix-mas type	Possibly male fern					+		1	1
Equisetum	Horsetails					+			
Ericales	Heathers apart from ling	15	-	42	61	Bb			
Filipendula	Meadowsweet	3	11	5	14				
Galium type	Bedstraws	2	3	1	-				
Gramineae	Family of grasses	3	-	1	1				
Hedera	Ivy	1	3	-	-	b			2
Ilex	Holly	–	-	1	-	b			
Iris	Yellow flag	2	-	-	-				
Labiatae undiff.	Family of dead nettles, mint, self-heal, woundworts, thyme	9	-	-	1	Bxbx			

(Continued)

Table 3.5 Residues on the urn from Redland cist (B. Moffat). (Continued)

		'True residue'				Honey plants	'Woody'	'Of the soil'	
Species	*Type*	*D*	*E*	*F*	*G*		*J*	*B*	*H*
Linum catharticum	Purging flax	–	2	13	-				
Osmunda	Royal fern					+			
Pinus	Scots pine	4	2	-	1			½	1½
Plantago lanceolata	Ribwort	7	1	7	1				1
Plantago major	Great plantain	–	1	-	-				
Polypodiaceae	An aggregate of undifferentiated ferns	–	2	-	3	+		2	
Polypodium vulgare	Probably polypody	–	1	2	-	+		1	3
Potentilla type	Tormentil, silverweed, marsh cinquefoil	–	3	-	-				
Prunus	Blackthorn, possibly					B			
Pteridium	Bracken	–	2	-	-	+			
Quercus	Oaks								
Ranunculaceae	In all probability, buttercups, spearwort, crowfoot	4	1	1	1	b			
Rumex sect *Acetosa*	Sorrels	3	2	-	1				
Rumex sect *Rumex*	Docks	–	-	3	-				
Salix	Willows	–	4	2	-	bx			
Sambucus nigra	Elder	–	3	-	-				
Sphagnum	Bog mosses	3	1	-	-	+			
Succisa	Devil's bit scabious	–	1	7	-	b?			
Teucrium	Wood sage	–	-	3	-				
Ulmus	In all probability, wych elm	–	1	-	-				
Umbelliferae	Family of cow parsley, etc	1	3	3	2	bx			
Urtica dioca	Stinging nettle	–	2	-	-				
Linum usitatissium	Cultivated flax	–	-	2	-				
Plantago maritima	Sea plantain	3	5	1	-				
Rosaceae undiff.	Rose family	1	6	3	-	bx			
	Total pollen count	89	99	145	153		16	8½	11½
	Total spore count (+ beside count)	3	6	2	3			4	4

Key: B = 'major honey plants', b = 'minor honey plants', x = pollen class contains several such species (honey plants?).

Table 3.6 Atomic absorption spectrophotometry results (B. Moffat).

Sample		*Wt*	*% organic*	*Pb*	*Zn*	*Cd*	*Co*	*Cr*	*Cu*	*Mn*	*×100 fe*	*Al*
A	1.0	151.0	9.3	69.5	68.9	0	37.7	0	12.6	101.3	34.0	894.0
B	2.0	83.0	12.1	100.0	38.6	44.6	62.6	0	10.8	126.5	46.5	949.3
C	3.0	124.0	12.1	58.9	55.6	0	45.2	0	17.7	151.6	34.4	?
D	4.0	101.0	12.9	90.1	59.4	0	52.5	60.4	17.8	149.5	39.0	945.5
E	5.0	139.0	12.2	64.0	53.2	0	43.2	20.9	22.3	109.4	31.9	637.4
F/G	6.0	160.0	10.6	146.2	57.5	0	48.1	7.5	13.7	183.1	31.6	538.7
H	7.0	166.0	10.8	819.3	76.5	0	50.6	15.7	27.7	159.6	38.1	545.2
I	8.0	33.0	18.2	348.5	57.6	0	127.3	0	0	36.4	45.8	3515.2
J	9.0	30.0	20.0	233.3	16.7	293.3	153.3	0	13.3	50.0	50.0	3283.5

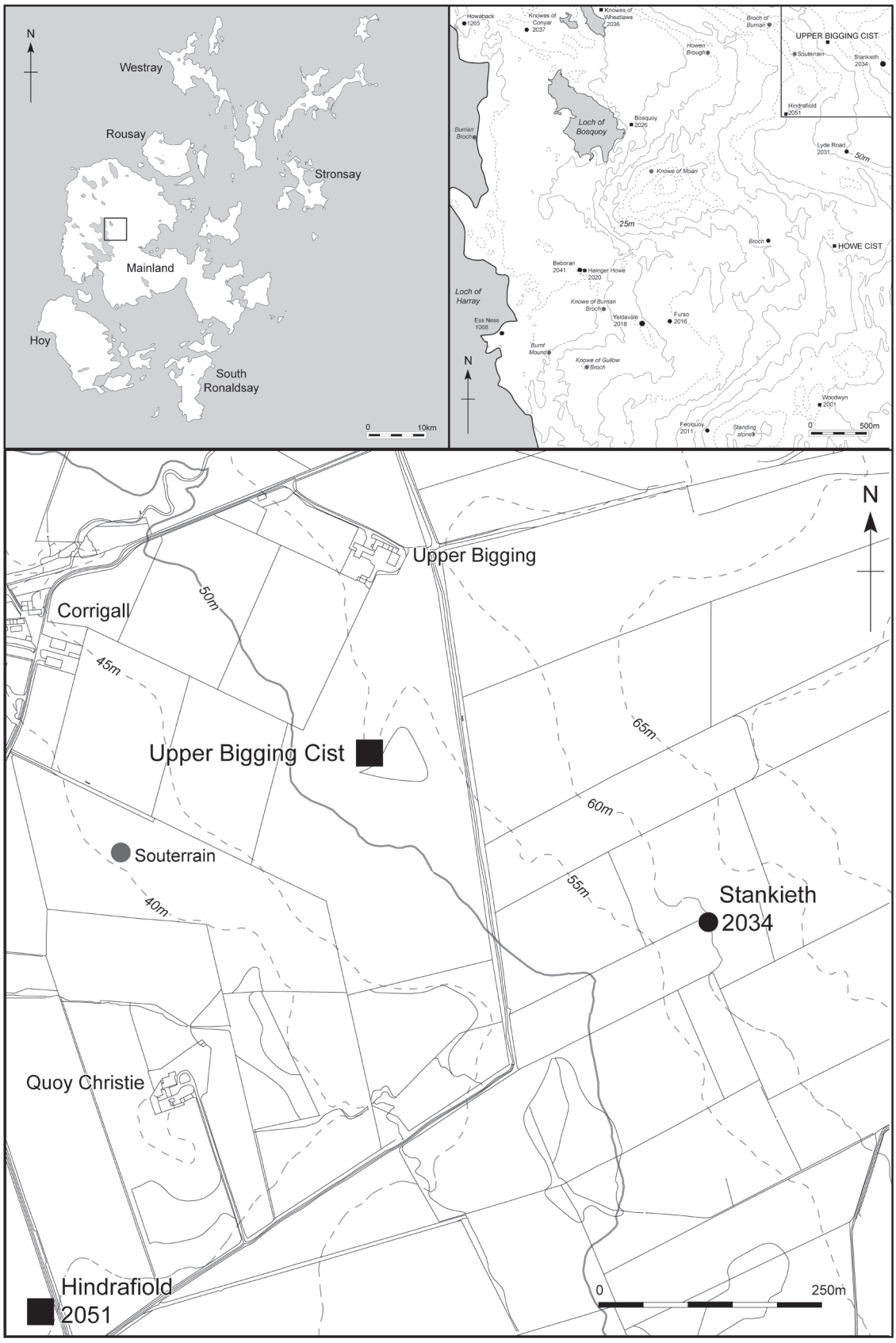


Fig. 3.17 Location map of Upper Bigging cist.

residue with tidemark and the coarse nature (and two ling flower heads) point to the honey as unrefined and (naturally) made to ferment.

The purpose of undertaking elemental analyses by means of Atomic Absorption Spectrophotometry (AAS) was to bring out peaks which, when in contrast with the 'environmental background', may indicate the nature of the foodstuff or whatever that was the original content of the pot. The pot itself yielded no such informative peaks (Table 3.6). This is unsurprising as the analyses of plant micro- and macro-remains show there to be no such element-characterised food or drink where, nuts, grains and cereals, oils and fats, condiments and spices, should appear. It is concluded that honey and/or honey-based coarse fluid were the sole contents detected through these techniques.

3.3.3 Upper Bigging, Corrigall, Harray, Mainland (HY 3284 1918)

R.G. Lamb and R. May

In April 1989, a stone cist was discovered whilst cultivating the uppermost field of the farm of Upper Bigging, Corrigall, Harray (Fig. 3.17). The cist became apparent when the plough struck and displaced a massive covering slab exposing a stone cist containing a pot, which was partially removed by the interested tractor driver. The cist was subsequently excavated and recorded by Raymond Lamb, under extremely difficult weather conditions including snowstorms. The cist had been set into the summit of a rocky knoll, located c. 215m south of the south-east corner of the house at Upper Bigging. The knoll, at an elevation of 55m OD, falls steeply away to the south and east into a boggy area. To the west and north the ground falls away more gradually (Fig. 3.18).

A double capstone arrangement covered the cist, with the upper being a substantial flagstone; c. 1.3m long by 0.14m thick. This covered a much thinner, c. 0.02m thick, lower capstone which sealed the cist. It is interesting that a kerb of stone slabs on edge had been laid around the cist pit to the north and west, with the remaining circuit formed by outcropping bedrock to the east and south. This enclosing stone arrangement to some degree mirrors the 'kerbs' recognised surrounding cists in other areas of Scotland such as Temple Wood (Scott 1991), (Fig. 3.19) and may be interpreted as additional containment of the cist. Given the possibility of side access to the Upper Bigging cist (see below) such provision of an outer skin or wrapping may be strategic in mitigating the permeability and transgression caused by accessible cists.

The cist itself had been constructed within an oval rock-cut pit measuring c. 1.4 × c. 1m, and with its long axis north–south (Fig. 3.20). However, it was not



Fig. 3.18 View of the rocky knoll at Upper Bigging where the cist-pit was cut into the bedrock. The cist was positioned just left of the base of the windmill.



Fig. 3.19 A circuit of upright slabs cists surrounded the north-eastern robbed cist in the centre of the large stone circle at Temple Wood (Courtesy of Lionel Masters).

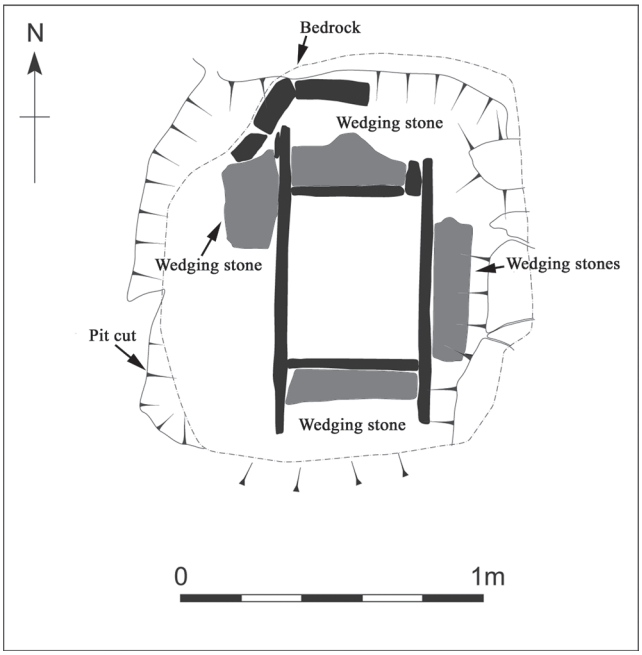


Fig. 3.20 Plan of the Upper Bigging cist.

centrally placed but was built towards the east side of the pit. This provided a space of c. 0.40m to the west, potentially allowing side access. In contrast to the substantial wedging stones present to support the flagstone uprights in the north, east and south, the western upright was supported by a single stone at its northern end (see Fig. 3.20).

In composition the cist was typically formed by four slabs, each of which was very neatly trimmed. The side slabs were c. 1m long on the western side and c. 0.88m on the east. These braced the end slabs, which were both c. 0.45m long. The cist had a basal flagstone that was primary to construction being set on two flat stones placed on glacial clay at the base of the pit. The side and end slabs had been braced with packing stones wedged between the slabs and the side of the pit. These stones were set within a clay matrix, filling the oval pit and flowing out to the edge of the kerb.

Because of the disturbance, ploughsoil had fallen into the cist covering and partially disturbing the contents. Due to the poor weather conditions excavation occurred rapidly with the archaeological deposits being bagged and taken directly to the museum for closer examination. Reminiscent of Sandfiold (Dalland 1999, 382), an isolated deposit of cramp weighing 631.4g (see Carter: Appendix 26; Photos-Jones: Appendix 27), and containing no obvious charcoal or cremated bone had been deposited just beyond the cist in a cranny in the bedrock. Although in this instance not associated with a cremation deposit, this material is fairly typical of the debris produced by high temperature fires as seen, for instance, at the central hearth in the Stones of Stenness (Ritchie 1976, 12–3), and settlement sites (Stapleton and Bowman 2005) and, of course, cremation pyre residues (see Chapter 7). However, no cremated human remains or an inhumation were present either in the cist or rock-cut pit. Either the skeletal remains of an inhumation burial had been removed from the cist or the bone had decayed through taphonomic conditions.

The Upper Bigging cist is situated in an area with numerous early second millennium cal BC burials, including several barrow sites, such as the group of mounds at the Knowes of Trinnawin (NHRE ID: 2033) to the south-east, just above Upper Bigging. Four of these mounds were excavated in 1903, revealing one short cist, a steatite urn placed in a cavity and a 'handful of ashes' below one mound (Fraser 1923, 36). Only two of the mounds seem to have had much stone used in their construction. Further down the slope to the north-west are two barrow groups, including the Knowes of Wheatlaws (NHRE ID: 2036), which have been completely obliterated by cultivation (RCAMS 1946, 39). The second group consists of three or four mounds, one of which was excavated around 1890, producing a steatite urn. To the south-west are the cists at Hindrafold, excavated by Bryce Wilson in 1977 (Hedges 1980, 52).

3.3.3.1 The Upper Bigging urn

A. MacSween

The base of the vessel had broken off when it was removed by the farmer and during excavation it was discovered sitting on top of a reddish fill. It is unclear whether the pot had been originally placed in this position, or if the base fell onto the deposits when the upper half was removed from

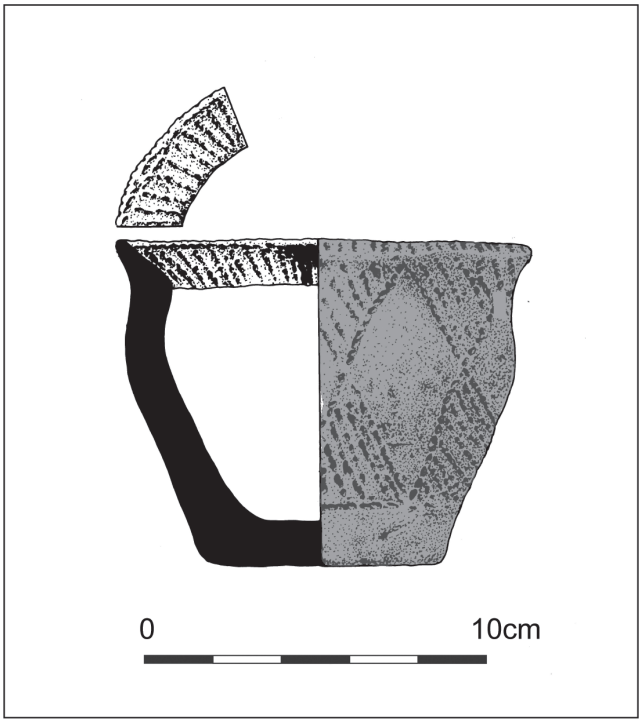


Fig. 3.21 The Upper Bigging urn.

elsewhere in the cist. The vessel is small, measuring only 94mm in height. It has an external rim diameter of 120mm, and its walls are, on average, 10mm thick. The vessel has an everted rim with an internal rim bevel, and a slight shoulder, below which the walls taper to a flat base (Fig. 3.21). The exterior of the vessel is decorated with twisted cord-impressed motifs comprising opposing triangles infilled with diagonal lines. The decoration runs up to the lip but stops around 20mm above the base. The exterior of the rim and the internal bevel are decorated with short lines of twisted cord impressions. A further line of impressed twisted cord surrounds the edge of the lip (MacSween: Appendix 11).

The fabric of the vessel is a fine clay tempered with around 30% of angular rock fragments up to 5mm in length. Some of these fragments protrude through the surface of the interior of the vessel, but the exterior surface seems to have been smoothed over. Although smaller than many food vessels, the overall form and internal bevel are typical of that class of pottery. However, the layout of the decoration on the exterior is more similar to that found on Beakers for example, the Middle Northern Beaker from Old Machar, Aberdeen, or the late Northern Beakers from Ellon, Aberdeenshire (Clarke 1970, 243, figs 522 and 361, 669 and 670).

3.3.4 Howe, Harray, Mainland (HY 3282 1740)

R.G. Lamb and R. May

Whilst cultivating a field to the north of Howe Farm, Harray, Mainland, in the spring of 1994, the plough struck and dragged up a large stone, c. 1.4m long by 1.05m wide, and c. 0.15m thick which, upon further investigation, was revealed to be the displaced capstone of a cist (Figs 3.22 and 3.23). Ploughing ceased and the cist was reported by Mr Ivan Scott to Regional Archaeologist Raymond Lamb who immediately undertook emergency excavations.

When excavation commenced it was noted that rather than being dug into the top of a natural mound, such as Upper Bigging, the cist was situated slightly below on the north-west downslope of the glacial knoll (Fig. 3.25). The Howe cist was orientated with its long axis north–south, and rather than employing four upright slabs, its northern end was formed by bedrock, as the cist had been inserted into a deep pit that had been cut into glacial till filling a natural cleft in the bedrock (Fig. 3.26). The sides and southern end of the cist were formed by large flagstones which had been placed firmly against the cut. The upright forming the west side of the cist was c.1.16m long and set at an angle due to the presence of a large natural boulder within the till. The eastern upright was laid at an opposed angle and was c. 0.94m in length and had a chock-stone wedged between its northern end and the rock-face. A basal flagstone was absent, instead the floor of the cist was levelled yellow glacial clay. The cist depth from the base to the underside of the cover slab was c. 0.51m, and on the east and west sides the cist had been packed with glacial till to match the height of the bedrock.

Due to time restraints and weather conditions the entire construction pit was not excavated. Given the presence of the large glacial boulder, the western upright had clearly been set against the edge of the construction pit on this side, But the eastern side of the pit was unlocated and the presence of the chock-stone (Fig. 3.26), is suggestive that the east side-stone could be potentially lowered. Without any further information it merely remains a possibility that this was an accessible unobtrusive cist.

While the Howe burial produced a date of 3030–2620 cal BC (GU-10638) (Table 3.9), it was not the only cist burial that had been dug into the glacial knoll. A second at Geroin was discovered in exactly the same way nine years later in 2004, and in relatively close proximity, c. 15m to the north (Section 3.3.5; Fig. 3.23).

3.3.4.1 The Howe burial

D.H. Lorimer

The cist contained a loose yellow clay infill, partially surrounding a crouched human skeleton placed with the head to the north (see Lorimer: Appendix 8). The position of the body was contorted, possibly due to the grave's irregular shape. At the north end of the cist a flat stone was set on the natural clay at a sloping angle below the skull like a pillow, mirroring the stone pillow below the head of one of the female inhumations present in the cist below Hut 7 at Skara Brae (see Section 3.4).

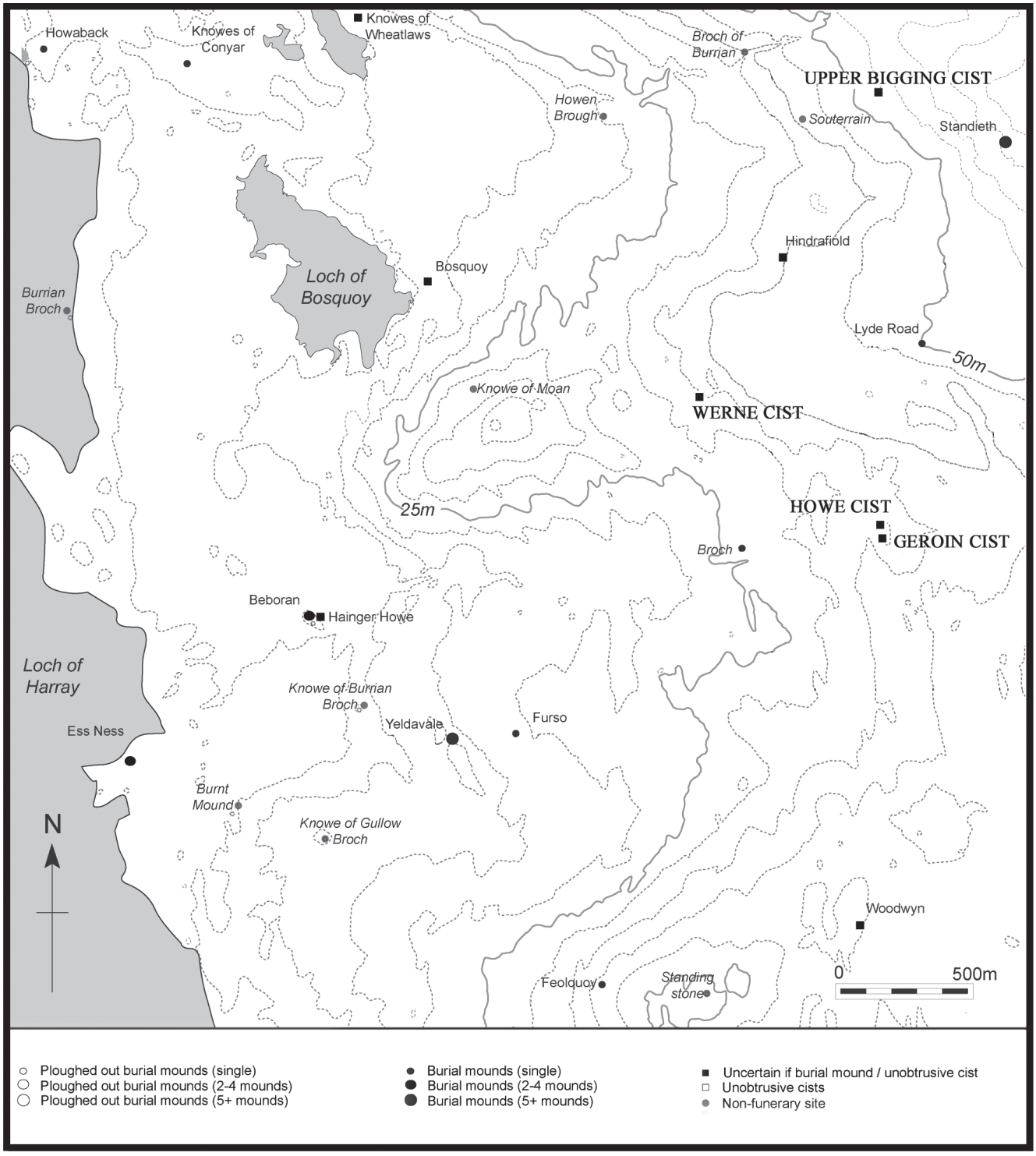


Fig. 3.22 Area map showing the location of Upper Bigging and Howe cists.

The skeleton was found lying crouched on the left side and, with the exception of the skull, which was considerably eroded on the left, was better preserved on the side in contact with the ground. It was, however, very poor in the mid-thoracic region. Part of the left tibia and fibula were present but the rest of the left and the whole of the right lower extremity were missing. Some disturbance had taken place as the first rib was displaced to the region of the femora (see Table 3.7). The presence of mineral deposit was noted on some of the bones. The height was estimated

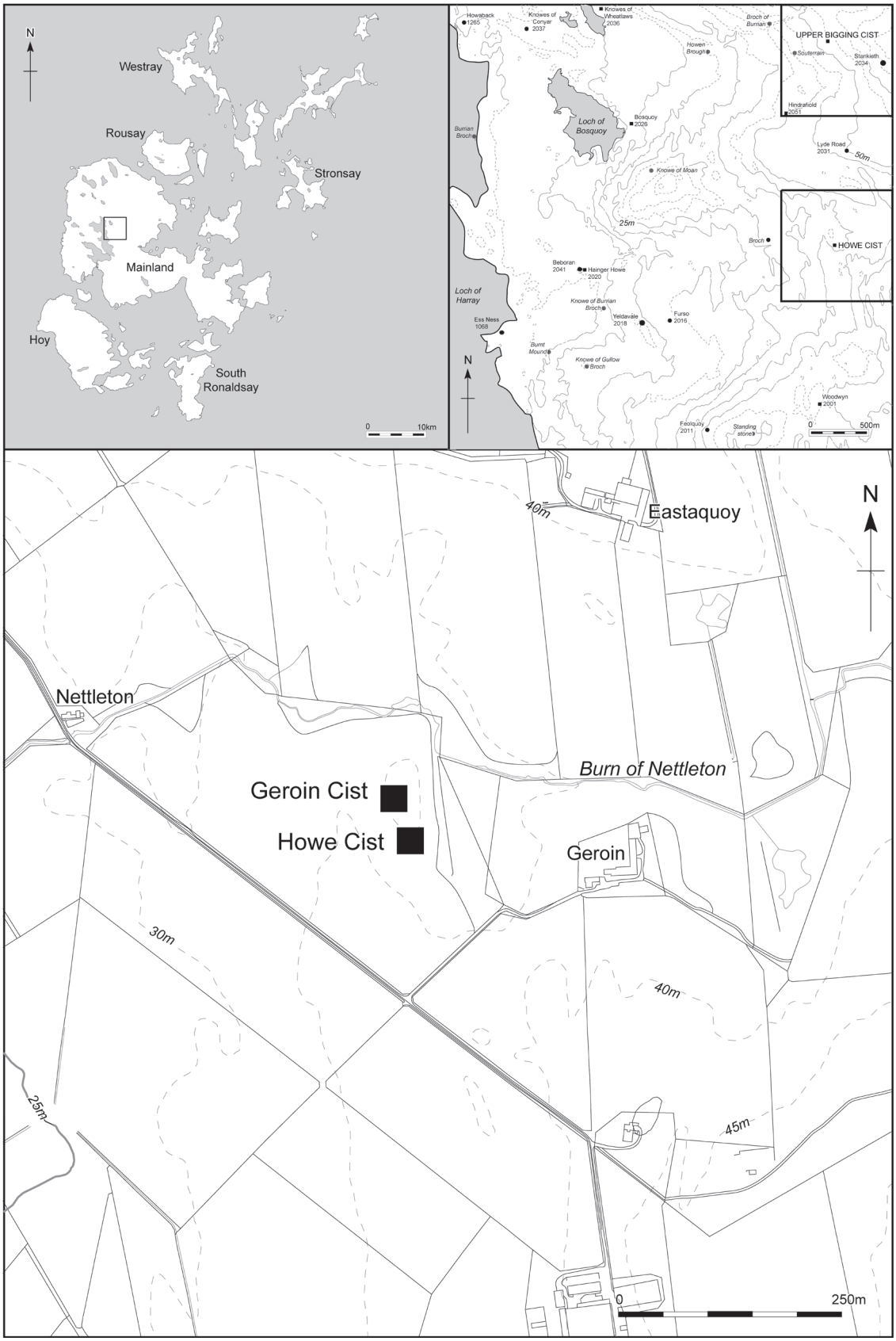


Fig. 3.23 Location map of the Howe and Geroin cists.



Fig. 3.24 The landscape setting of the Howe, Geroin and Werne cists is among an extraordinary group of glacial knolls and hillocks in Harray.

from the lengths of the left humerus, radius and femur using the formula of Trotter and Gleser (see Brothwell 1981). The right humerus was 6mm longer than the left with more developed muscle markings and thus possibly indicative of right-handedness.

The sex of the burial was considered to be male since, in the skull, male characteristics of rounded supraorbital margins, large frontal sinuses and external occipital protuberance and a square symphasis mentis on the mandible were noted. In the pelvic area, the sciatic notch was deep and could be divided into two unequal parts by a line from its deepest point perpendicular to a line joining the ischial and the inferior iliac spines, while the auricular surface was flat. There was, however, a slight preauricular sulcus (although this is usually considered a female characteristic, a certain percentage do occur in the male). The dimensions of the articular surfaces of the humerus and femur and the measurements of the left clavicle all fell within the male parameters (Bass 1987). Age was considered to be in the fifth decade from the wear pattern on the molar teeth (Brothwell 1981) and from the fact that obliteration had commenced, internally, on the sagittal suture. The left cornu of the hyoid bone had become united with its body and the manubrium with the body of the sternus; both are indicative of middle life (Gray 1977).

3.3.5 Geroin, Harray, Mainland (HY 3282 1740)

R. Toolis

During agricultural operations in early March 2004 on a knoll in the same field as the Howe cist, north of Howe Farm, Harray, the broken and partially collapsed capstone of a second cist was noticed by Mr Henry and the find was reported to Julie Gibson, Orkney Archaeologist, who requested the assistance of Historic Scotland. Ronan Toolis and Martin Cook of AOC subsequently excavated the cist over a two-day period 12–13 March 2004. The location of the cist is of interest due to it being situated c. 15m to the north of the Howe cist described above (Figs 3.23 and 3.25). A trench measuring 3 × 3m around the cist was excavated and once the topsoil was removed a pit filled with redeposited glacial till (014) of orange-brown glacial clayey silt mixed with shattered bedrock was exposed surrounding and partially covering the cist.



Fig. 3.25 The Howe cist lay to the north-west (left) of the natural knoll, while the Geroin cist was in a similar position but c. 15m further to the north and is visible as a green patch.

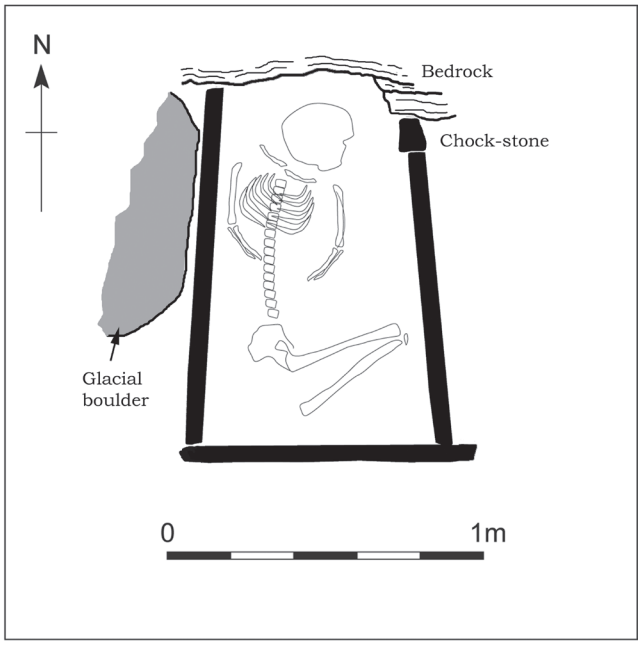


Fig. 3.26 Schematic plan of Howe cist from a sketch plan drawn by Raymond Lamb.

At least three capstones had originally covered the cist. Unfortunately, only two capstones (004), c. 0.75m long, up to c. 0.35m wide and c. 0.09m thick, survived, the third having been removed by machine action was missing. Due to the nature of discovery substantial amounts of plough-soil and glacial clay (005) had fallen into the cist when the capstones were displaced. The capstones overlay up to two courses of irregular triangular stone slate slabs (011), measuring on average 0.46m long by 0.27m wide and up to c. 0.10m thick. The top course overhung the bottom course which itself overhung the interior edge of the cist, thereby forming a form of stone corbelling to support the capstones (Figs 3.27 and 3.28 top).

Beneath the soil (005) that had fallen into the cist was a deposit of compact yellowish-brown clayey silt (007), c. 0.05m deep, which extended around and overlaid the periphery of a heaped cremation deposit (006) which included fragments of cramp (Figs 3.29 and 3.31 bottom). The heap of cremated bone and cramp, c. 0.32m in diameter and c. 0.09m deep, lay in the centre of the cist having been deposited onto an equally discrete spread of flagstones (008), which formed a platform in the central area of the

Table 3.7 Inventory of human skeletal material in the Howe cist (D.H. Lorimer).

CRANIUM	
Occiput	Complete except for left side of tabular portion.
Parietal bones	Right side: complete – Left side: area articulating with temporal bone & left side of frontal bone missing.
Temporal bones	Right side: part of squamous portion & mastoid process eroded – Left side: part of petrous portion & small mastoid process only, found.
Auditory ossicles	Right malleus & right incus found.
Sphenoid	Right side: complete – Left side: anterior part of greater wing missing.
Ethmoid	complete
Frontal	There was damage to the external angular process on both the right & left sides, & on the left side there was damage in the area of articulation with the parietal bone & the greater wing of the sphenoid.
MANDIBLE	Right side: coronoid & condylar processes missing & gonion damaged – Left side: slight damage to condyle.
TEETH	7 6 5 4 3 2: 2 3 4 5 6 7 7 6 5 4 3 2 1:1 2 3 4 5 6 7
HYOID BONE	Body & both greater cornua present. The left greater cornua attached to the body while the right side was separate.
VERTEBRA	
Cervical	First (atlas): complete except for missing right transverse process. Second (axis): complete except for damage to the right transverse process & spine. Third: complete except for damage to transverse foramina, right inferior articular process & spinous process. Fourth: complete except for damage to transverse foramina & spinous process. Fifth: complete except for damage to left transverse foramen & spinous process. Sixth: complete except for damage to left transverse foramen & spinous process. Seventh: complete except for left superior & inferior articular facets & the spinous process.
Thoracic	First: body (worn) & frag. of left pedicle. Second: body (worn), left pedicle, left superior & part of the left inferior articular facets. + 8 frags thoracic vertebral bodies. +6 frags articular processes. Tenth: complete. Eleventh: complete except for slight damage to the left side of the body. Twelfth: complete except for slight damage to the left side of the body & tip of spinous process.
Lumbar	First: complete except for the tip of spinous process & left transverse process. Second: complete except for the tip of spinous process & left transverse process. Third: complete except for the tip of spinous process & left transverse process. Fourth: complete except for the tip of spinous process & tip of left transverse process. Fifth: complete except for the tip of spinous process.
Sacrum	First segment complete, second & third segments damaged on the right side & the fourth & fifth segments were missing.
THORAX	
Sternum	Manubrium: complete but damage to demi-facet for articulation with the costal cartilage of the second rib on the right side. Body or gladius: first segment with damage on the right side to the demi-facet for articulation with the costal cartilage of the second rib. Central portion of the body missing but lower end present which included the facets for cartilage of sixth rib & small notch for reception of part of the costal cartilage of the seventh rib.
Ribs (right side)	First: complete. Second: head, neck tubercle & frag. of shaft. Third: head, neck tubercle & fragm. of shaft. Seventh or eighth: complete but in 2 parts. + 2 large frags shaft. + 2 heads mid-ribs. + 1 chondral end shaft. Twelfth: head & frags shaft.

(Continued)

Table 3.7 Inventory of human skeletal material in the Howe cist (D.H. Lorimer). (Continued)

Ribs (left side)	First: with head missing. Second: with head missing. Third: head, neck, tubercle & two-thirds of shaft. + 3 large frags shaft. Twelfth: head only. + 9 small rib frags.
Scapula	Right side: frag. only: part of glenoid fossa, coracoid process & part of the acromion process. The supra-scapular notch was absent. Left side: frag. only: whole of glenoid fossa & coracoid process. The tip of the acromion process was broken. Area of supra-scapular notch broken.
UPPER EXTREMITY	
Clavicle	Right side: complete except for the acromial end – left side: complete except for slight damage to the tip of the acromial end.
Humerus	Right side: complete – Left side: complete
Radius	Right side: part of head, neck, tuberosity & shaft (lower end of shaft broken & the articular end missing – Left side: complete but worn in two parts, the lower end was very worn.
Ulna	Right side: complete but the shaft was very worn & both ends were encrusted with mineral deposit – left side: complete but lower end separate & damaged on the posterior surface. Mineral deposit was noted on the proximal end & on the shaft.
Carpal bones	Right side: absent – left side: navicular, capitate, semilunar, lesser multangular, greater multangular & possible frag. triquetral.
Metacarpal bones	Right side: third: damaged at both extremities – left side: first, second (damaged at both extremities); third (damaged at distal end), fourth & fifth (both damaged at extremities).
Phalanges - right side	Right side: absent – left side: First row: first, second, third, fourth (distal end missing). Second row: proximal end & shaft of one phalanx. Third row: 2 complete phalanges & 1 phalanx with proximal end missing. + 4 lower ends of shafts & distal ends of phalanges & 1 frag. shaft.
LOWER EXTREMITY	
Os innominatum – right side	Ilium: frag. which included the acetabular portion, greater sacro-sciatic notch & part of the auricular process. Ischium: frag. which included acetabular portion & the upper part of the tuberosity. Os pubis: acetabular portion only.
Os innominatum – left side	Ilium: whole bone except for four-fifths of crest. Ischium: acetabular portion & proximal part of tuberosity; descending ramus (separate). (*Note*: groove for 1 obturator extremis muscle particularly marked.) Os pubis: acetabular portion only.
Femur	Right side: head, neck, greater & lesser trochanters & shaft complete but medial condyle missing at lower end – left side: absent
Patella	Right side: complete – left side: absent
Tibia	Right side: head & part shaft but anterior margin of the head & anterior surface of the shaft were missing – left side: frag. of the posterior ridge of the articular surface of the medial condyle.
Fibula	Right side: a third of the shaft & frag. of lower end, + 27 small frags long bone shaft & 1 frag. cellular bone.

cist. The flagstone platform covered an area c. 0.63m by 0.48m (Figs 3.30 and 3.31 bottom) and had clearly been set in this position to receive the cremation deposit. This must have either been interred in some form of bag or container or carefully tipped from a container (remnants of a vessel were recovered, see Section 3.3.5.2). Due to gaps between the platform slabs some of the bones had fallen between the cracks into the underlying primary deposit of loose, clay silt (012). From the cremation deposit a femur fragment yielded a date of 1890–1730 cal BC (SUERC-5471), and a fragment of hazel charcoal (*Corylus avellana*) from the same deposit of cremated bone and cramp (006) yielded a date of 1750–1520 cal BC (SUERC-5472), (Table 3.10; Griffiths: Appendix 28).

The cist walls (013) consisted of four flagstones defining a north-west–south-east aligned cist with an interior measuring c. 1.03m long by c. 0.78m wide at north-west end of



Fig. 3.27 View of the triangular slabs overlying the upper edges of the Geroin cist (Ronan Toolis).

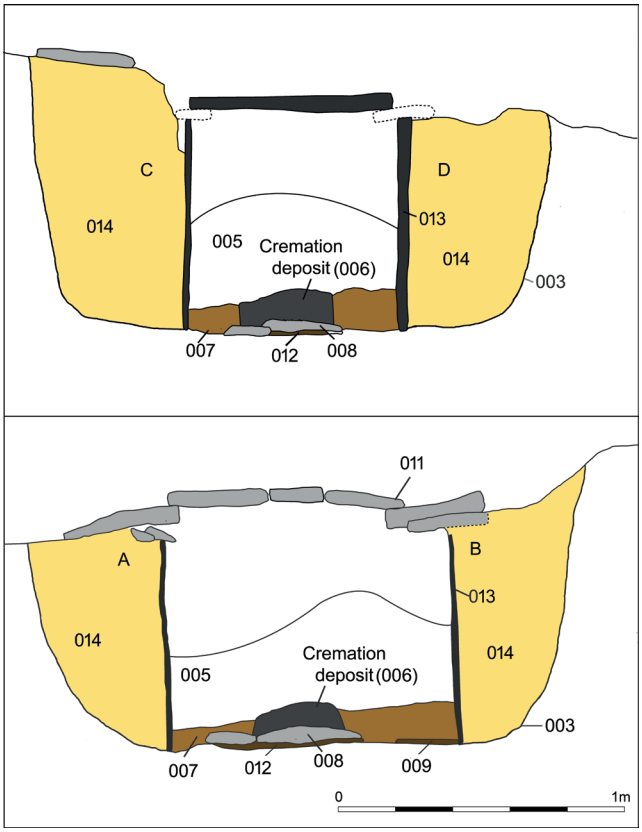


Fig. 3.28 Section drawings of the Geroin cist.

cist, and c. 0.66m wide at south-east. The cist had an average depth of c. 0.74m (Fig. 3.28). Of particular interest was the unusual assembly technique where the side flagstones were each dressed to interlock together at the top corners, the north-west and south-east slabs sliding above the north-east and south-west slabs (Fig. 3.32 top). No other marks were evident on either the internal or external faces of the slabs. Each slab had been further fixed into position by large



Fig. 3.29 Beneath the material fallen into the cist was a deposit of cremated bone and cramp (Ronan Toolis).



Fig. 3.30 At the base of the cist was a discrete flagstone platform on which the cremation deposit had been placed (Ronan Toolis).

stone wedges positioned within the redeposited glacial till (014) that infilled the oval construction pit which measured c. 2m long by 1.8m wide and c. 1.05m deep. Interestingly, cramp, but no cremated bone was present within this fill. The construction pit had been cut into the glacial till of friable yellowish-orange clay silt and rock inclusions. Subsequent to the excavations, the cist wall slabs were collected and can now be seen on display in The Orkney Museum, Tankerness House, Kirkwall (Fig. 3.32 bottom).

In summary, the following construction sequence can be suggested. First a large construction pit was excavated into the glacial till at the side of a natural knoll; a knoll that had received at least one other cist (Howe) nearly a thousand years earlier. At the base of the pit a cist was assembled. There may have been a delay between these activities as a thin silt layer (009 and 012) had built up at the base (Fig. 3.28). The cist construction

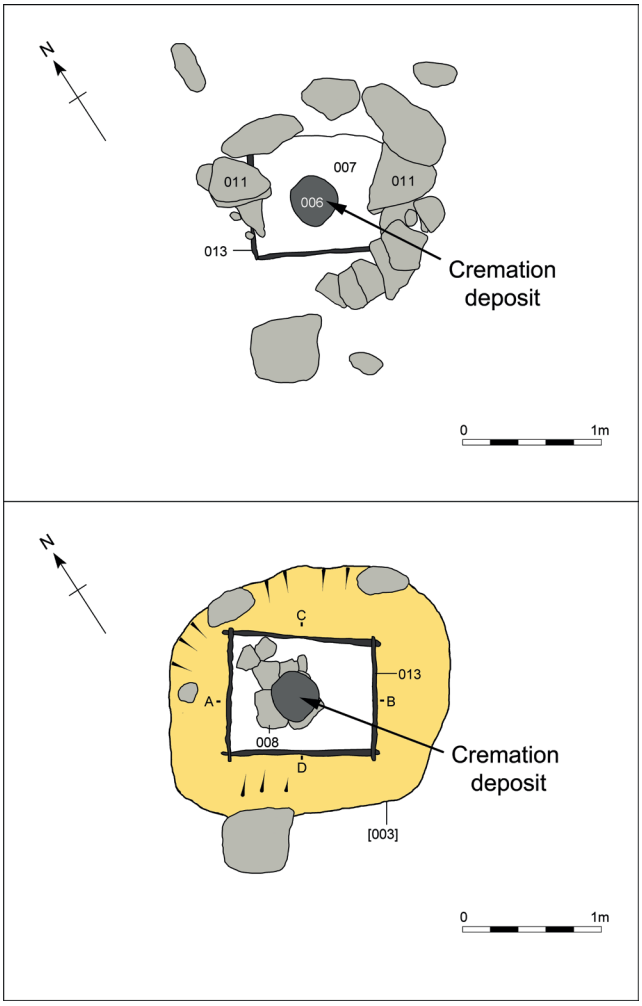


Fig. 3.31 Plan views of the Geroin cist, showing the slabs (011) overhanging the cist uprights (top), and excavated pit and cist contents (bottom).



Fig. 3.32 The Geroin cist was originally covered by at least three capstones and the side slabs had been carefully dressed with interlocking top corners to ensure a close fit (top). The dimensions of the cist are c. 1.03m long by 0.78–0.66m wide, and c. 0.74m in depth and it is now re-assembled in Orkney Museum (bottom), (Courtesy of Orkney Museum, Tankerness House).

is interesting since the slabs had an unusual method of interlocking (Fig. 3.32), which is only recorded occurring at one other unpublished cist at Arion, Stromness (NHRE ID: 1711). However, Arion appears to be of a larger size as it contained a crouched inhumation that had been interred wrapped in a fine fabric, which was open twining made with plant fibre strips or stems (Susanna Harris pers. comm.).

At the base of the Geroin cist a central platform of slabs was set in position on which a cremation deposit of an individual aged between 15 and 18 years was then placed. This was a discrete deposit probably held in a bag or carefully tipped from a container. The deposit also included cramp, of which 127g was recovered from the cist fill and construction pit backfill (Heald and Tate 2004). Then a sequence of three capstones were put in position, partially supported by the overhanging slabs (Figs 3.27 and 3.28). The cist construction pit was backfilled with glacial clay at this time and it also contained cramp, but no cremated bone.

Both Howe and Geroin cists were constructed in a landscape setting of natural mounds and hillocks (Fig. 3.24), which is a common and preferred landscape setting for many of the Orcadian cist burials. Indeed, the Werne cists discussed below (Section 3.4) were located a few hundred metres to the north (Fig. 3.23). Also, the cist at Blomuir in Holm, Mainland (Section 3.3.1) occupied a similar landscape position among glacial knolls. Nor should it be forgotten that the mounds at the Knowes of Trotty barrow cemetery (Chapter 4) are also erected on and around glacial mounds to the north-east, effectively overlooking the cist burials in this striking topography.

3.3.5.1 Geroin: the cremated bone

M. Melikian

The burnt human bone recovered from the cist represented the remains of one sub-adult individual (Melikian: Appendix 9). The total burnt bone weighed 1,058g of

which 25.3% of the total weight was identifiable. All four skeletal elements; skull, axial, upper and lower limbs, were represented (Appendix 9, Table 1). Though the remains were fragmentary, a number of unfused and partially fused epiphyses sites were visible; the left calcaneus displayed an unfused posterior metaphysis, the distal epiphysis of the left tibia was present and a distal metaphysis and epiphyses from two unidentified metacarpals were present as were a partially fused, unidentified femoral head and unidentified distal epiphysis. Many fragmentary teeth were present, largely represented by the roots only. All the teeth were from the permanent dentition. The crown of a lower right second molar was also identified. Based on the level of development and dentition the individual can be aged between 15 and 18 years. As the individual was not skeletally mature, the secondary sex characteristics were not developed, so it was not possible to give a sex estimation. No pathology or dental disease were observed in the remains.

The colour of the bone was variable; this ranged from white to grey-blue. A number of the grey-blue coloured fragments were identified as skull or from the shafts of the leg bones. This incomplete oxidisation could have resulted from a number of factors; peripheral position of the pyre, coverage and oxygen cut-off by extrinsic objects or the lack of soft tissue coverage. A large amount of cramp was incorporated with the cremation deposit, some adhering to the bone. There were also several fragments of burnt animal bone (25g), with the largest fragment from a cow metapodial and the other fragments were classed as cow- or sheep-sized. Interestingly, the colour of the animal bone differed from the human bone and displayed areas that were both unburnt and burnt with a blackened appearance, indicating a lower level of oxidisation. This may be an indicator of the different treatment of the animal bone; possibly an offering on the pyre at a later stage or placed at the peripheries.

3.3.5.2 The pottery from Geroin

A. MacSween

Fragments of pottery, probably from the same vessel, were recovered from two contexts within the Geroin cist. Three abraded rim sherds, one fragment and seven crumbs (13.9g) were recovered from the post-cremation basal silt deposit (007). Another rim fragment, two fragments and four crumbs (3.7g) were recovered from the primary cist deposit (009). Overall, the rim sherds have a slightly flattened rim, with traces of nail impressions across the lip. The two larger rim sherds join and a diameter of c. 200mm can be estimated (Fig. 3.33). The vessel thickness is c. 14mm and it was coil constructed, with a coil junction visible. The fabric is fine sandy clay with c. 80% of large rock fragments up to 10mm long, which has fired soft and is buff with red surfaces. While very little remains from this vessel, it is perhaps worth pointing out that there are possible parallels in Orcadian Neolithic contexts. The size of the rim, general shape and decoration are similar to a vessel from Point of Cott (MacSween 1997, 29, fig. 16, vessel 4) and there are similarities with a vessel from Knowe of Craie (Davidson and Henshall 1989, 66).

3.3.6 Riff, Rendall, Mainland (HY 4239 1930)

J. Gibson and R. May

The Riff cist was located close to the coast on gently sloping ground (Fig. 3.34), in a cultivated field near to South Moa house, Rendall. The capstone had been shattered by the tractor and the discovery was immediately reported to the County Archaeologist Julie Gibson, who subsequently excavated the site with Matilda Webb in May 1998. Although in pieces, it was possible to see that capstone had been meticulously trimmed to a regular rectangular shape (Fig. 3.35 top). Removal of the broken pieces revealed the cist to be formed by four upright slabs, with a fifth

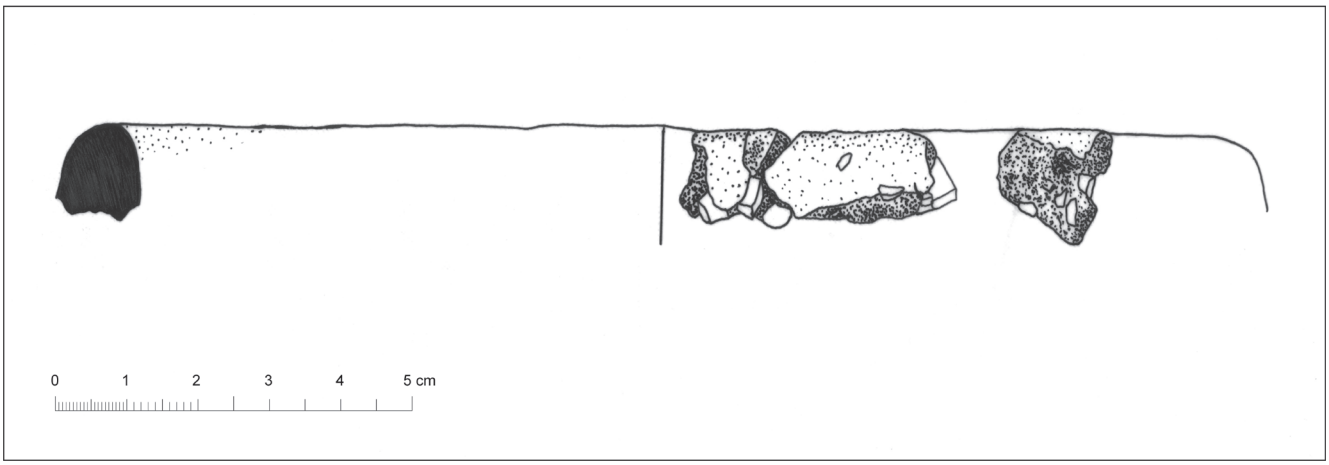


Fig. 3.33 Rim sherds from the Geroin vessel.

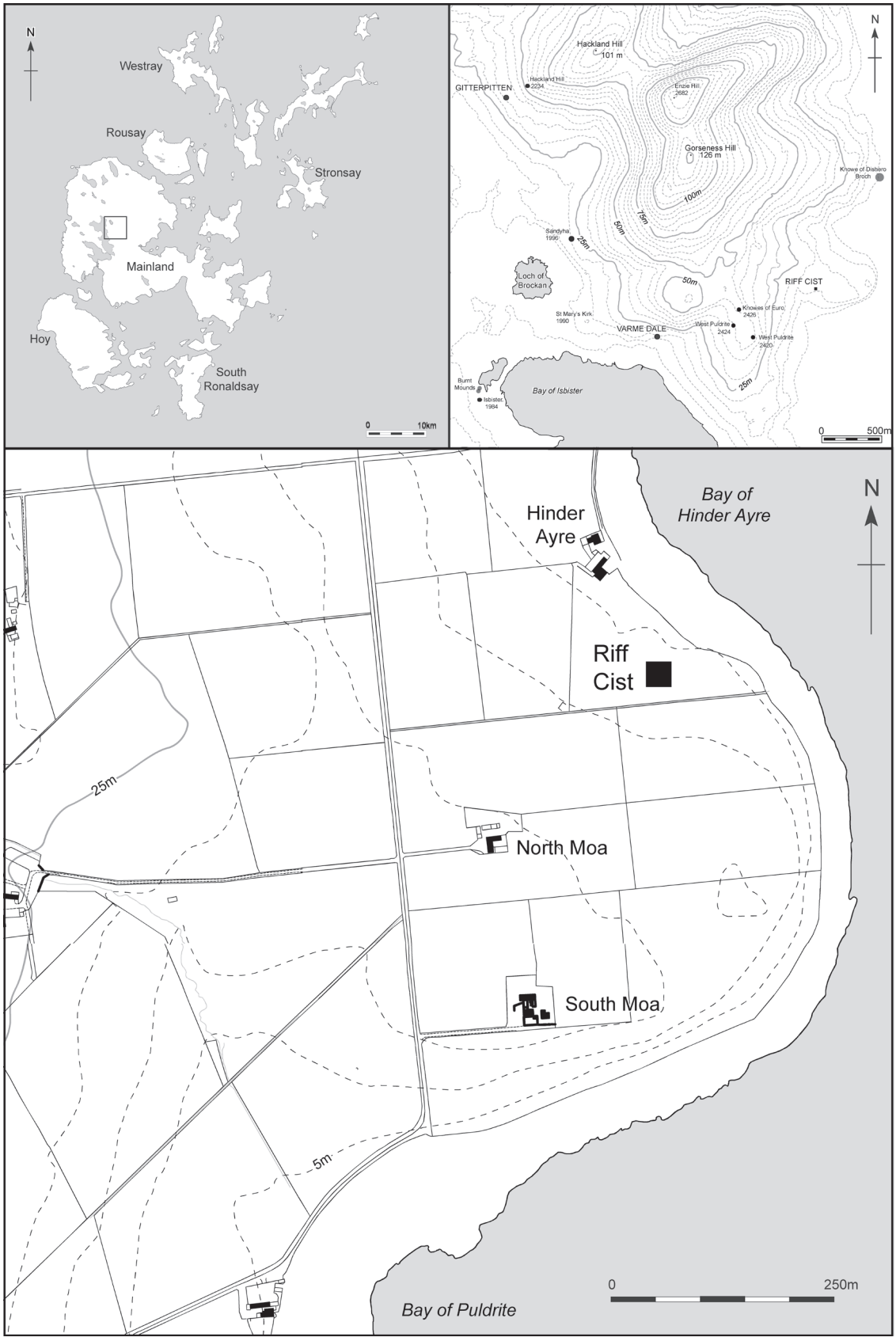


Fig. 3.34 Location map of Riff cist, Rendall, Mainland.



Fig. 3.35 The Riff cist capstone had been partially broken by the tractor (top). The cremation deposits were exposed in the northern end of the cist after removing the fallen topsoil (bottom) (Julie Gibson).

completing the north-eastern side. Internally, it measured c. 0.65m in width, with the length being c. 1.30m on the western side, reducing to c. 1.19m in the east due to inwardly angled end slabs (Fig. 3.36). Overall, the cist was aligned north-north-east–south-south-west.

The cist fill varied between c. 3cm and 5cm in depth and was overlain by ploughsoil that had fallen in when the capstone was broken. After clearing away the soil, both cremated skeletal material and a substantial number of unburnt teeth were encountered at the northern (majority in the north-western) end of the cist (Figs 3.35 and 3.36). Unburnt skeletal remains, principally teeth were present in the southern area which provided a date of 2040–1740 cal BC (GU-11386) (Table 3.9). While the cremation deposit seemed to be of a single male aged between 18 and 25 years, the teeth represented four different people (see below and Roberts: Appendix 5).

The construction pit was cut into the glacial clay and bedrock and, in the northern and eastern side, the cist slabs were set in front of dry-stone walling. Because of time constraints neither area was completely excavated and it is possible that the masonry extended back further in the eastern area than was initially thought. The base was formed by several horizontal slabs abutting the western cist upright but running beneath its eastern counterpart. Beneath the flagstone flooring at the south-east end of the cist was a small cremation deposit that was assumed to be material that had fallen between the basal slabs.

Outside the cist, in the eastern area of the pit, a collection of seven potsherds were recovered. These represented the lower portion of a vessel including the 10cm diameter base, which was slightly footed and flat, with angled walls. The exterior surface was sooted in places and had been finished with a wet-hand slip. These sherds appear to be derived from an incomplete urn, similar to those found, for instance, at Linga Fiold (Chapter 5), and their presence outside the cist is interesting. Given that the entire cist pit was not excavated it is difficult to know whether a complete urn was broken *in situ* and sherds deposited amongst the surrounding masonry and packing debris. If so, it suggests the cremated remains were brought to the site in an urn and when they had been deposited in the cist, the urn was smashed and left *in situ* within the cist-pit. This occurrence is significant because it reveals that the masonry on the east side was incomplete, and that it was deemed necessary that the vessel carrying the cremated remains was destroyed. Under these circumstances we are seeing the consequences of concepts of pollution and contamination on the materials physically associated with remains of the dead, an occurrence that will be replicated around the barrows at Linga Fiold (Chapter 5).

An obvious question concerns the sequence of deposition of human remains within the Riff cist. There are two possibilities. One is that a sequence of interment occurred, possibly beginning with a primary inhumation being subsequently disturbed by the later deposition of a cremation and unburnt teeth (see discussion of Werne Cist 1 in Section 3.4). Alternatively, the cremated remains, unburnt human bones and teeth were deposited at the same time. On the basis of other cist contents, the latter situation of all the skeletal material, both unburnt and burnt, being deposited together in a single act is unlikely (although documented in a few other cists). However, if the former sequence is accepted, then the question of access arises and whether the cist pit was more extensive on the western, unexcavated, side allowing side entry.

In relation to this possibility there were no dimensions reported of the exact size of the cist construction pit, only a dotted line on the west side of the cist section drawing suggesting this was not the actual edge of the cut. However, excavation photographs appear to show that the western upright of the cist is set close to a possible cut in the bedrock, where wedge stones and rubble fill the void. In contrast there is masonry surrounding the cist in the northern and eastern sides. The second upright stone comprising the northern section of the eastern side of the cist is unusual

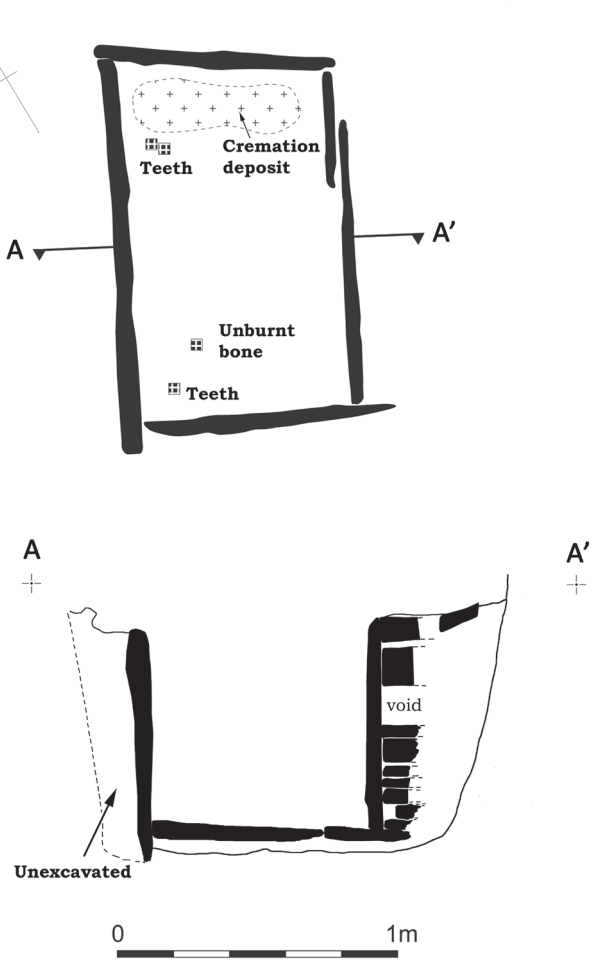


Fig. 3.36 Plan and section of the Riff cist, Rendall, Mainland.

(Fig. 3.36). Equally, the longer southern upright actually sits on the flagstone base, as opposed to it being bedded in a slot, which would allow removal. Consequently, it must remain a remote possibility that Riff was another example of a side-accessed cist, although the space appears restricted.

The area to the west of the Riff cist is notably rich in Early Bronze Age burial sites, which include a cist situated to the north-west at South Ettit (HY 422197) which was excavated in 1968, being c. 0.96m long by 0.45m wide, and contained 'a heap of charred bones and ashes in the bottom' (Hedges 1980, 57). A series of round barrows is located to the south-west, including the Knowes of Euro (HY 41311883 and HY 41421885), and an adjacent cist. This measured c. 1.1m long by 0.6m wide and was situated between the eastern mound and the farm road to Appietown Farm (RCAMS 1946, 82–3). To the south, two mounds are present at West Puldrite (HY 41481857), one of which was excavated, revealing three inhumations within a stone cist that was almost certainly standing on the old ground surface on the west side of the barrow, as Corrie considered it to be 'a secondary construction' (Corrie 1929, 192). The barrow cemetery of Varme Dale lies on the other side of the hill to the west (see Section 6.3).

3.3.6.1 The Riff burials

J.A. Roberts

The total weight of the cremated bone within the cist was 663.8g, and the fragments ranged in size from <2mm to 86mm (Table 3.8). Surface erosion of the fragments was seen in only two of the smaller samples, and in two of the bulk samples from beneath the floor. Table 3.8 also summarises the weight of the bone within each fraction, and the percentage of the total deposit that represents. All the bone fragments examined were human. A minimum number of only one individual was identified. No repeated skeletal elements and no elements belonging to individuals of an obviously different age were observed. The good state of preservation together with the fact that many diagnostic elements were present, meant that the age at death and sex of the individual could be determined with a reasonable amount of confidence. The ends of all the long bones were fused, although the epiphyseal line of the distal radius was still visible. This suggested an age at death of around 18–20 years. The medial end of the clavicle was not fused, indicating an age at death of less than 25–28 years. The iliac crest was fused, indicating an age of greater than 17–20 years. No degenerative joint disease was observed, and many of the cranial fragments were fractured along the suture lines. The above evidence points to an age at death of between 18 and 25 years. Sexually dimorphic elements from the pelvis and cranium indicated male sex. Pelvic fragments included part of the sciatic notch and the auricular surface of the ilium, while those from the cranium included the mastoid process, the zygomatic bones, the chin, the orbital rims and the external occipital protuberance. The general size, robusticity and cortical thickness of some of the long bones, for example the radius and humerus, also suggested male sex (Roberts: Appendix 5).

Distinct and consistent colour changes have been observed in heat-treated human bone, from orange (200°C) through to black (300ºC) and grey (600ºC), until the bone becomes white, when all the organic matter is combusted, and cremation is complete at temperatures of around 700–800ºC (Shipman *et al.* 1984; Holden *et al.* 1995). The fragments from the Riff cist ranged in colour from dark grey to white, with the majority being white. Those that

Table 3.8 Riff: percentage of human bone within each fraction (J.A. Roberts).

Fraction	*Weight (g)*	*Percentage of deposit*
2–5mm	49.4	7.4
5–10mm	229.3	34.5
>10mm	385.1	58

were mid- or darker grey in colour included some of the phalanges, metatarsals and metacarpals, the occipital, part of the left parietal and left temporal, the spine of the scapula, and the radius. The fact that a higher proportion of the extremities were less well cremated than other body parts suggests that they were perhaps lying away from the hottest part of the pyre. The darker grey colour of the external occipital protuberance, part of the left parietal and temporal, and the spine of the scapula may be indicative that the individual was laid supine with his head tilted slightly to the left. As cremation progressed, the body would have come to rest on a thick layer of ash, the remains of the funerary pyre. The circulation of oxygen around those elements in contact with the ash would have been impaired, resulting in differential combustion. There was evidence to suggest that the pyre had been stoked and body parts dispersed. Two fragments of the head of radius, one white and one dark grey, could be re-joined, indicating that they were from the same element that had been fractured during the cremation process. Stoking of the pyre to aid combustion might explain why few of the posterior aspects of other elements, such as the spinous processes of the vertebrae, and the calcanei, were darker in colour. Virtually no pathological conditions were identified. There was little loose cramp or pyre debris mixed in with the remains, suggesting that the cremated bone was carefully picked from the pyre rather than scooped up when the cremation was complete. There was also no deliberate deposition of pyre material within or on top of the burial, as observed at other sites.

All the unburnt remains from the cist were human. At least four individuals were represented by a minimum number of 77 teeth, the count being based on the presence of three permanent right maxillary 2nd molars, three permanent left mandibular 1st molars and three deciduous teeth. Some of the teeth could be ascribed to the same set of dentition, matching in size and morphology, and/or development and degree of attrition. The deciduous dentition, two mandibular 1st molars and a maxillary 1st molar indicated that one of the individuals was a young child aged 3–7 years. The ages of the remaining three individuals were more difficult to determine due to the problems described above relating to degradation of the root and crown. It was thought, however, that two were adult, and one was possibly a juvenile aged around 12–15 years. As the only surviving skeletal elements were fragments of severely eroded long bone, it was not possible to determine the sex of any of the individuals.

Although there was insufficient contextual information to determine the precise relationship between the cremated and inhumed remains, unburnt teeth were found mixed in with burnt bone in three samples (SFs 15, 18 and 19). It is possible that this represents the same type of deliberate mixing of remains as seen in many Early Bronze Age multiple cremation burials (McKinley 1997a; 1997b; Roberts: Appendix 2; 1998; 2000). Deposits of unburnt teeth alone were also present and unburnt bone was found in only one sample (SF 17). Parallels may be drawn with Sandfiold cist where, although the majority of unburnt teeth were found 'in their correct relative positions' (Lorimer 1999, 24), two unburnt teeth were also present among the central cremation deposit (McKinley and Kibble 1999), mirroring a foundation cremation deposit which included unburnt teeth below Cist 1 at Werne, Harray, West Mainland (Luke 1980, 69). A total minimum number of five individuals were identified in the cist, one represented by the cremated bone and four by unburnt remains, primarily teeth. It was established that the cremated remains represented an additional individual, rather than part of one of the adult individuals represented by the unburnt teeth, by the presence of a fourth (cremated) permanent maxillary 2nd molar.

3.3.7 Moan Farm, Firth, Mainland (HY 3676 1549)

E. Stuart

An unobtrusive cist was discovered in a field at Moan Farm, Firth, Mainland Orkney (Fig. 3.37) during the harvest of September 1994 and excavated by a team from the Department of Archaeology, University of Glasgow. The cist was identified when a combine harvester broke through the surface, damaging the large capstone; part of it fell into the cist while the remaining piece remained *in situ* on the cist (Fig. 3.38). Fragments of broken capstone and a heap of soil were shovelled out because farm workers thought the combine harvester had damaged an old flagstone field-drain. Orkney Islands Regional Archaeologist, Raymond Lamb, was immediately informed who, in turn, asked if a team who were conducting excavations nearby at Stonehall Farm, Firth (Richards and Jones 2016), could carry out a small excavation. This was undertaken by students directed by Eland Stuart.

The cist was situated on a prominent natural hillock (37m OD) which projects to the east like a spur over land that slopes gently away to the south-east (Fig. 3.38). Behind the hillock to the north-west is a relatively steep slope of the north–south running ridge of the Ward of Redland to Cuffie Hill (Figs 3.37 and 3.39). On examination, the cist did not appear to be marked in any way, nor are any adjacent burials recorded. However, it should be noted that only the immediate area of the cist was examined and there could easily be further cist burials on the hillock. More widely, a single barrow is located at the top of Cuffie Hill, 560m to the west of the Moan cist. Another barrow and cists (OR578) are positioned to the north around Redland Farm, which in being upslope overlook the glacial mound and cist (Fig. 3.39).

A trench 3 × 2m, centred on the cist, was excavated revealing the remaining half of the massive capstone which had been split obliquely along the length. After carefully removing the fallen topsoil, the deposits within the cist were uncovered exposing the remains of a crouched

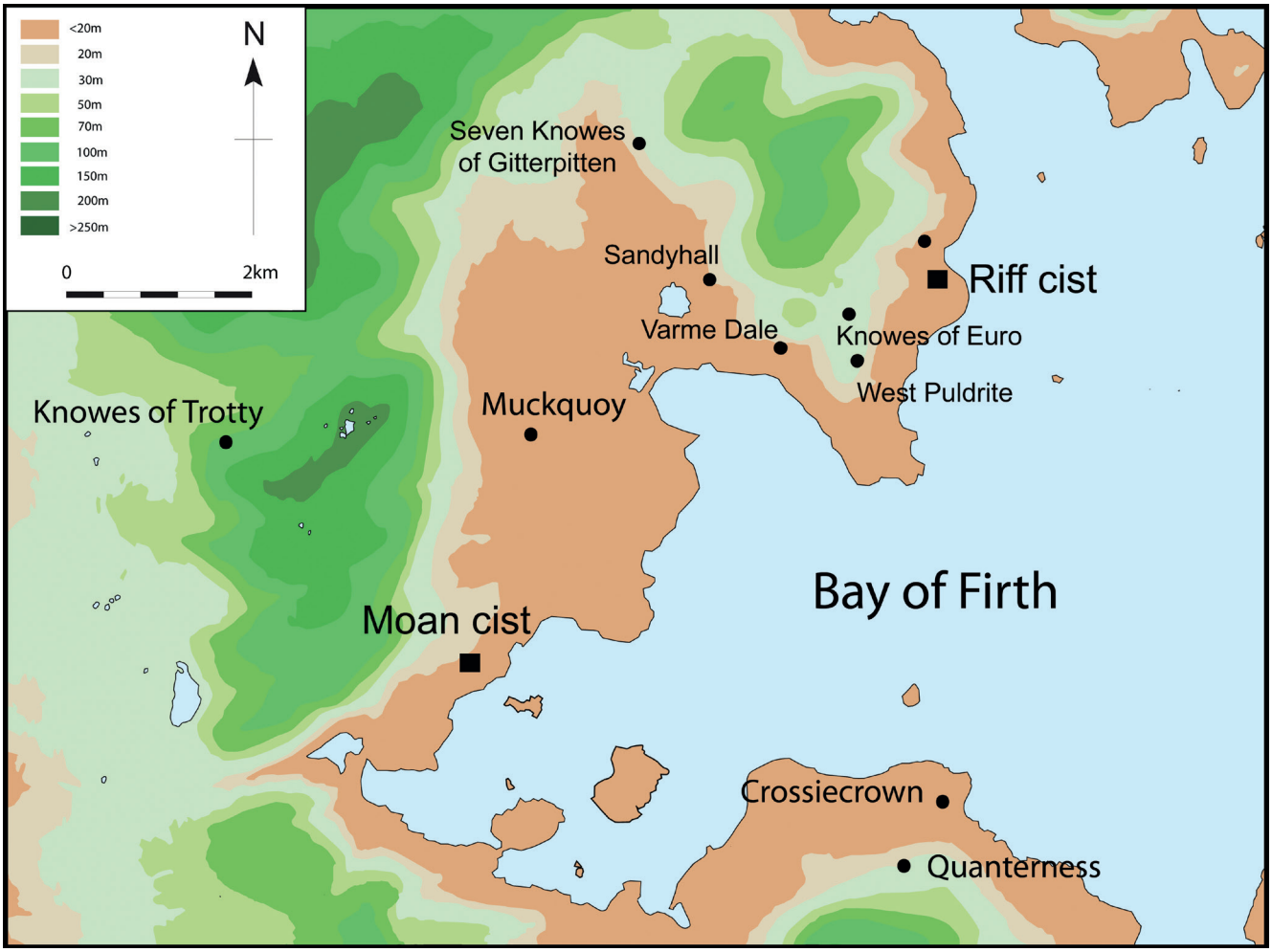


Fig. 3.37 Location map of the Moan cist, Firth, Mainland, showing other mentioned cists and related sites in the Bay of Firth area.

inhumation. Overall, the cist measured c. 1.40 × 0.70m with its long axis orientated east-south-east–west-north-west. The construction pit was also excavated and found to be of rectangular shape and cut through the deep glacial till and lower bedrock. Given the size of the cist the construction pit seemed excessive in size, measuring c. 1.8m north-west–south-east, and 1.6m south-west–north-east (Figs 3.40 and 3.41).

The base of the cist was formed of a single large flagstone c. 0.25m thick which, upon removal, was found to be supported by a pair of low stone pedestals set 0.6m apart on the base of the pit. The side slabs were all single flat flagstones apart from in the south-east where curiously two slabs were set upright one above the other. The upper stone of the two was slender and tall whereas the lower was, thick, squat and stumpy, more like a hefty plank of stone, and was chocked into place with large blocks packed back to the wall of the pit. A mixed red-brown and yellow silty clay lay over and sealed the packing slabs, again only in the area between the side slab and the pit wall.

The three other flagstones forming the cist were similarly held in place at their bases with stones, and columns (or walls) of stone blocks were encountered stacked up against the end slabs at the corners adjoining the south-east slab. The gaps between the remaining cist side slabs and the edge of the pit were packed with glacial clay, silt, sand and gravel, presumably redeposited pit fill. This was in marked contrast, to the south-east which had the stone blocks set loosely in place. The asymmetric nature of the construction of the cist and its supporting structures and deposits is extremely similar to that encountered at a number of unobtrusive accessible cists, including Kewing (Fig. 3.45), which was constructed in such a manner on the southern side as to facilitate re-entry (Ballin Smith 2014, 95). In a similar way, repeated access to the Moan cist would have been afforded from the south-east long side of the cist by removing the stone blocks packing the south-eastern side and lifting out the upper side slab which, unlike the lower side slab (and the other three side slabs), was not bedded in with clay.



Fig. 3.38 From the south, the arrow marks the position of the Moan cist situated near the summit of the large natural knoll.

Excavation of the cist consisted of removing clumps of topsoil, some held together with cereal stubble, which had fallen into the cist, to reveal very loose silty clay, with small slivers of stone. This varied in depth from c. 0.02m at the far eastern end where the floor slab met the shorter end slab of the cist, to c. 0.10 m depth at the western end. In the eastern half of the cist, among the silty clay and stone slivers was a concentration of large stone flakes. These were a consequence of the top half of the eastern side slab of the cist disintegrating allowing an avalanche of soil.

Below the large flat flakes comprising broken parts of the capstone, in the eastern end of the cist were long bones, stained a deep orange-brown, representing the legs drawn up to the chest of a crouched inhumation orientated with the head to the west-south-west. The human remains were contained within a thin, loose orange and black silty clay with many small bone fragments. Although there was little bone in the western half of the cist in the upper body and head area could be traced as an outline of human shape, rough and blurred around the edges but unmistakably crouching on its side with its back to the northern wall and legs drawn up to the chest. A radiocarbon date of 1890–1680 cal BC (AA-51369) was obtained for the inhumation (see Table 3.9). Finally, despite having no traces of a cremation burial, a piece of cramp was recovered from the cist, echoing similar finds of cramp associated with inhumations at Sandfiold (Dalland 1999) and Upper Bigging (Section 3.3.3), in West Mainland.

3.3.7.1 The Moan burial

D.H. Lorimer

The state of preservation of the bones of the crouched inhumation from the cist was very poor and apart from fragments, only the right ilium of the pelvis and the long bones of the lower and fragments of the upper extremities survived. Overall, the bones from the Moan Farm cist were those of an adult female of about five feet six inches in height. There was the flattening of the femoral shaft characteristic of earlier populations, and, at some time, there had been a possible sprained ankle and a fracture of



Fig. 3.39 Downslope view from the west of the large glacial knoll (highlighted) in which the Moan cist was set.

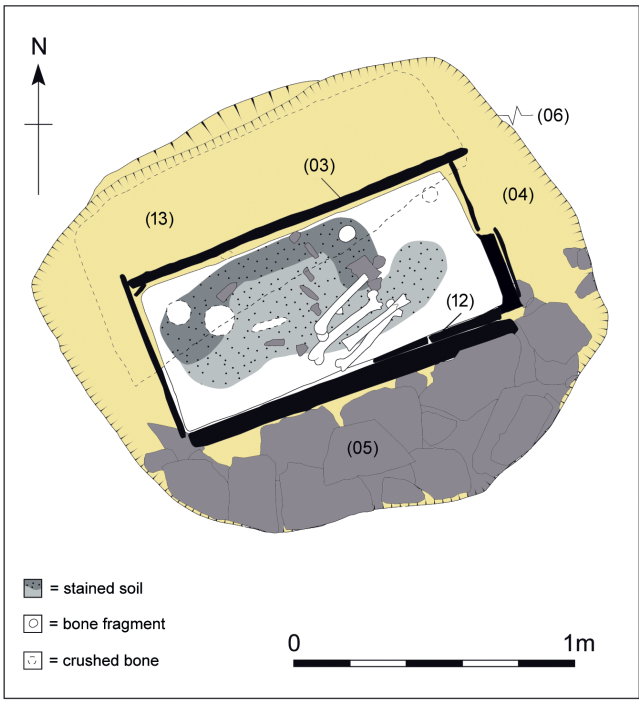


Fig. 3.40 Plan of the Moan cist and burial, note the size of the cist-cut and the pile of slabs to the south-east.

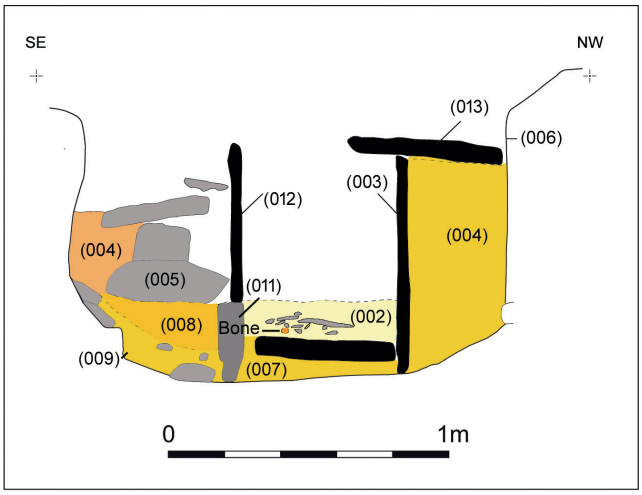


Fig. 3.41 Section through the Moan cist which lay in a large construction pit with stone slabs built up on the south-eastern side.

Table 3.9 List of radiocarbon dates for Blomuir, Howe, Riff and Moan.

Site name	*Lab code*	*Material sampled*	*Context*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
Blomuir 2, Holm pit	GrA-21738	Cremated bone	Food Vessel	3540±60	2040–1730
Howe, Harray cist	AA-53167	Unburnt human bone	Cist fill	4255±70	3030–2620
Riff, Rendall cist	GU-11386	Unburnt human bone	Cist fill	3570±45	2040–1740
Moan, Rendall cist	AA 51369	Unburnt human bone	Cist fill	3460±40	1890–1680

Table 3.10 List of radiocarbon dates of cists and flagstone covered burial pits in Mainland, Orkney.

Site name	*Lab code*	*Material sampled*	*Context*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
Crantit, St Ola, West Cist in top of tomb	SUERC-815 (GU-11269)	Cremated bone	70	3460±45	1890–1680
Crantit, St Ola, West Cist in top of tomb	SUERC-816 (GU-11270)	Cremated bone	71	3420±50	1880–1600
Crantit, St Ola, Cist discovered in 1909	OxA 4607	Cremated bone		3385±50	1780–1520
Ferndale, Rendall, Cist 4	SUERC-2988 (GU-12121)	Cremated bone	08	3550±35	2020–1740
Ferndale, Rendall, Cist 10	SUERC-2987 (GU-12120)	Cremated bone	06	3555±35	2020–1760
Geroin, Harray, Cist in knoll	SUERC-5471 (GU-12745)	Cremated bone	Cist fill	3475±35	1890–1730
Geroin, Harray, Cist in knoll	SUERC-5472 (GU-12746)	Charcoal (*Corylus*)	Cist fill	3385±35	1750–1520
Kewing, Rendall, cist	SUERC-817	Cremated bone	Cist fill	3520±45	1960–1730
Links of Skaill, Sandwick	SUERC-107827	Unburnt human bone	Cist fill	4403 ±25	3258–2918
Mousland, Stromness	GU-3186	Charcoal (*Betula* sp)	Central cist fill	3400±100	1950–1450
Quanterness, St Ola, Pit A	SRR-754	Unburnt human bone	Pit A in main chamber	4360±50	3363–2680
Quanterness, St Ola, Pit A	Pla-1626	Unburnt human bone	Pit A in main chamber	4300±60	3336–2620
Quanterness, St Ola, Pit A	Q-1479	Unburnt human bone	Pit A in main chamber	4170±75	3019–2471
Quanterness, St Ola, Pit A	SUERC-24001 (GU-18421)	Unburnt human bone	Pit A in main chamber	4280±35	3011–2779
Quanterness, St Ola, Pit A	SUERC-24002 (GU-18422)	Unburnt human bone	Pit A in main chamber	4510±35	3355–3096
Sandfiold, Sandwick, cist	UT-1484	Unburnt human bone: adult (young)	Cist fill	3530±40	1930–1780
Sandfiold, Sandwick, cist	UT-1485	Unburnt human bone: foetus	Cist fill	4100±50	2880–2500
Sandfiold, Sandwick, cist	UT-1486		Cist construction	3660±60	2180–1900
Sandfiold, Sandwick, cist	UT-1487	Urn fibres	Cist fill	3620±50	2170–1880
Sandfiold, Sandwick, cist	UT-1559	Fibres over inhumation	Cist fill	3600±60	2130–1780
Sandfiold, Sandwick, cist	UT-1560	Fibres in cist	Cist fill	2730±60	1000–800
Werne, Harray, Cist 1	GrA-21627	Cremated bone	Cist fill	3750±60	2350–1960

one metacarpal. A possible cystic condition was present, and non-metrical variations and enthesopathies suggested possible habitual squatting or sitting on a low seat (see Lorimer: Appendix 6).

3.4 Shutting the lid on Orcadian cists: questions of containment and storage

In the late autumn of 1928, after Childe had completed his first season of excavations at Skara Brae, Hugh Marwick visited the uncovered site. While examining the exposed outer wall of Hut 7, directly above the burial cist that had been discovered that summer, he noticed something curious. Where 'the sandy coating on the walls has been gradually washed off by rain' he observed, 'two pretty clear breaks are apparent – running more or less vertically up and down the wall – one on each side of the burial cist' (Marwick 1929a, 20). This observation was never commented on by Childe but the two vertical breaks in the outer wall seem to correspond with a vertical slab in the inner wall face that 'rested on a horizontal slab [capstone] that passed beneath it under the wall behind' (Childe and Paterson 1929, 254). If, as Marwick suspected, this was a later insertion beneath the wall, it would have been a major undertaking with the thick wall having to be demolished and rebuilt, and even if this was the case it is improbable that there would be two vertical lines in the masonry of the rebuilt wall. It is far more likely that the cist was primary to Hut 7. In this fact, Childe was convinced as is apparent when he states, 'the position of the two skeletons and the grave that contained them make it certain that their interment was anterior to the building of the present chamber wall … the tomb formed an integral part of the hut as it stood before its desertion' (Childe and Paterson 1929, 257). How do we reconcile these two observations? It is almost certain that Childe was correct in assuming the cist to be primary and, therefore, the two vertical lines in the masonry seen by Marwick formed part of the original construction. Under these circumstances, the wall of Hut 7 had been originally built in a manner that would allow the burial cist to be accessed by the easy removal of a section of masonry directly above without the need to demolish the entire wall. If this is the case, in Hut 7 at Skara Brae, we encounter one of the earliest cist burials in Orkney that was constructed in a manner that, despite its challenging structural position, allowed access.

Half a century later, in May 1978, during the stripping of a knoll for house construction at Werne, Harray, three cists were revealed as the topsoil was removed. Werne is situated only c. 750m north-west of the knoll containing the Howe and Geroin cists (Sections 3.3.4 and 3.3.5; Figs 3.23 and 3.24), the latter also being a possible unobtrusive accessible cist. The Werne cists were brought to the attention of Andrew Appleby who excavated them 'during evenings over a two-week period in June' (Hedges 1980, 52–5). The smallest, Cist 3, was clearly built to receive a cremation deposit, but Cists 1 and 2 were much larger and of an entirely different character. To his credit, despite pressures of time, Appleby not only excavated Cist 2, which measured c. 1.2 × 0.63m and contained the cremated remains of an adult but also defined and investigated the full extent of the much larger construction pit which measured, c. 2.65 × 2.49m. The first surprise, given the size of the pit, was that the cist was constructed tightly against the northern edge, providing an open space of c. 2.6 × 1.3m in the southern area of the pit (Fig. 3.42). The second surprise was that the substantial flagstone forming the southern side of the cist was detachable, being held in place by removable stones, and had a 'semicircular hole … near the top of its E end' (Hedges 1980, 53) to facilitate removal. The large area in the pit to the south of the cist was clearly cut to facilitate access to the side slab and the cist itself. Like the cist below Hut 7 at Skara Brae, the Werne 2 cist had been built with the expectation of future access and large stone blocks were employed to fill the open area of the construction pit between episodes of re-entry. The cremation in Cist 2 consisted of the partial remains of an adult, but as the anatomist noted, 'the material is unusual in that no tooth fragments were found although most other regions of the skeleton were present' (Luke 1980, 69).

As an accessible cist Werne 2 was not alone, as the second large cist (1) was also built against the north edge of a large pit that was unfortunately not fully excavated. Once again

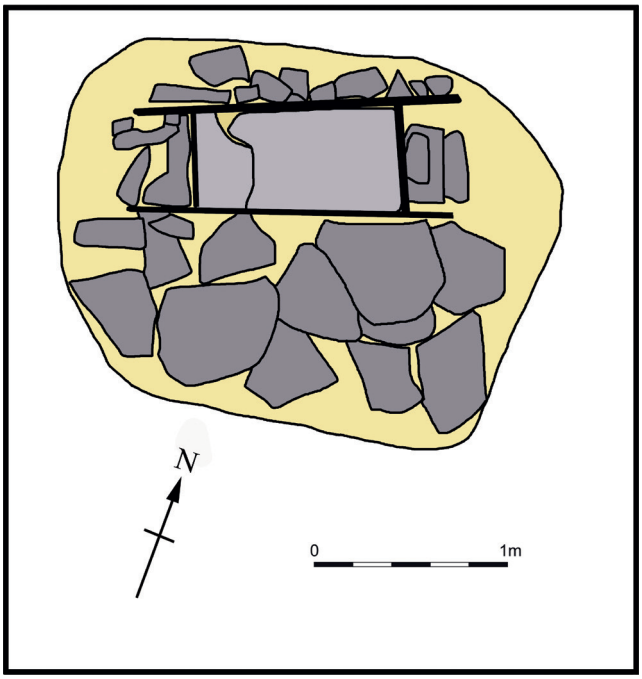


Fig. 3.42 Plan of the unobtrusive Werne 2 cist showing the position of the cist and the large space to the south to enable access (after Hedges 1980).

there was space to the south of the cist to enable removal of the side-slab giving access to the interior (Hedges 1980, 52–4). Although having been previously disturbed, the contents of Werne cist 1 were also curious comprising the cremated bones of an adult c. 30–40 years old, some fused with cramp (see Chapter 7), which was subsequently dated to 2400–1960 cal BC (Gra-21647) (Sheridan 2003a, 169). A foundation deposit was also discovered beneath the floor slab consisting of several unburnt teeth of an adult inhumation mixed with a small amount of cremated bone with adhering cramp (Luke 1980, 69). This is highly suggestive of the cist being prepared and used to contain and store a previous inhumation.

The Werne cists are enlightening not only because the two were built in a manner that anticipated and allowed future access but also because of the skeletal remains. It is self-evident that the burial deposits encountered on excavation were the remains which had been left *in situ*, but how many previous interments had been accommodated and removed is unknown. Certainly, the size of both cists is consistent with their use as containers of inhumations even though – apart from the teeth below the flagstone floor – no unburnt skeletal remains were present. It is worth noting that the foundation deposit placed beneath the flagstone floor of Cist 1 not only consisted of the burnt and unburnt skeletal remains, but also that the former was represented solely by teeth.

The presence of additional teeth in the cist is consistent with a broader unusual and curious mortuary phenomenon. In the Riff cist (Section 3.3.6), a number of unburnt teeth were mixed with a cremation deposit in the northern area, and large numbers were present in the southern area. Interestingly, the presence of additional teeth in cists extends beyond Orkney (see Roberts 1998). In discussing the contents of Cists 2 and 5 at Dalgety, Fife, Ian Shepherd considered that 'one of the potentially clearest expressions of grief … reflecting possibly the direct participation of the mourners, is the placing of extraneous teeth in the grave' (1982, 131). It was also observed that this was 'not a unique occurrence: Miss McAdam has noted the example of Kilmaho, Argyll, and has alluded to others' (Shepherd 1982, 131), which would include Cist 3 at Patrickholm, Lanarkshire, site 4, (Maxwell 1949, 211), and burial 12 at Knappers, Dunbartonshire (Davidson 1935, 361). At Cladh Hallan, South Uist, two upper incisors from one of the skeletons that had been mummified had been removed and one placed in each hand (Parker Pearson *et al*. 2005); in these well preserved skeletons it was possible to see methods of curation and manipulation of the body that would be difficult to trace in cremated bone or disturbed contexts, and in contexts where the survival and records are poor.

There has long been a tendency to view cists as a unitary form of burial architecture; essentially a stone box constituting the final resting place of a single interment. Consequently, the significance of the possibilities offered by the design of the cists at Skara Brae Hut 7 and Werne went virtually unnoticed. That was until a large cist at Sandfiold was discovered in 1989 when a lorry, driven by Mr James Wick, broke through the top of what appeared to be a massive subterranean pit. Subsequent excavations by John Barber and Magnar Dalland revealed the pit to contain a large cist (Fig. 3.43). Structurally, the cist employed an unusual sequence of construction with the eastern side-slab, which rested on a low plinth, apparently being inserted after the capstone had been put in place (Dalland 1999, 378). This slab was perfectly shaped to fit beneath the capstone without direct contact, enabling its easy removal for continued access into the cist. Just to reinforce the possibilities afforded by this architecture the contents of the cist provided a range of dates demonstrating that from construction to final

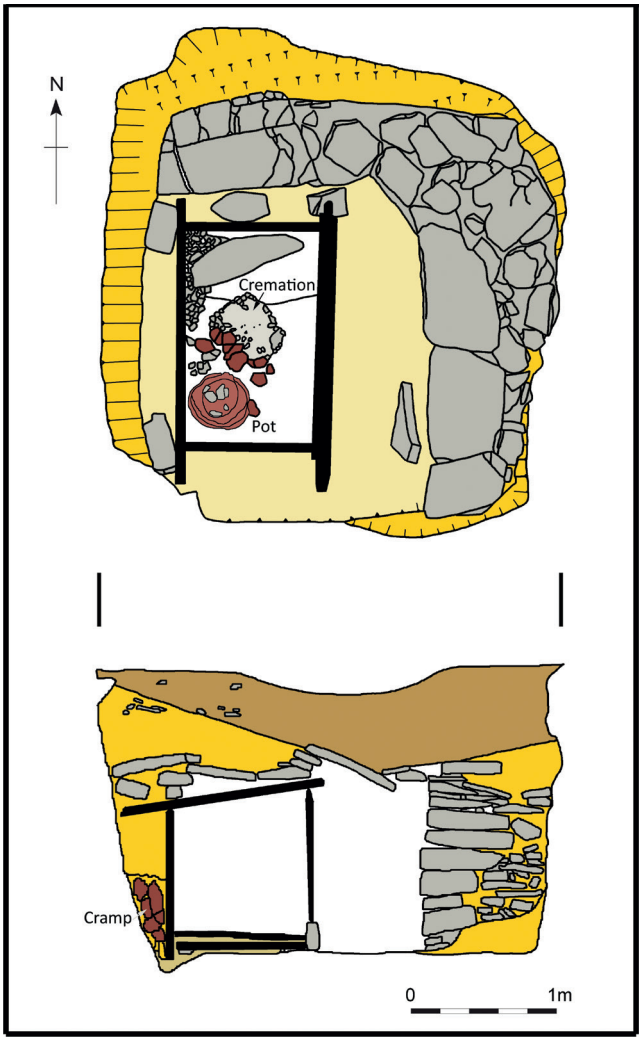


Fig. 3.43 Plan and section of the large cist at Sandfiold, constructed in a subterranean rock-cut chamber (after Dalland 1999).

deposition covered a period of nearly a thousand years (for a discussion see Dalland and Barber 1999, 404–8).

Despite the observation that access to Bronze Age bodies for further engagement after burial is a fairly rare occurrence (Sørensen and Rebay-Salisbury 2023, 181–2), many further examples of Orcadian cists being constructed in large rock-cut pits facilitating lateral access have been discovered, including those reported above. In 2001, during landscaping work in the garden of Kewing, Rendall, the top of a cist was exposed in a typical position near the summit of a large natural knoll (Fig. 3.44). Subsequent excavations by Judith Robertson revealed a large cist containing cremated human remains (Roberts 2014b). Once again, the cist was built against the northern edge of a large rock-cut pit, measuring c. 2.1 × 1.8m. The southern side of the cist was found to be 'constructed deliberately to allow the removal of the upper thinner stone' (Ballin Smith 2014, 94–5), thereby providing access into the cist from the south without disturbing the capstone. The c. 1m wide gap between the cist and southern edge of the pit was filled with carefully laid stones enabling easy removal for subsequent side entry (Fig. 3.45). The cremated bone provided a date of 1960–1730 cal BC (SUERC 817), which prompted Duffy to suggest the possibility 'that the Kewing tomb was originally designed to receive a since-decayed inhumation burial and that the dated cremation is a later deposit' (2005, 17). More likely is that the inhumation, or several inhumations, were deposited, defleshed and retrieved at a later date, however, the main point is that the cist was built with the clear anticipation of it being re-entered in the future, possibly on numerous occasions. Despite being considered as not having been re-entered by Ballin Smith (2014, 138), both Crantit South and Crantit West (Ballin Smith 2014, 29–31), are clearly further examples of cists with removable sides allowing continued access (Fig. 3.46).

Yet another side-entry accessible cist was encountered at Ferndale, Rendall (Fig. 3.48), when in 2004 a machine was flattening a small knoll (which was a barrow). But, in this instance, the arrangement of the masonry adjacent to the cist provided additional insight into the complexity of function. Excavations by Paul Duffy for GUARD revealed two cists within the barrow containing cremations. Of greater interest was a larger third cist constructed in a substantial rock-cut pit, discovered slightly beyond the barrow



Fig. 3.44 An unobtrusive side accessed cist was typically set near the summit of a large natural knoll in the garden of Kewing, Rendall, Orkney, as viewed from the east.

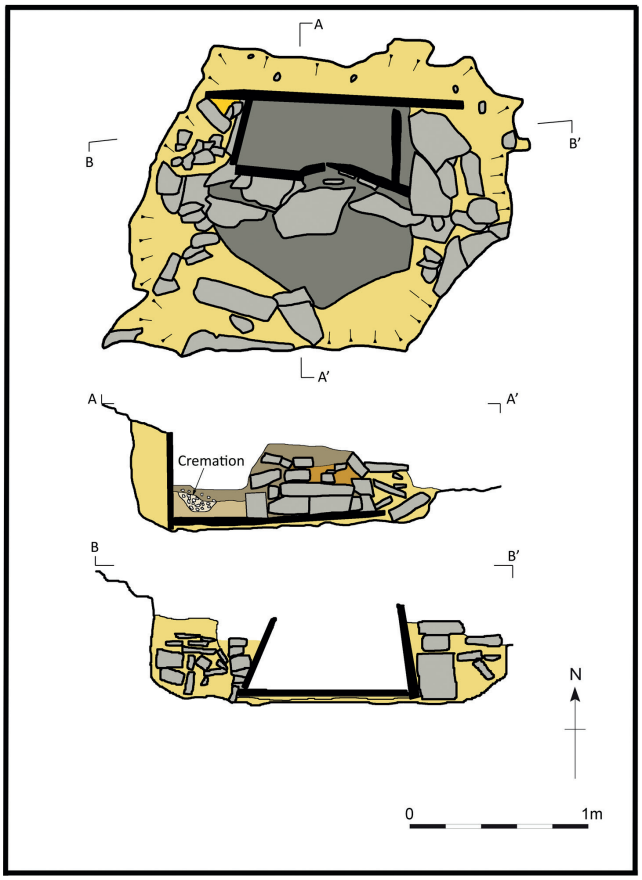


Fig. 3.45 Plan and section of the cist at Kewing, Rendall, Mainland, Orkney, where careful excavation by Judith Robertson revealed that the southern side of the cist was built to enable removal for access (after Ballin Smith 2014).

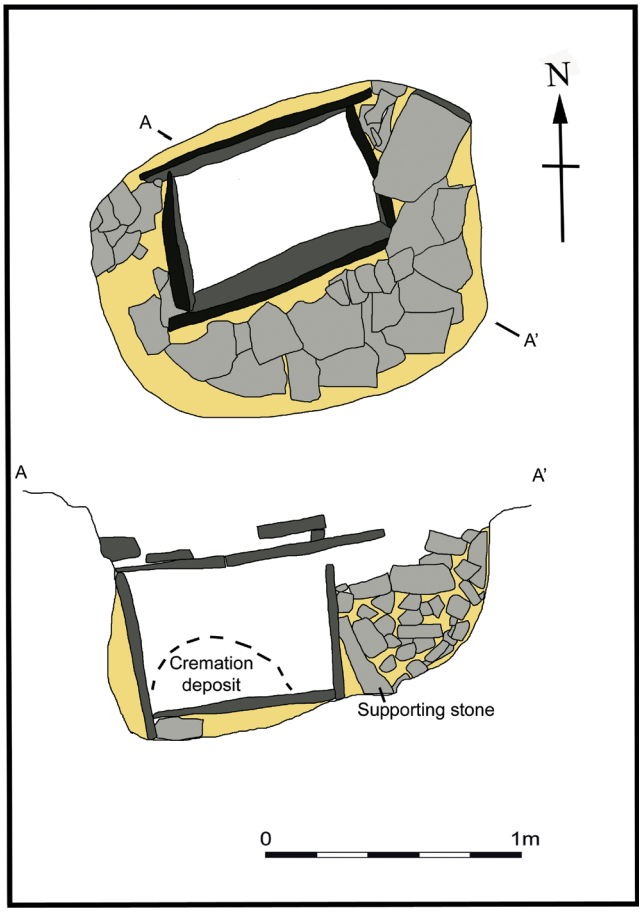


Fig. 3.46 Plan and section of Crantit West cist showing the open area to the south within the cist cut (after Ballin Smith 2014).

(Duffy 2005, 4–5). The cist had been badly damaged by machining but enough remained to provide a good indication of its architecture and contents which were the decayed remains of an inhumation. This cist had also been built in an off-centre position against the south-eastern side of a large rock-cut pit measuring c. 2.20 × 1.60m, which are almost identical dimensions to Kewing, discussed above. Regardless of the damage it was clear that within the rock-cut pit 'was significantly larger than would be required for functional access for construction' (Duffy 2005, 21). As seen at other side-accessed cists stonework had been placed to fill the large space adjacent to the cist, but in this instance, it had been built in such a way as to create a form of open passage (see Fig. 3.48).

Even though slightly damaged, the large Ferndale cist provides additional evidence for the planning of two different forms of access: direct and indirect. First, was the provision of a large pit with an area to the side of the cist structure to facilitate removal of the side slab to gain direct access to the cist and engage directly with the contents. The second provided indirect access to the cist in a formal manner through the presence of a passage (akin to the Sandfiold cist) through the roughly laid masonry which was presumably extracted and rebuilt between episodes of accessing the cist.

We are fortunate that both Ferndale and Sandfiold provide the additional evidence necessary to appreciate the levels of planning and anticipation that went into the building of accessible cists in Orkney, which can certainly be described as structures that '*provided the starting point* for future developments' (Bradley 2024, 53). At the other cists described above, whilst there is the evidence for access they appear to be in a final state of closure, at the very end of a potentially lengthy period of use enabling a pre-determined strategy of direct contact and engagement with the dead. At both Ferndale and Sandfiold, not only do we see that these cists were built with anticipated future visits in mind involving physical entry and closure, but also with the provision of different forms of access permitted during intermediate periods between opening and closure. To some extent these different forms of encounter match Barrett's distinction between ancestor and funerary rituals,

and the 'way the mourners use the process to construct their relationship with the dead' (Barrett 1988, 31–2). They also demonstrate the anticipated manner in which the cist is employed for transitional containment. These are not places of burial *per se* but restricted places of storage. A corollary is that the contents of the cist revealed to the archaeologist upon excavation almost certainly bear little relationship to the history of its use, hence the obvious confusion surrounding the contents and chronology of Sandfield (Dalland and Barber 1999).

From the discussion above it is clear that from c. 3100 cal BC at least two forms of cist were being constructed in Orkney (Fig. 3.47). Early examples as represented by those in the floors of Quanterness, Quoyness, and Barnhouse House 2, are oval pits or stone boxes containing either one or more inhumations (or partial remains) covered by a large capstone. The Barnhouse House 2 pit burial can only be indirectly dated to the first phase of occupation as the bone was so decayed it had virtually dissolved. This occupation was dated from 3529–3087 cal BC (OxA-3498), 3522–3079

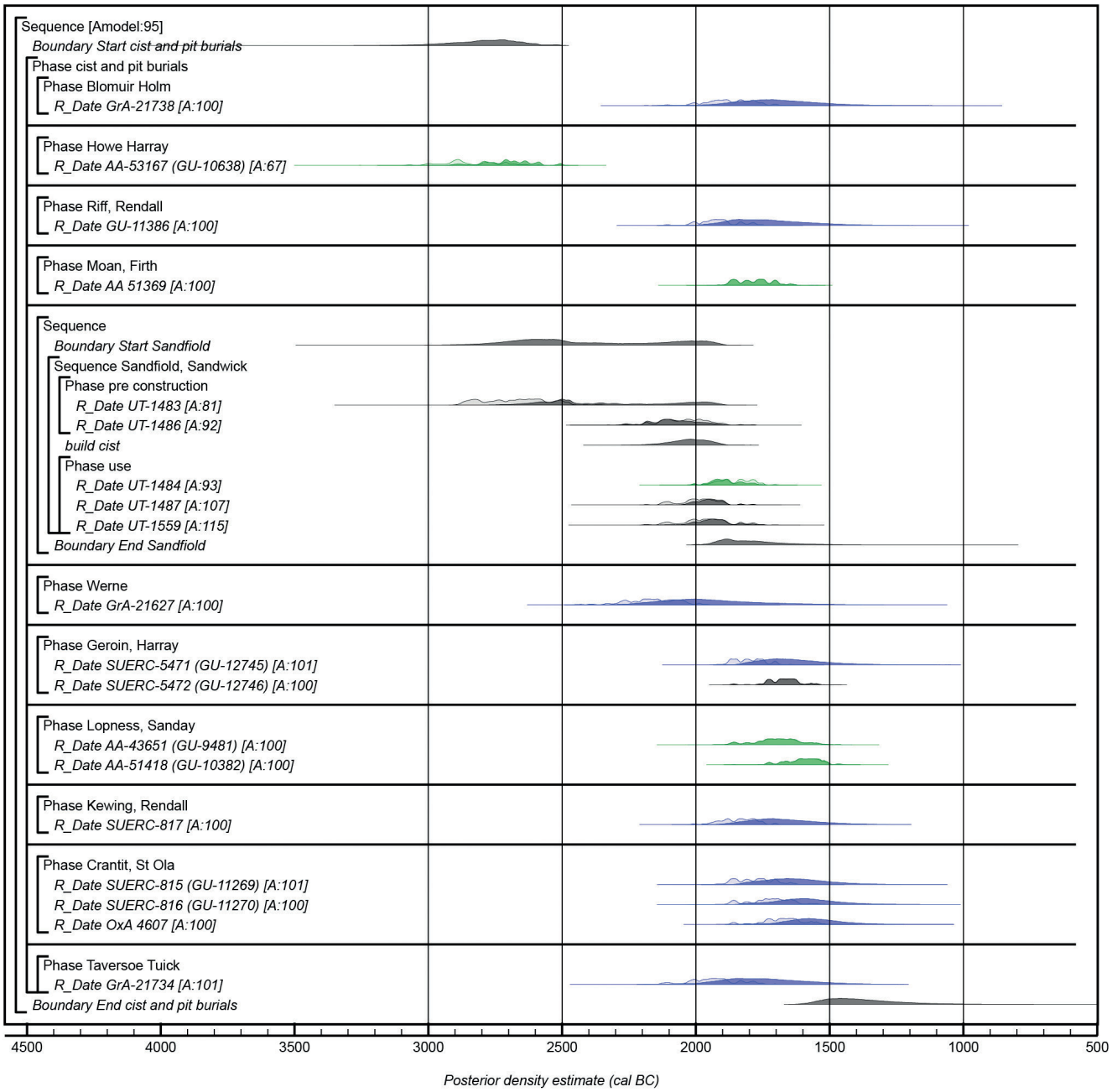


Fig. 3.47 Part of the overall analytical approach taken for results from burials associated with barrows and cists and pits. Results shown in blue are measurements on cremated bone; green unburnt human bone; grey charred plant.

cal BC (OxA-3499) to 3011–2882 cal BC (SUERC-57981), being built c. 3140–3035 cal BC and having an occupation duration of 115–245 years (Richards *et al.* 2016a, 206–7). For these cists there is little evidence of re-entry and if it did occur it would involve lifting the capstone. Indeed, in a number of instances great care was taken to either create a fine and level fit and to bond the capstone in place with clay (see below). These cists also extent beyond Late Neolithic passage graves and settlements being distributed across the wider landscape, mainly in glacial knolls, with some very early third millennium cal BC examples at Howe (Section 3.3.4) and Links of Skaill, West Mainland, which produced a date of 3099–2918 cal BC (SUERC-107827) from a human tooth (Wilson *et al.* 2021). Indeed, from the radiocarbon results the start of activity associated with burial in pits and cists is occurring from at least c. 3000 cal BC (Fig. 3.47; Griffiths: Appendix 28).

Alongside these, is a very different form of cist architecture comprising large rectangular stone boxes positioned off-centre within a substantial cut which far exceeds constructional necessity. The open area adjacent to the cist facilitated access from the side without any disturbance to the capstone. In all examples, the open area next to the cist is filled with easily removable laid masonry and judging from Ferndale (Fig. 3.48), Sandfiold (Fig. 3.43) and the recently discovered Sandquoy, Sanday (Fig. 8.3; Stuart Wilson pers. comm.), during periods between the cist contents being accessed, a form of side passage enabled intimate contact with the closed cist. In the recently discovered Sandquoy, Sanday, a nicely fitting 'doorway' positioned centrally in the side of the cist allowed access (Fig. 8.3). As the dating from Sandfiold demonstrates this form of cist architecture also dates back to the beginning of the third millennium cal BC and involves inhumation burial (Fig. 3.47). Duffy (2005, 18) recognised these as 'pit cists' and listed their morphological traits:

- presence of a large pit, often rock-cut
- insertion of a cist, reinforced, supported or enhanced by elements of dry-stone walling
- subterranean nature of the cist
- frequent presence of an inhumation burial
- lack of visible superstructure

What is so curious about Orcadian side-entry cists is the desire for access without apparently removing or disturbing the capstone despite being a form of covering that was 'potentially permeable, through lifting or uncovering' (Cooper *et al.* 2022, 241). Whilst this observation focuses specific attention of the role of the capstone in the technology of containment, it also raises the equally important issue concerning a tension between containment of the dead and a desire for accessibility. Surely, given the box-like construction of a cist, access could be easily achieved by simply lifting the stone lid. However, this obvious method of access is clearly inappropriate in the context of containing - and controlling - the dead. Moreover, additional attention is often given to dressing the upright slabs (for examples beyond Orkney, see Welfare 1977, 74) ensuring a tight fit for the capstone once it has been set in position, for example in describing the capstone at West Puldrite, Rendall, West Mainland, Corrie notes that 'the fine cover-stone was of almost rectangular form … and it fitted very closely on the trimmed upper edges of the cist slabs' (1929, 191–2). In other examples clay was employed to seal the capstone in place (Marwick 1928, 265). Sometimes in Orcadian cists multiple capstones were placed one upon another as was present, for example, at Geroin, Harray (Section 3.3.5), Lochside, Stenness, Cists 1, 3, 5; (Greig 1931; Hedges 1980, 64–5), Grimston, Harray (Kirkness 1927, 239–40; Hedges 1980, 59) and Sandfiold, Sandwick (Dalland 1999, 379); this practice is also present more broadly across Scotland (e.g. Henshall 1963, 146; Clarke *et al.* 1984). In other cases, a superstructure or 'roof-stones' were built on top of the capstone as at Blomuir (Section 3.3.1) or Backakeldy, Holm, Mainland (Fig. 3.7; Marwick 1928, 263–5). Taken together, there can be little doubt that these capstones were intended to remain in place in perpetuity.

3.5 Burial as storage: the role of the unobtrusive cist as a container

A corollary of all the features of the 'pit cist' is that it is more than simply a method of containment but also primarily an *architecture of storage*. At a practical level, the 'burial' cist is simply a large stone box and as a form of container it is entirely at home in the context of Late Neolithic and Early Bronze Age house architecture in Orkney. Frequently, within the stone-built houses, stone boxes (referred to as cists by Childe, see below) are set in the floor and interpreted as containers for storage. Surprisingly, some of the largest are present within the Skara Brae houses and, in describing the internal furniture of Hut 7, Childe says 'in the west corner three cists (V, W, X) had been sunk in the floor. They were from 1 foot 7 inches to 1 foot 9 inches deep [c. 48–53cm] and lined with slates. The joints of the slates had been smeared on the outside with clay' (Childe and Paterson 1929, 253). The similarity with burial cists is obvious. Compare Childe's description with that of Hugh Marwick for the Backakeldy cist; 'the bottom of the cist seemed to be formed of a single slab, and the edges of the cist all round and along the top also, under the lid, were cemented with fine "sea-clay", as it is called in Holm' (1928, 265). Larger cist-like structures built against the side wall of houses were originally called 'pens' by Childe (e.g. Childe and Paterson 1929, 259), but later became 'beds' (Childe 1931, 39–41). Within Hut 7 at Skara Brae the western Pen Y contained crushed pots (Childe and Paterson 1929, 259; Richards 1991) and clearly had been employed for storage. Taken together, there is

strong evidence to support the view that in a variety of contexts stone boxes acted as storage spaces.

At a base level if we define burial cists as an architecture of storage, they become the product of a strategy involving the containment of an important and necessary resource at a particular place. More importantly, this reveals anticipation of future requirements (cf. Halperin 1994, 16), and an acknowledgement that storage of a resource is a pre-condition to future recovery and re-integration and participation 'in wider systems of exchange and distribution' (cf. Ingold 1983, 554). Whilst storage of the dead body may open up new possibilities, for instance of curating the body for the future, it also provides valuable time for the renegotiation of the relational person in death. But such an attempt at capturing and containing the person in transient form also brings with it considerable dangers because in the context of rites of passage – as a planned and prescribed journey from life to death – storage interrupts the ritual sequence causing a perilous disjunction in the mortuary process. It is also a time when the whole body changes with decomposition into an assemblage of the body.

One form of mitigating risk during this precarious time may have been through an understanding of the deceased as being in a transient condition of sleep. Many years ago, it was noticed that 'in the great majority of cases the [Bronze Age] dead were buried in the attitude frequently adopted for sleep' (Clark 1940, 98). Certainly, an interesting feature of early cist burials in Orkney is laying the head of the deceased on a stone pillow. For example, in the cist at Howe, Harray, Mainland, (Section 3.3.4), a crouched inhumation had its head resting on a stone 'pillow'. Similarly, a stone pillow positioned beneath the head of a female crouched inhumation (and possibly the second inhumation) in the cist beneath the wall of Hut 7 at Skara Brae was observed by Childe (Childe and Paterson 1929, 257). While missing a stone pillow, the head of the deceased person placed in the nearby Skaill cist also rested in an elevated position, but in this instance the sloping bedrock forming the base of the cist was exploited (see Wilson *et al.* 2021). Intriguingly, in the southern compartment of the Dwarfie Stone on Hoy, 'a ledge resembling a stone pillow, crosses the cell from side to side' (RCAMS 1946, 111). The presence of the raised rock pillow, in conjunction with the side access into the cell, invites a reappraisal of this monument as a pair of rock-cut cists as opposed to it being a form of chambered cairn (Davidson and Henshall 1989, 114–5).

The idea of corpses in cists being asleep has a wider currency beyond Orkney as 'pillow stones' are known in a number of cists and graves from across Britain running into the Early Bronze Age. For example, at Juniper Green, Edinburgh, a stone cist with slabs luted with clay contained a Beaker burial of a 'contracted male inhumation, with the head resting on a flat water-worn stone' (Wilson 1863; NHRE ID: 50298). Stone may not have been the only form of pillow as evidenced at Barns Farm, Dalgety, Fife where Cist 1 'contained a tightly contracted male body, aged in his early twenties at death … the head of the inhumed corpse rested on a piece of animal hide'. It is interesting that bone from the inhumation provided a late fourth millennium cal BC date of c. 3454–3377 cal BC (SRR-700 recalibrated using Oxcal 4.4). Intriguingly, given the presence of additional teeth in the Riff cist (Section 3.3.6) and Werne 1 (see above) at the Barns Farm 'in Cists 2 and 5 evidence of another bizarre practice, that of discarding teeth in other people's graves' was observed by McAdam (1982, 123).

Returning to Orkney, storing the body in an accessible cist permits a continuous but risk-laden physical and intimate relationship between living persons and the corpse which is also a linkage between the past, present and as a vital assemblage projected into the future (see Sørensen and Rebay-Salisbury 2023, 181–5). Often this linkage has been examined in terms of memory, which is 'a key topic of discussion which runs through work carried out since the late 1980s' (Garrow *et al.* 2014, 231). Consequently, Hendon recognises that 'acts of adding, removing or viewing integrates the burial … into the ongoing construction of memory through which prestige is created and power validated' (2000, 49). However, this position could be subverted and couched in terms of anticipating the reformulation of future relationships as strategic in creating prestige and power.

Such intimate contact with the dead stored within the cist also raises issues of maintenance and control. In considering the consequences of social storage as situated practice more broadly Julia Hendon ponders the degree to which people directly engaged in this precarious process or whether, as in our example of cist burial, they merely 'thought and talked about what was being stored' (Hendon 2000, 42). Certainly, in the two forms of engagement with cists noted above we see such a distinction between direct contact with the dead body by entry into the cist through removing the side slab as opposed to indirect contact via a passage to the contained cist. Either form of contact is predicated on an awareness of the place and presence of burials which in turn requires 'knowledge of a hidden dimension of social and physical space' (Hendon 2000, 49). This would have been particularly relevant to cists since this is a form of burial is not highly visible, as opposed to upstanding cists which ultimately become encased in barrows (see Chapter 5) which must relate to shifting ideas of displaying the resource (dead), socially appropriate methods of display and perhaps of greater consequence notions of purity and danger attached to disassembling the dead.

Under these circumstances it is possible to appreciate the requirements of containment and security through the architecture of the stone box/cist. This may also provide some indication of why, certainly in the earlier unobtrusive 'pit cists', the lid is not raised or lifted but, instead, access is provided through the side. Because of anticipated future

contact with the dead body as a consequence of storage and curation, it may be expected that there will be additional layers of containment beyond the physicality of the stone box/cist as a unit of storage.

Judging from particular sites with excellent organic survival, it has been long suspected that in the latter part of the third millennium cal BC crouched inhumation burial may have frequently involved wrapping the corpse in either an animal skin or a fabric shroud. As mentioned above, an example of an inhumation in Orkney being wrapped in fabric comes from Arion, Stromness, a cist situated just west of the loch of Stenness (*The Orcadian* 1966; Susanna Harris pers. comm.). At the Links of Noltland Bronze Age cemetery it was observed that 'a small number were so tightly crouched as to suggest that they had been bound or wrapped' (Moore *et al.* 2022, 545).

Examples of burials with 'fur or ox-hides' have been widely identified across Scotland (see McAdam 1982, 126–7), including the Scottish Highlands. For instance, a cattle hide was employed at Langwell Farm, Strath Oykel, Easter Ross (Lelong 2014: Walton Rogers 2014, 91), which may well have been wrapped again by a sheet of woven material (S. Harris 2014; Lelong 2014, 118). Interestingly, a nearby late third millennium cal BC crouched inhumation in a cist at Keas Cottage, Spinningdale, Sutherland, showed signs of having been wrapped in a sheepskin (Walton Rogers 2013, 13). At a general level, Walsh observes that:

> where preservation has been sufficient it is possible to demonstrate that the bodies underwent preparation before burial. Materials found with some skeletons demonstrate that the mortuary rite may have been complex with the body undergoing processes of wrapping and containment. Bodies were in some cases placed on layers of organic material; these burials were often elaborately prepared. (Walsh 2013, 5)

If these few examples betray the existence of a much wider practice, it seems that it was normal to wrap the corpse in fabric or animal skin. Some support for this being a broader practice comes from a recent investigation of late third and early second millennium cal BC burial goods (Cooper *et al.* 2019), where many 'grave goods' associated with the corpse have been interpreted as relating to coverings or wrappings of the corpse (see also Brück 2004b, 318–9). Similar arguments can be made for cremations being deposited in urns or leather and fabric containers (see also Sørensen and Rebay-Salisbury 2023, 156–65).

With the inhumation or cremated remains wrapped, the cist becomes a secondary skin or outer container and, in this additional form of containment, we can glimpse the precautions that surrounded storing the deceased and the perceived dangers of direct exposure to the dead body. If wrapping the body in animal hides or fabrics provided a form of 'symbolic protection' it also anticipated the effects of decay leading to a disassembly of the body.

Finally, if the cist is simply a mode of storage and containment, and the dead person a resource, to what purpose? For more than 20 years, drawing on the theme of fragmentation (e.g. Chapman 2000a; 2000b; Chapman and Gaydarska 2007), Joanna Brück (2001; 2004b; 2006b; 2019) has consistently advocated that in the Bronze Age personhood is a form of relational construct. More recently, the treatment of the body, particularly mortuary practices enabling processes of curation involving inhumation (Brück and Booth 2022a) and cremation (Brück and Booth 2022b), has been discussed for the entire Bronze Age. Curation requires storage, and whilst we would prefer a different reading of 'personhood' as constituted by a fluidity of substances, some of the social problems attached to death remain valid. For example, if there is a dissolution of the 'relational person' at death (cf. Strathern 1992, 91–9) resulting in a cessation of those relationships established in life, what actions and social strategies can be taken to mitigate against this dissolution? Conversely, how can the living reconstitute these relationships utilising the deceased person who has now transmuted into a different state?

In the event of death, a series of mortuary rituals begin a process of distancing and transforming the dead person as at the same time attempting to reform the social fabric that has been ruptured by such an event (Bloch and Parry 1982; Metcalf and Huntington 1991). After death the effects of decay decompose the human body, and a result of that process is that a whole body becomes an assemblage of now partible skeletal material. The same procedure of disaggregation occurs through cremating the body although the medium of transformation is different and more precisely culturally controlled. Here lies the potential of the material remains of the dead body to be used and exploited as a resource in contingent social strategies projecting into the future. For such strategies to be realised the material body as a potent resource requires careful storage for deployment in anticipated future events and, while this is the role of the accessible stone cist, success also depends on control of the resource to the degree of secrecy.

Any search through the literature reveals Early Bronze Age cists to be ubiquitous and present not only throughout Scotland, but also Wales and northern and western England. However, those not found beneath barrows or cairns, or within monuments such as stone circles are inevitably discovered by accident. This was the case with the pair of cists found whilst digging a new bunker at Kilspindie golf-course in 1929; 'on the 12th December last I received a message by telephone from Police Constable Lamb, Aberlady, saying that a grave had been discovered on the Kilspindie golf-course' (Callander 1930, 191). More recently, another cist, located near the coast of the northern Scottish mainland at Strathnaver, Sutherland, was

> discovered during road-works intended to straighten and level a series of dangerous bends on the B871. A hole, dug to receive

> a strainer post for the realigned roadside fence, was found to contain a large boulder which effectively stopped progress, and a jackhammer was brought in to break it up. During this operation, the jackhammer broke through the obstacle to reveal a void beneath the boulder with what appeared to the road squad to be part of a pottery vessel visible within it. (Gourlay 1984, 567)

These two examples are indicative of the large number of unobtrusive cists of the third and early second millennium cal BC that are consistently found by accident. These unexpected discoveries reflect the fact that they are buried in such a manner that does not invite discovery. Nor is there any convincing evidence that either of the above cists had been visibly marked in a significant manner.

However, this is not always the case, as when desired the burial cist was positioned in relation to highly conspicuous monuments. For example, across the west of Britain, it is relatively common for cists to be discovered adjacent to standing stones or within stone circles such as Temple Wood, Argyll (Fig. 3.19; Scott 1991) or Circle II at Machrie Moor, Arran (Bryce 1862). Inevitably, the cist is a later addition to the stone circle, or single standing stones as occurred at Try, Gulval, Cornwall (Russell and Pool 1964, 16–17). This would seem to be a conundrum since, as noted above, other burial cists appear deliberately positioned to be secluded and hidden.

Here we return full circle to the divergent lives of different architectures of the unobtrusive cist tradition identified earlier. One form of cist is clearly intended to provide a permanent form of burial; often containing a single inhumation which is sealed and covered by a heavy capstone. There appears to be no intention of re-opening this form of cist and frequently it is placed in a highly visible but potentially inaccessible and protected position within a monument; a form of architecture which by definition 'attempts to formulate memories of the future' (see Bradley 2002, 109). It is interesting that such monuments provide the perfect context for permanent cist burial. A good example is the large cist discovered within Henge 1 at Forteviot in 2008 (Noble *et al.* 2020). Here, a beautifully constructed cist contained an inhumation (completely decayed) accompanied by several things including a bronze dagger and a small broken copper alloy knife. The cist was 'constructed with great care and a mind to its future stability and water-tightness … with a flush and level top upon which to rest the capstone' (Noble *et al.* 2020, 161). The capstone was a massive 4-tonne block of red sandstone which was never intended to be raised once placed in position. In being positioned within an earlier henge monument the burial is an example of 'the ways in which the past and the character of sacred places continued to be harnessed' (Noble *et al.* 2020, 157). Here, a 'whole' body, was situated in, and became part of a place of future memories; a monument that was considered to 'never be completely absent from human consciousness' (Bradley 2002, 111). It was this foreseen and expected future that provided the conditions for the burial of a complete and whole body in a permanently sealed cist which was covered by a low cairn of stones.

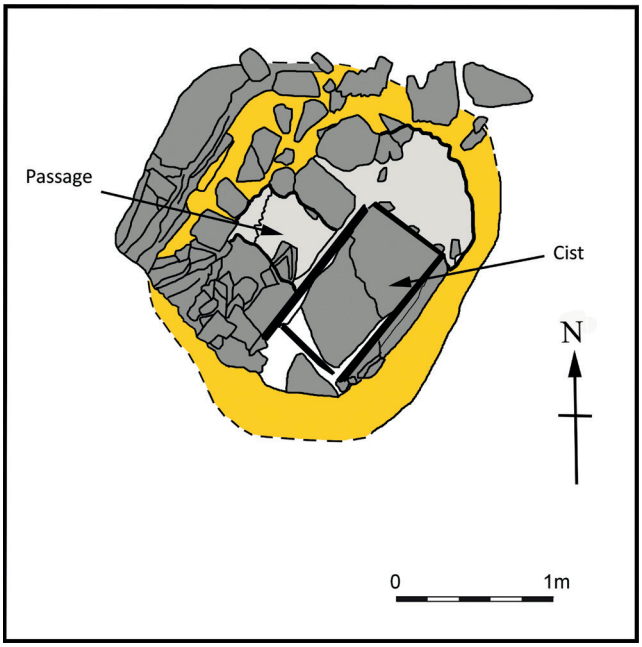


Fig. 3.48 Plan of the unobtrusive accessible cist at Ferndale which not only predated an adjacent barrow but had a small 'passage' through the masonry fill of the pit leading to the cist (after Duffy 2005).

The other form of cist architecture – the unobtrusive accessible cist – is the antithesis of the Forteviot burial in not being conceived as a permanent place of interment but one of bodily storage. Interestingly, as with the Forteviot cist, once the capstone was set in place it was never intended to be removed with access facilitated by side entry. Although whole bodies were placed within the accessible cist, the anticipation was that the body would, through processes of decay, become dissembled and fragmented. A function of wrapping is to provide a degree of coherence to that which is contained; hence, the fragmented body can be maintained as an assemblage due to the hide or fabric enswathing the corpse. Another quality or consequence of wrapping is to keep things hidden and even though additionally shielded from view within the cist this transformation was a dangerous project that required periodic visitation and attention (Parker Pearson 1999, 55), hence, the constructed open passage leading to the side slab of the Ferndale cist (Fig. 3.48; Duffy 2005). The delay and interruption of the mortuary process as a function of the accessible cist enabled the stored body to become a fragmented resource of great potency through the potential for detachment and enchainment (cf. Brittain and Harris 2010). That this form

of burial was secluded and not associated with any form of monumental architecture should come as no surprise since the success of storage is manifest in control and secrecy. It is also noticeable that the different forms of cist architecture identified coincide with a distinction between body parts and wholes which provides a further degree of complexity to the notion 'that fragmentation of the body was viewed as a productive means of creating and maintaining relational identities' (Brück and Booth 2022a, 451). It may be instructive to end with an observation by Rob Wiseman which appears to replicate the line of argument of the function of unobtrusive accessible cists as presented here, when he says that 'presumably burial is simply a form of temporary storage not a goal in its own right' (2018, 45). Yet, intriguingly, he is not speaking of Bronze Age cist burial, but rather the function of second millennium cal BC bronze hoards.

4

Of fabulous wealth and distant places: the Knowes of Trotty barrow cemetery, West Mainland, Orkney

with contributions by D. Alldritt, N. Card, A. Challands†, R. Chapman, A. Clarke, J. McKenzie, K. McSweeney, E. Photos-Jones, J.A. Roberts, A. Sheridan and C.R. Wickham-Jones†

> A quantity of fragments of bones lay in the grave, and it was the opinion of the finder that they had been burnt. At one angle of the grave or kist there was a piece of flat stone, on which lay the four gold disks or ornaments and the beads and angularly-shaped pieces of amber. (Petrie 1859, 195)

4.1 Introduction: a great and unexpected discovery

In the winter of 1858, the owner of the farm of Huntiscarth, Harray, West Mainland, Mr Nicol Flett, made an extraordinary discovery when he decided to excavate the largest mound of a group of barrows situated to the south of the farm. As was the custom at that time the investigations amounted to digging a hole down through the top of the mound with the purpose of locating the central burial and recovering any grave goods. The excavation was briefly recorded by George Petrie, who was not actually present during the work. This account in turn was communicated to the Society of Antiquaries of Scotland by James Farrer the following year (Petrie 1859).

After digging down for 'about two feet [0.6m]' Mr Flett encountered two vertical uprights 'about 18 to 20 inches [0.46–0.51m] apart'. Following these slabs down, after another '2 to 3 feet [0.6–0.9m]' a clay covered horizontal slab was uncovered, 'on clearing away the clay from the top of the stone and raising it, it was found to be the lid of a kist or grave about 2½ feet [0.75m] long, formed in the usual way, by stones set on edge and a flag for the bottom' (Petrie 1859, 195). But this was no ordinary cist as in the corner, adjacent to a cremation deposit, was a flat stone, on which lay four gold discs together with beads and angular-shaped pieces of amber (Fig. 4.1). Petrie laments that 'it is probable that a number of beads have been lost among the debris which got into the grave' (Petrie 1859, 195); a fear that was confirmed when the barrow was re-excavated over two seasons in 2005–6. A similar posthumous account was published in 1927 in the *Proceedings of the Orkney Antiquarian Society* (Petrie 1927, 27). The gold and amber artefacts were subsequently purchased by George Petrie, who passed them to James Farrer, who presented them to the National Museum of Antiquities of Scotland in 1858. Curiously, little further comment is made on this extraordinary discovery which is not only unique for Orkney but also Scotland and recalls some of the rich Early Bronze Age burial assemblages of southern England. While there are a number of other fairly extensive barrow cemeteries in West Mainland such as Linga Fiold (Chapter 5), no excavated examples match the Knowes of Trotty in quality of grave goods or this particular use of natural glacial knolls, or drumlins, upon which several of the barrows are placed for dramatic effect (Fig. 4.2). Indeed, Mound 1 stands out in having 'grave goods' directly associated with a burial, an occurrence which seems to be an infrequent mortuary practice in early second millennium cal BC burials in Orkney.

Apart from Mr Flett's investigations there is a curious absence of accounts of any previous antiquarian 'diggings' at Knowes of Trotty. Certainly, when Mr Corrie visited the site in June and July 1933, he observed that all the extant barrows showed signs of having been disturbed at the top through previous excavation (RCAMS 1946, 29–30). It is difficult to assess this silence as it could betray either that earlier unrecorded excavations failed to locate central cist burials or, if a burial was encountered, it did not contain rich grave goods. Of course, the converse could be true. Today, the only visual sign of earlier antiquarian interest is the slightly concave or flattened tops to the barrows.

4.2 The finest barrow cemetery in Orkney

Knowes of Trotty barrow cemetery is situated at c. 50–60m OD on the lower west-facing slopes of Rowamo Hill, one of



Fig. 4.1 Two gold discs and amber pieces recovered by Mr Nicol Flett from Knowes of Trotty Mound 1, as illustrated in the Proceedings of the Society of Antiquaries of Scotland Vol. 3 (reproduced courtesy of the Society of Antiquaries of Scotland).

a range of hills that run north–south, separating the parishes of Harray and Rendall in West Mainland (Fig. 6.1). This is an extraordinary area for Bronze Age burials as there are a number of individual barrows and barrow cemeteries running north-west from Knowes of Trotty. These include the Knowes of Trinnawin (NHRE ID: 2033), which is situated c. 900m to the north-west and originally comprised five barrows, one of which (Mound B) when excavated in 1902 contained a cremation deposit in a steatite urn that is now in the National Museum of Scotland (Fraser 1913, 421). Some c. 220m to the north-west of Knowes of Trinnawin is another cemetery of three barrows known as Knowes of Stankieth (Ness Breck; NHRE ID: 2034). These too were excavated by Fraser 20 years later in 1922 (1923, 36), who discovered cremation deposits in cists in two mounds. All three barrow groups are so closely positioned as to be clearly intervisible and, although discrete cemeteries, also provide a sense of being loosely related to one another.

Due to a substantial variation in mound size and land use, when the Ordnance Survey surveyed the Knowes of Trotty in the late nineteenth century, ten barrows were recorded. This number increased to 11 after Mr Corrie's visits in 1929 and 1933 (RCAHMS 1946, 29–30). The addition was Mound 11, situated c. 130m to the south of Mound 10, which remains the southernmost recognised element of the eastern line of barrows in this dual linear barrow cemetery (Figs 4.3 and 4.4). In 1966, the Ordnance Survey increased this number to 15, noting a twelfth mound (HY 3414 1740) south-east of Mound 8, and three small mounds between Mounds 8 and 9 (see Fig. 4.5).

The site was re-surveyed in 1993 as part of the Orkney Barrows Project (Downes 1997) and a total of 16 mounds



Fig. 4.2 View of the Knowes of Trotty barrows from the north-west: the mounds forming the western alignment were erected on glacial knolls to accentuate their visual effect.

were recorded stretching over a distance of c. 375m. The numbering of the mounds used here follows that of the Royal Commission (RCAMS 1946, 29–30; Fig. 4.4), with the additional small barrow (Mound 16) present on the north-east edge of Mound 9 (Fig. 4.5). Because it appeared so prominent, an interesting adjacent glacial knoll (HY 3414 1740), situated c. 40m to the south of Mound 10 was examined through excavation (Trench G). The results revealed it to be a glacial mound as opposed to a barrow (see Fig. 4.43). However, a massive scoop or pit was discovered to have been cut into the natural surface, which contained burnt material, including cramp and ash, demonstrating it to have been the site of numerous cremation pyres (see Fig. 4.41; Section 7.4.6).

During the 1993 survey it was noted that the grazing of cattle on the improved pasture area of the site was resulting in physical damage to the sites with erosion being noticed on some of the mounds and on the platform upon which Mound 1 is sited. Burrowing by rabbits was causing further destabilisation of the fabric of the mounds (see Downes 1997; Fig. 4.18). The damage was deemed significant enough to warrant further investigation and in 2001 a new pre-excavation survey was undertaken by David Coombs and Keith Maude of Manchester University (Fig. 4.5), which confirmed the dual linear nature of the site and the variation in size and shape of the mounds.

Mound 1 is c. 16m in diameter by 2.4m high being built on what appears to be a level platform upon a glacial mound. The platform is oval, measuring c. 24m (east–west) by 28m (north–south), and c. 1.3m in height or thickness, effectively forming a berm around the base of the barrow (Fig. 4.16). Substantial erosion was recorded on the north and north-west sides. Together, the platform and barrow are c. 3.7m high and, in conjunction with the glacial knoll, reach an impressive height of c. 7m. This barrow is the northernmost of the western alignment.

Mound 2 continues the western alignment being c. 50m to the south-west of Mound 1. It is a large barrow measuring c. 16m in diameter. Again, placed on a glacial knoll, the barrow rises c.1.4m above the summit, being nearly as tall as Mound 1 (Fig. 4.2). There is no sign of a platform or berm, although because the glacial knoll is elongated it serves to give a berm-like effect when viewed from the north-west (Fig. 4.2).

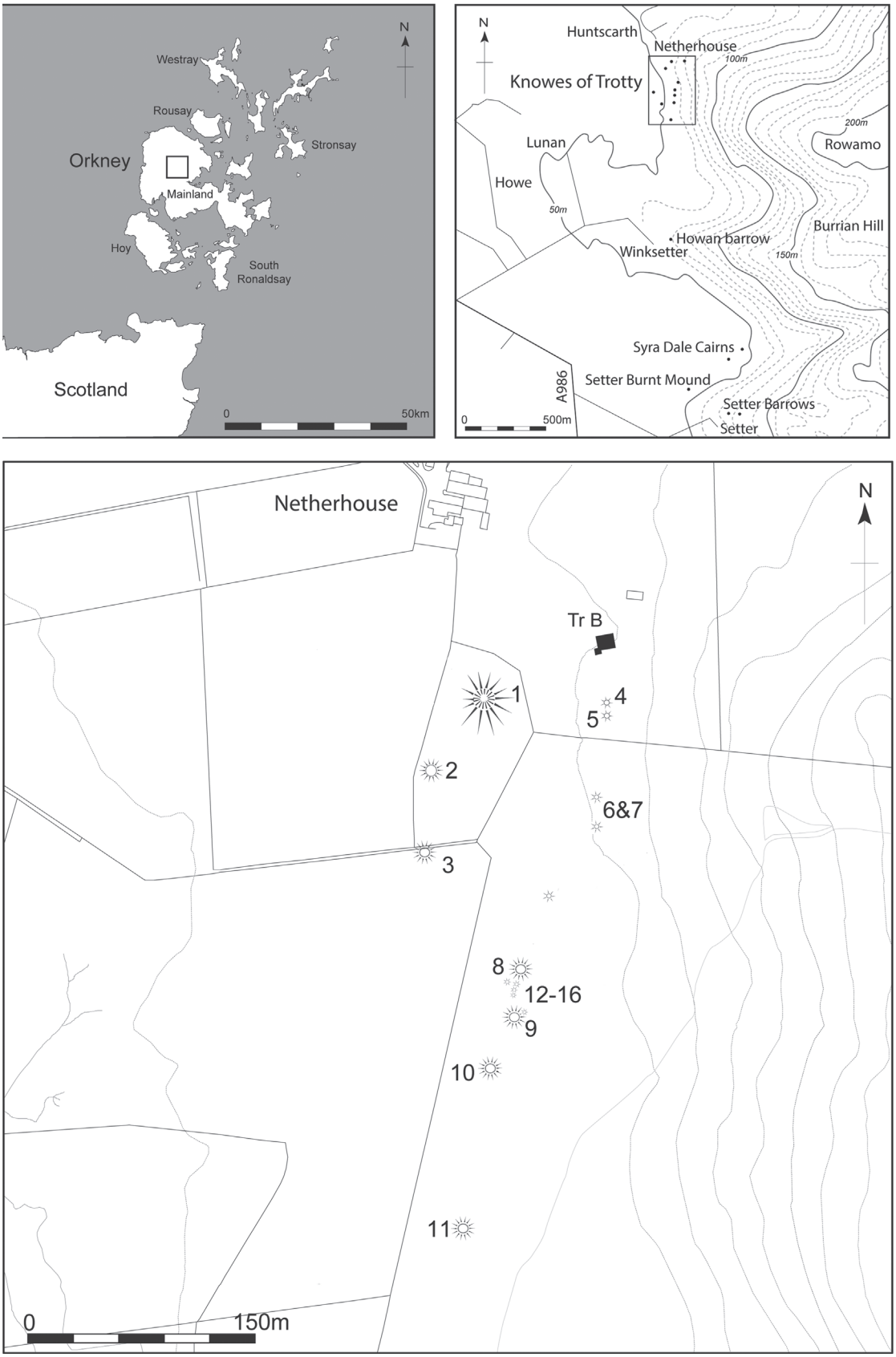


Fig. 4.3 Knowes of Trotty location map.

Mound 3 is the southernmost barrow of the western line, situated c. 60m directly south of Mound 2. The barrow is of a more oval shape in measuring c. 14m (east–west) by c. 11.9m (north–south) and stands c. 1.5m high with a slightly flattened top. This mound is again built on top of a glacial knoll and, together with Mounds 1 and 2, this alignment offers the most prominent elements of the cemetery clearly visible over a substantial distance particularly when viewed from the south-west, west and north-west (Fig. 4.2).

Mounds 4 and 5 lie c. 70m east and upslope of Mound 1 and are the northernmost of the eastern alignment, being situated on a terrace just above the 60m contour (Fig. 4.5). The two barrows lie adjacent to each other and both are roughly the same size, being c. 9.5m in diameter and c. 0.5m high. These are the most northerly barrows in the line that extends south to Mound 11 and are the closest to the Neolithic houses in Trench B (Downes *et al.* 2016).

Mounds 6 and 7 were plotted in the 1993 survey, c. 30m south-west of Mound 4. Surviving as very low barrows c. 6.5m and c. 4.5m in diameter respectively, both were c. 0.5m high. Each was observed to be suffering severe cattle damage (Downes 1997). By 2001, the barrows had suffered even more damage as they were in the path of a track. A fence and gate had been erected close to them with an adjacent feed point, with the result that cattle would congregate at this point causing acute poaching. As a result, unfortunately, neither barrow is still visible on the ground.

Mound 8 continues the eastern alignment south and, as the western and eastern linear groups diverge, is c. 90m south-east of Mound 3. Mound 8 is also oval, measuring c. 12m (east–west) by c. 11m (north–south) and c. 1.6m high.

Mounds 12–16 are all smaller barrows, running between Mounds 8 and 9, and averaging c. 5m in diameter and c. 0.3m high. Mounds 12 and 14 are situated on the southern edge of Mound 8, and Mounds 15 and 13 extend southwards in a line from Mound 12. Finally, Mound 16 is of a similar size, and is situated on the north-east edge of Mound 9 (Fig. 4.5).

Mound 9 lies c. 50m to the south of Mound 8 and is circular and larger (second only to Mound 1 in size), measuring c. 19m in diameter and c. 1.9m in height.

Mound 10 is c. 30m south of Mound 9, and is also circular in shape, being c. 12m in diameter and c. 1.6m in height (Figs 4.4, 4.5 and 4.43).

Mound 11 is the southernmost barrow in the eastern alignment being c. 140m south of Mound 10. The large

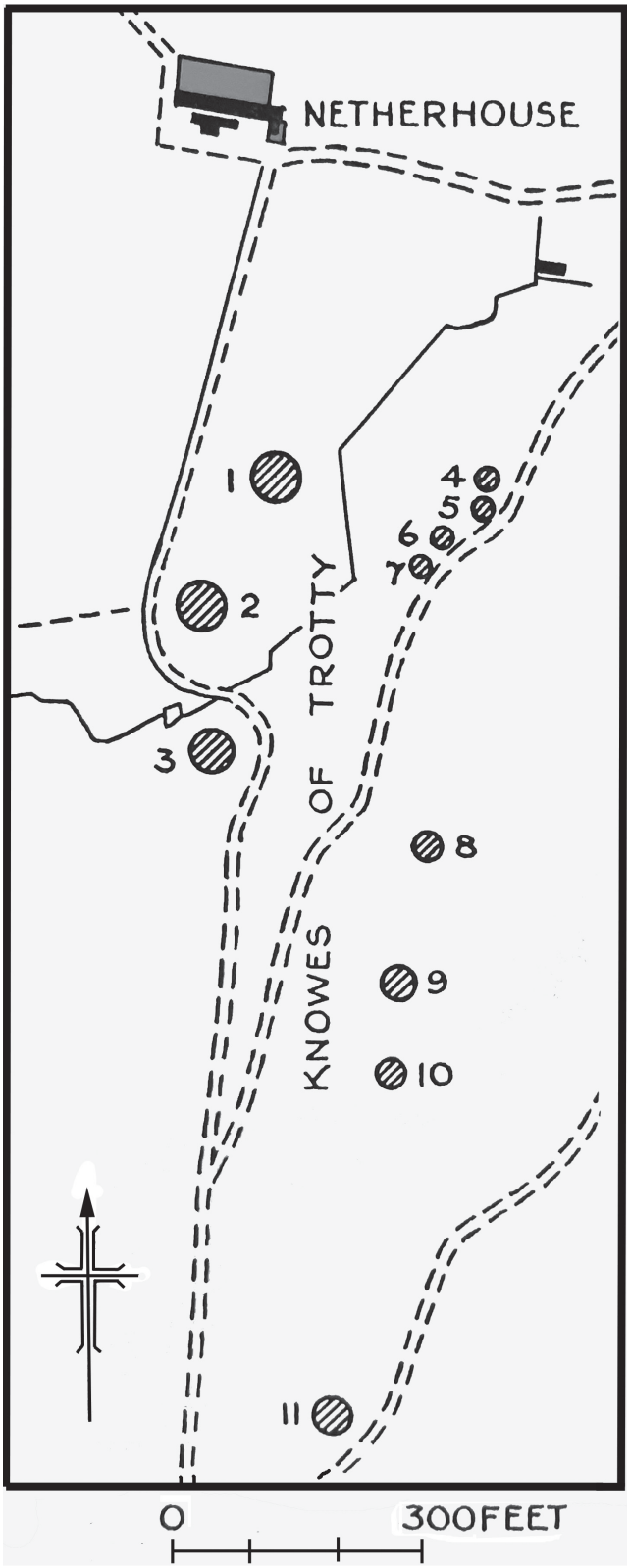


Fig. 4.4 Plan of the barrow cemetery at Knowes of Trotty after the Royal Commission investigators visited the site in 1929 and 1933 (after RCAMS 1946).

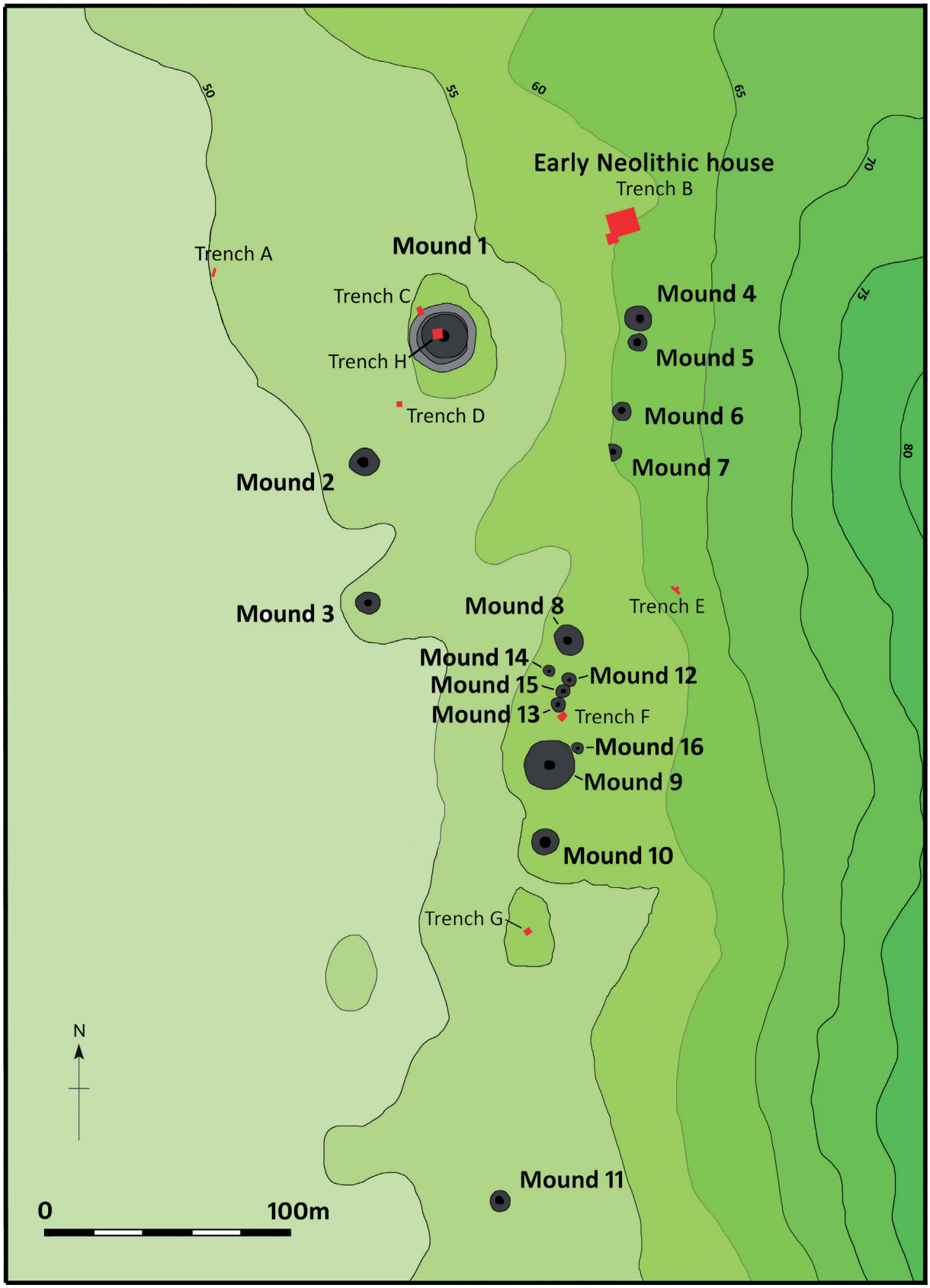


Fig. 4.5 Topography and organisation of the Knowes of Trotty barrow cemetery; excavation trenches are shown in red.

pyre site discovered in Trench G lies on a glacial knoll c. 110m to the north, punctuating the eastern alignment (Fig. 4.5). Today, Mound 11 measures c. 11m in diameter and c. 1.4m high but is substantially denuded having suffered from past erosion and truncation due to its position at the juncture of two previously used trackways.

Between the 1993 Orkney Barrows Survey and the pre-excavation survey in 2001, traces of Mounds 6 and 7 had all but disappeared. As a response, a management agreement was put in place during the early 2000s between the landowner, Vivian Sinclair, and Historic Environment Scotland (then Historic Scotland), involving the changing of fence lines and replacement of cattle with sheep in the grazing regime. These measures have arrested the acute erosion and resulted in the barrows being in much improved condition.

Today, the Knowes of Trotty barrow cemetery lies in a mixture of unimproved hill land and improved pasture; Mounds 1, 4 and 5, and 6 and 7 are in the areas of improved pasture belonging to Netherhouse Farm (Fig. 4.4). To the west, the cemetery overlooks the Harray and Stenness lochs and the surrounding flat, fertile land that characterises West Mainland, Orkney. The mounds lie on and around a drumlin field that forms part of a glacial landscape extending to the west which is dotted with groupings of glacial knolls and drumlins (Fig. 3.24). Interestingly, the topographic situation of the Knowes of Trotty is similar to that of a group of cist burials positioned a mere c. 800m to the south-west (Fig. 1.2). Here, the cists, Howe, Geroin and Werne, discussed in the previous chapter (see Fig. 3.24; Sections 3.3.4 and 3.3.5), and in all probability many more undiscovered examples, lie among a group of dramatic amorphous glacial mounds. Indeed, from these cists, the Knowes of Trotty barrows are visible in the distance to the east. Given the results of the geophysical surveys (Figs 4.6 and 4.7), it is quite possible that the Knowes of Trotty barrow cemetery simply continues a tradition of cist burial among glacial mounds but in a much more visible manner.

Fieldwork was undertaken at the Knowes of Trotty between 2001 and 2006, co-directed by Nick Card and Jane Downes. The aims of this element of the Orkney Barrows Project were to explore the spatial aspects of burial practices within a dual linear barrow cemetery as a comparison to Linga Fiold (Chapter 5), and to address the management issues, particularly the effects of cattle grazing on and around the barrows which was clearly damaging the site.

4.2.1 The Knowes of Trotty: geophysical survey

A. Challands

The geophysical coverage in 2001 consisted of two components, magnetometry and resistivity surveys. The magnetometry survey was extensive and covered most of the barrow cemetery area. All the upstanding mounds were identified magnetically, as were the denuded Mounds 6 and 7 (Fig. 4.6). Mound 8 produced high magnetic readings, whereas Mounds 9 and 10 barely registered, clearly the different readings relate to a range of depositional activities and mound structure as well as levels of disturbance. The magnetometry survey revealed a number of external features located around many of the mounds, which were interpreted as probably representing cremation-related features (Fig. 4.7).

Overall, 39 anomalies were identified although some were interpreted as dismantled fence lines, implying they were of no great antiquity. It is not proposed to describe here all the magnetic anomalies listed in the archived report, but some details will be given on those regarded as being of particular interest and which were later investigated by excavation (Figs 4.6 and 4.7).

Anomaly 1 was described as high positive and negative magnetic values at the north-east base of Mound 1. Before excavation, the positive values were interpreted as possibly representing pyre debris dumps or cremation burials while the negative ones were thought to represent stone settings or rubble, or sterile mound material. These anomalies were explored through excavation (Trench C) where the remains of earlier activities together with a large stone kerb encircling the platform were located (Fig. 4.14). *Anomaly 6* was an extensive area of high positive values surrounding a similarly high central group. It was postulated that this may represent a barrow but displayed a different signature and shape from that produced by the other examples in the field. On excavation this divergence was seen to be the result of the presence of an Early Neolithic house structure and associated occupation debris (see below; Downes *et al.* 2016).

Anomaly 13 was a series of high positive and negative values forming two opposed crescents resembling a partly damaged stone building, c. 9–10m in diameter. However, the lack of surrounding high values was puzzling if this was a domestic structure. Also investigated was *Anomaly 30* to the south, which corresponded to a mound considered to be of glacial origin. Higher positive readings were present upon the mound and subsequent excavations (Trench G) revealed it to be a site of many cremation pyres. To the north-west of Mound 1, *Anomalies 39* and *40* were a series of higher positive magnetic values forming a large irregular arc, c. 30m in length, which was interpreted as a possible enclosure.

4.3 A surprising discovery: Early Neolithic settlement beyond the barrows

The gradiometer survey had been undertaken with the anticipation of discovering funerary related sites within the confines of the Knowes of Trotty cemetery such as pyres and satellite burials around the mounds. Completely unexpected was the discovery of an Early Neolithic settlement when a small excavation trench (Trench B) (Fig. 4.8), was positioned north-east of Mound 1 to investigate geophysical survey *Anomaly 6* (Fig. 4.7). The settlement was represented by a sequence of superimposed houses and external work areas (Figs 4.9 and 4.10). These findings are



Fig. 4.6 Geophysical survey (gradiometer) of the Knowes of Trotty barrow cemetery undertaken in 2001 by Adrian Challands.

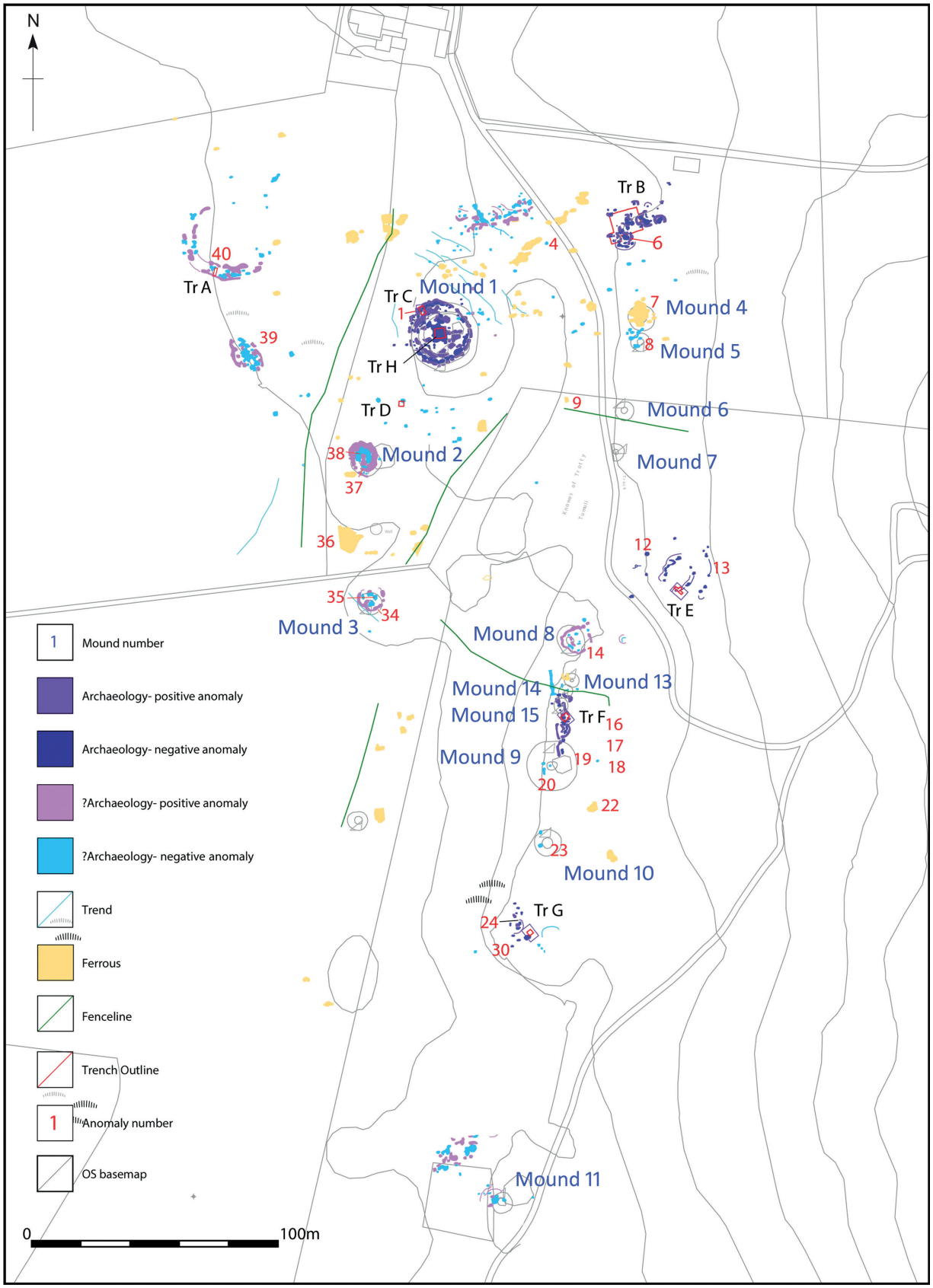


Fig. 4.7 Detailed plan of the Knowes of Trotty showing number magnetic anomalies (in red).

briefly summarised below as they have been fully published elsewhere (Downes *et al.* 2016).

When the 2002 trench was being set out, the structural remains were not visible on the ground apart from a slight elongated hollow which transpired to be the south end of the house. After the building had been recognised, further excavations occurred in 2005 revealing a building with more than one phase of use and alteration, a stone-built hearth, with entrances probably to the north and east. In 2006, the trench was extended 2m to the north to investigate the end wall and entranceways, and 4m to the east, to determine whether the area accessed through the eastern doorway was a conjoining building.

Over the three seasons a substantial amount of the house and exterior work areas was examined. The northern end of the building was particularly truncated, as opposed to the south where deposits were better protected as this end of the house was partially cut into the rising natural till rendering it less subject to truncation. Excavations in Trench B uncovered a complex sequence of construction and reconstruction of a stone-built house which was occupied probably over 200 years, between the thirty-fourth and thirty-second centuries cal BC (Fig. 4.11; for full account see Downes *et al.* 2016; Griffiths 2016). The house was orientated north–south and maintained this alignment through the series of structural modifications. Architecturally, it was a typical Early Neolithic, sub-rectangular stone building with internal areas typically subdivided by opposed orthostats. A rectangular stone-built hearth was present in the southern compartment of the house. Although ruinous, there was slight evidence for an end entrance to the north, while a second side entrance was present in the eastern wall. Given there was no evidence for a parallel house arrangement as seen at Knap of Howar (Ritchie 1983) and Stonehall Meadow (Richards *et al.* 2016a), it is possible that the building was modified to resemble a similar dated house at Smerquoy, St Ola, Mainland (Gee *et al.* 2016, 67–9), that had a single side entrance. Also investigated was an external adjoining work area which produced evidence for a range of craft activities including a 'kiln' for firing Unstan ware pottery (Figs 4.9 and 4.10: Downes *et al.* 2016, 55–8).



Fig. 4.8 Positioned just north-east of Mound 1, the discovery of superimposed fourth millennium cal BC houses in Trench B was completely unexpected.



Fig. 4.9 Composite plan of superimposed fourth millennium cal BC houses excavated Trench B.



Fig. 4.10 View of the work areas beyond the house to the east under excavation (left of picture).

Trench A was located c. 100m to the north-west of Mound 1 in the flatter, lower-lying land off the steeper hill slopes (Fig. 4.5). In size it was relatively small measuring 4 × 1m and aligned north-east to south-west, being positioned to investigate the south-west arc of *Anomaly 40* (Fig. 4.7). Despite the clear magnetic signal, no enclosure or structural remains were found but given the small size of this trench no definite conclusion can be drawn. Excavation did reveal a thick enhanced deposit (018) directly below the topsoil (Fig. 4.12). Analysis of this sediment by Guttmann (2004) suggested the presence of domestic fuel residues which were attributed to Neolithic settlement activity upslope to the east in Trench B.

A distinct cluster of positive and negative anomalies (*Anomaly 39*, Fig. 4.7), east of Mound 1 and c. 25m south-east of *Anomaly 40*, could well represent the remains of another fourth millennium cal BC house. The shape is sub-oval or rectangular, and the length at c. 15m is extremely similar to *Anomaly 6* which proved to be the sequence of Early Neolithic houses revealed in Trench B.

4.3.1 The berm around Mound 1: a house on the knoll?

The large barrow, Mound 1, had been built on a glacial mound or drumlin. Around the barrow the glacial mound appears level creating a form of berm or platform and, before excavation, the suspicion was that there had been a degree of levelling and modification to the glacial feature (Fig. 4.16). To investigate this further, a trench (Trench C), measuring 3.5 × 2m, was opened in 2002 across the berm in the north-west sector of the barrow. The trench also extended slightly downslope of the glacial mound (Fig. 4.13). This location was specifically chosen to examine magnetic *Anomaly 1* (see Fig. 4.7), part of a ring of high positive and negative magnetic values running around the platform, and also a high resistance circular feature, c. 1m in diameter. It was thought initially that the positive magnetic values may represent deposits of cremated remains or pyre debris surrounding the barrow, similar to those encountered at Linga Fiold and Gitterpitten (see Chapters 5 and 6). However, these proved difficult to interpret. Given the close proximity of the Early Neolithic house in Trench B, it is possible that they relate to much earlier activities occurring on the knoll. Here, it is worth recalling the houses of similar date built upon Stonehall Knoll representing a sequence of house building and refurbishment centred on the summit of a glacial mound (Richards *et al.* 2016a, 92–111).

On excavation, a thick, c. 0.2m deposit of clayey silt (021), containing a component of ash was encountered

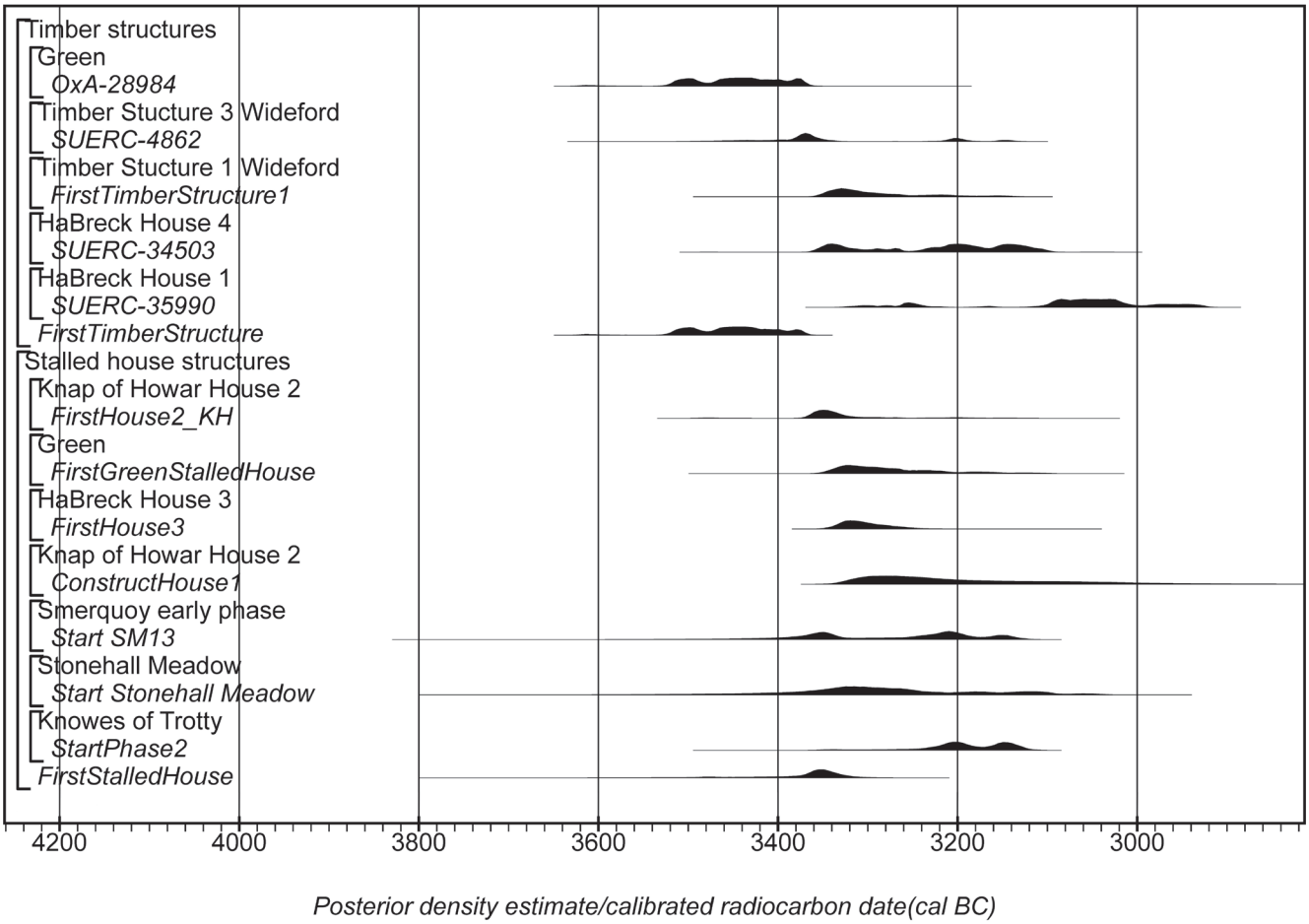


Fig. 4.11 Posterior density estimates associated with Early Neolithic timber structures and stone-built stalled houses from Wideford Hill, Ha'Breck, the Knap of Howar, Smerquoy, Stonehall Meadow and the Knowes of Trotty calculated in the model sub-sections (shown in Griffiths 2016, figs 10.3–6). Calibrated radiocarbon dates from Varme Dale Early Neolithic deposits are shown below (see Section 6.2.3.1).

directly below the topsoil (Fig. 4.14). Cut into this layer was a sub-rectangular feature (036) c. 1.0m (E–W) × 0.6m (N–S) and 0.15m deep, which was filled with a clay/silt deposit containing some burnt stone and ash: it is possible that this is feature was the truncated remains of a hearth (Figs 4.13 and 4.14). The clay layer (021) into which it was cut was redeposited glacial till which was frequently employed as flooring or consolidation in Orcadian Neolithic houses.

At the outer edge of the platform, sitting on, and very similar to clay (021), was a low and narrow c. 0.5m wide truncated bank (003) (Fig. 4.15). Beyond this, at the outer edge of the levelled area, a large stone kerb (028) was built on a thin layer of redeposited natural clay (031) (Fig. 4.14). The kerb was formed of large sandstone blocks surviving up to three courses in height. In appearance it was similar to that surrounding the Varme Dale barrow (Fig. 6.14), which was built of robbed masonry. As part of Mound 1, it would have provided visible kerbing of the berm or platform, substantially enhancing the appearance of the barrow. Alternatively, as will be discussed below, it may have had an earlier origin and in this situation the kerb would have acted as a revetment preventing slippage downslope of a possible earlier house (for a similar example at Stonehall Knoll, see Richards *et al.* 2016a, 108). A small slot (012) running parallel to and behind the kerb may have held another barrier such as stakes or hurdling.

Beyond the kerb were mixed dark ashy soils, redeposited clay and a number of large slabs (030 and 029) which appear to represent earlier occupation debris running downslope from the knoll. These deposits may relate to earlier Neolithic occupation deposits around the base of the glacial mound, again replicating a similar pattern of deposition running downslope from Stonehall Knoll house (Richards *et al.* 2016a, 109–11). However, no artefactual material was present, which is unusual in a Neolithic context. A dark peaty silt (019) sealed these deposits (Fig. 4.14), which formed around the edge of the glacial mound.



Fig. 4.12 The red layer (018) encountered below the topsoil in Trench A is likely to relate to hearth ash being discarded from settlement, as opposed to cremation pyres.

Through time, dark topsoil (002 and 004) accumulated over the whole berm and kerb area. The only find retrieved from Trench C was a cobble spall (SF 2), found in the overlying peat layer (019).

In places the platform reached nearly a metre in thickness, indicating a substantial amount of material employed to create a perfectly level berm running around the barrow (Fig. 4.16). Unpicking anything of the complexity was also made more challenging as the platform was unfortunately quite eroded in the area of the trench. Returning to the geophysics in the light of the findings from the platform excavation, the high negative values which form a 'halo' around the edge of the platform almost certainly represented the kerbing. The high positive values clearly encircling the platform within the 'halo' perhaps relates to the enhanced midden-like material directly behind the kerb (Figs 4.6 and 4.7). The interrupted nature of the high positive values on the southern side may indicate a number of discrete features. The inner ring of high negative values that is visible particularly on the west half of the platform may be the encircling bank which was present as a slight feature in Trench C (Figs 4.14 and 4.16) and can just be discerned in the topographic survey (Fig. 4.5) as a raised feature ringing the barrow (apart from in the north-west quadrant due to the aforementioned erosion). Given the limited size of the excavation trench it was difficult to recognise whether the possible hearth on the berm relates to barrow-related activities or a ruined building of much earlier origin. Although there is an absence of any environmental remains from the samples taken from contexts in this trench, the nearby mid-fourth millennium settlement discovered in Trench B is unlikely to be restricted to a single house structure.

4.4 Mound 1: revisiting the great barrow

with N. Card and A. Sheridan

Three years later, in 2005, Mound 1 was revisited and the focus shifted from the surrounding berm to the barrow itself and again, as with the remains encountered on the berm (Trench C), the story appears to be an intertwining of the Early Neolithic and the Early Bronze Age architecture. Investigations centred on opening a trench (Trench H) at the summit of the mound to re-excavate the antiquarian trench of the 1850s. This had the dual aims of recovering material suitable for radiocarbon dating from the cist that had contained the gold discs and amber beads, and to investigate the composition and architecture of the barrow. It is worth repeating Petrie's detailed description of Mr Flett's finding of the cist in 1858:

> When he had dug about 2 feet [0.6 m] down through the top of the barrow, he found two stones standing upright about 18 or 20 inches apart [0.46–0.51m]. On continuing the excavation along the stones for from 2 to 3 feet [0.6–0.9m] more in depth, he came to a large flag lying between, the stones, and on clearing away the clay from the top of the stone and raising it, it was found to be the lid of a kist or grave about 2 feet [0.6m] long, formed in the usual way, by stones set on edge and a flag for the bottom, the top being the flag first mentioned. The two upright stones were set one on each side of the grave, at right angles to the flags forming its sides. (Petrie 1859, 195)

To encompass Mr Flett's diggings, a trench (Trench H) measuring 4 × 4m was positioned on the summit of the barrow (Fig. 4.16). Locating the nineteenth century trench dug down through the top of mound proved difficult as in the top 0.6–0.7m layers were badly damaged by rabbit burrows that both tunnelled into the backfill and the surrounding *in situ* upper layers of the original mound. When Mr Flett's trench was located it was found to be roughly sub-rectangular in shape, measuring c. 2.8 × 2.6m (Figs 4.17–4.19).

The uppermost part of the nineteenth century backfill of the trench was composed of dark brown silty soil that was removed in two spits of c. 0.25m (107 and 111) (Fig. 4.17). Some modern rubbish (fence posts and asbestos) had been pushed down the burrows in the upper levels to act as a deterrent to the rabbits. Underlying these layers there was

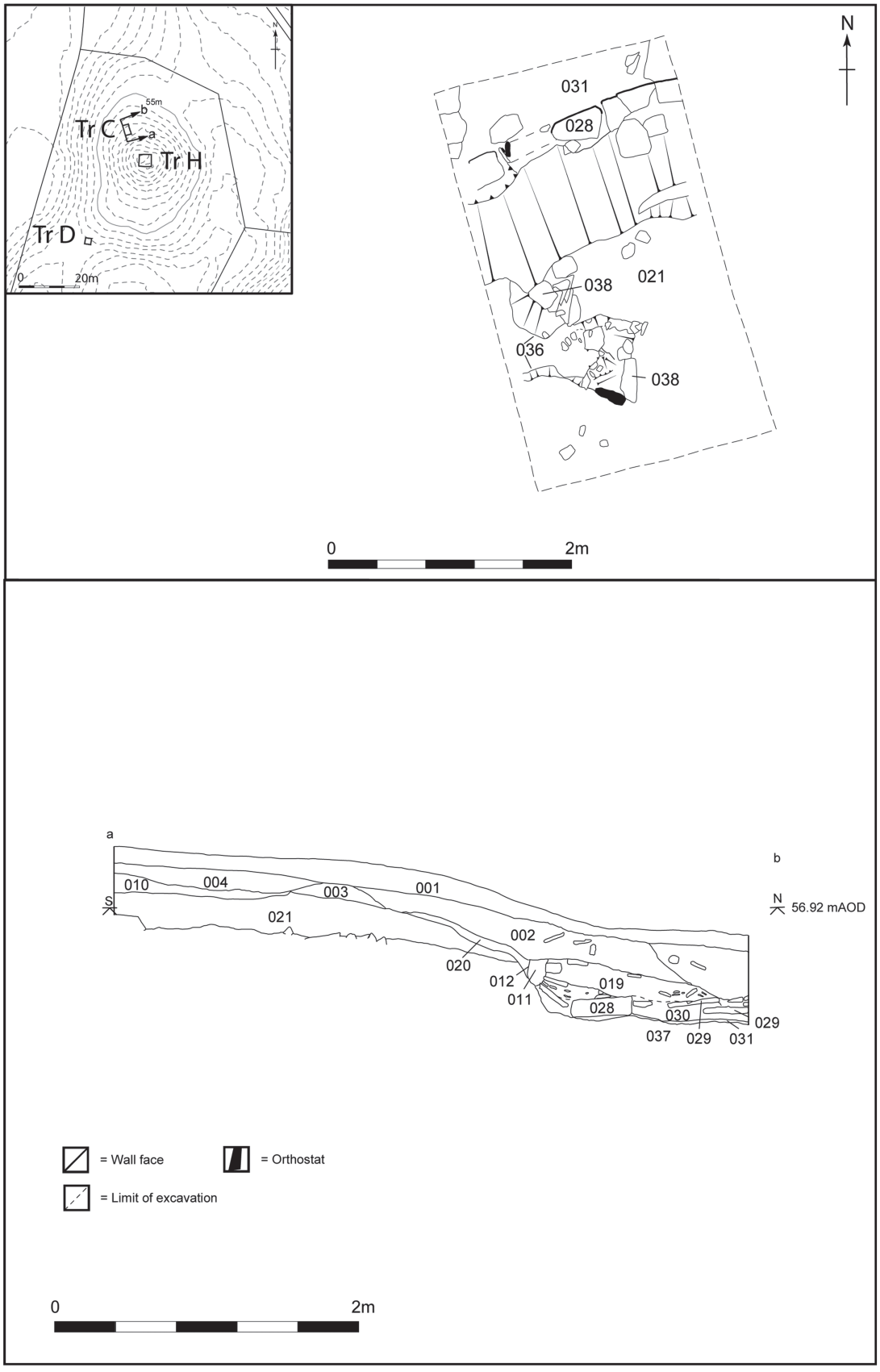


Fig. 4.13 Plan and section through the north-west platform or berm of Mound 1 (Trench C).



Fig. 4.14 View of Trench C from the north-west. In the foreground is the stone kerb bounding the edge of the platform of Mound 1. The rectangular feature (036) can be seen situated further back and is probably a truncated hearth.



Fig. 4.15 Excavating the last portion of the low bank (003).

a series of dumps of backfill; a dark peaty deposit (112), which is presumably redeposited turves from the primary nineteenth century backfill; a pale yellow-brown clay (113) resembling natural till; and a layer with rubble fragments (116) (Fig. 4.18). These layers contained dog bones and nineteenth century pottery, including white china and tin-glazed earthenware. With the removal of the clay and rubble, the tops of the two orthostats described by Petrie as flanking the cist became visible (Figs 4.19 and 4.20). A discrepancy was noted in the depth from the top of the mound to the top of the orthostats which was recorded by Petrie as '2 feet' (0.6m) and in 2005 was found to be 0.9m in depth. This may be the result of secondhand information being supplied to Petrie or, alternatively, could imply that there was already a hollow in the top of the mound in 1858, and, if so, possibly evidence of an earlier attempt to investigate the barrow.

To the north-east of the orthostats were layers of silty clay and stones (133 and 135) overlying a similar deposit (138) that contained flecks of burnt material and cremated bone. These three layers were interpreted as up-cast from the nineteenth century emptying of the cist and were left *in situ* to act as a step to assist access and spoil removal during the current excavation, as they probably had in 1858. As the central backfill was removed the tops of the four uprights of the central cist were exposed. Unsurprisingly, there was no trace of the cist capstone recorded by Petrie as being 'about 2½ feet long', nor the clay capping that appears to have covered it (1859, 195).

4.4.1 The flanking orthostats and central cist

From the moment they were exposed, the two opposed orthostats flanking the cist were a striking and unusual architectural feature, and almost certainly pre-dated the cist. They were set gently sloping in towards each other, being c. 0.5m apart at their tops (Figs 4.22 and 4.23). The north-east orthostat (170) was c. 0.38m wide by c. 0.07m thick and was the taller of the pair, standing 0.7m higher than the top of the cist side. The opposed south-western orthostat (186) measured c. 0.30m wide by c. 0.12m thick and stood c. 0.63m higher than the cist (Fig. 4.23). Because of the restrictions on excavation, the bases of the orthostats were not exposed, but if it is reasonably assumed that they too were embedded in the basal clay layer (192), they would have been c. 1.5m high and set c. 1m apart at the bottom. These dimensions are interesting as, in terms of height and spacing, the setting of the orthostats can be paralleled in both fourth millennium cal BC houses (such as Stonehall Meadow and Knap of Howar) and stalled cairns (such as Midhowe) where they sub-divide internal space into linear chambers.

On excavation it was clear that the central cist had been backfilled in 1858 with a uniform mid-brown silty clay soil including varying amounts of angular stone fragments throughout and some occasional fragments of burnt bone, cramp and charred plant material. This backfill was removed in six c. 0.1m thick spits numbered as contexts (139, 140, 161–164; see Fig. 4.17). Intriguingly, when the north-west–south-east orientated cist was fully exposed, it was found to be long and narrow, being c. 1.5m in length, but only c. 0.64m in width, thus twice the length of '2½



Fig. 4.16 Trench H was opened on the summit of Mound 1. Note the platform gives a berm-like appearance to the barrow.

feet' [0.75m] recorded by Petrie (1859, 195; 1927, 27). The cist had a depth of c. 0.62m, with both end slabs (190 and 191) positioned within each of the long side slabs (188 and 189) (Fig. 4.21). The unusually narrow and long dimensions of the cist would seem to be a result of it being inserted between two pre-existing orthostats. Certainly, in this position the orthostats helped to support what was initially an above-ground, free-standing cist. Consequently, it cannot be ruled out that the orthostats were set up to hold the cist in position. If so, this is a unique method of support as the normal form of bracing cist stones was to lean flagstones against the sides, as seen for example at Linga Fiold (Chapter 5), Queenafjold, Birsay (Ritchie and Ritchie 1974, 34–5) and Bu Farm, Rapness, Westray (Barber *et al.* 1996, 108).

The stone employed to construct the cist was variable; the north-west and south-west slabs (191 and 189) were very smooth being weathered or worn. In contrast, those forming the north-east and south-east of the cist (190 and 188) were sharp and angular having the appearance of freshly quarried stones. The north-west side stone had a curved lower edge on the east end which had left a gap in the side of the cist. This hole was blocked by a group of three small angular stones. Both long side slabs had a slightly sloping angle on the upper edge of their west ends. This angled slope had been levelled with a pale-yellow clay luting (187) that ran around the outside and top of the uprights. Although the capstone was not *in situ* there were fragments of flagstone sitting on the uprights at both ends of the cist, bedded on to the cist uprights by the clay luting which originally provided a tight seal.

There was no evidence of a flagstone base to the cist as mentioned in Petrie's description (1859, 195), but he may have been referring to generic cist construction. Towards the base of the cist were two thin, mid-brown silty clay layers (165 and 166), containing ash, charcoal and burnt clay, cramp and fragments of cremated bone. These probably represented a single deposit, the uppermost was looser and appeared to be disturbed, presumably as a result of the contents of the cist being rooted amongst and partially removed in 1858, whilst the lower was more compact and more definitively *in situ*. Both basal deposits are clearly the remains of the cremation and pyre material, which appears to have extended across the floor of the cist as far as could be determined, unlike the grave goods which were placed discretely in one corner of the cist.

It was not possible to elucidate any further information about the construction of the cist or the material into which

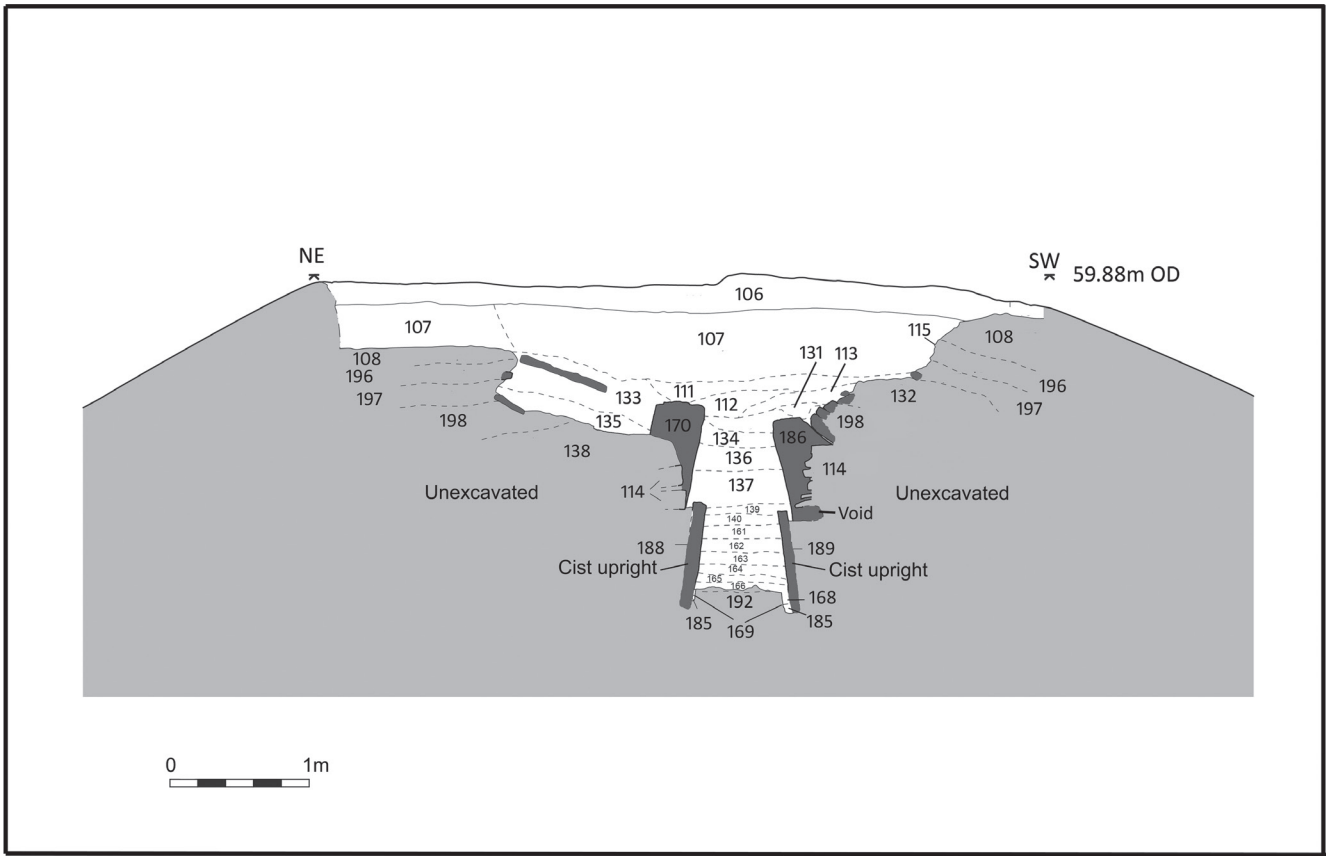


Fig. 4.17 North-west facing profile drawing through Mound 1 showing the 2005 trench following the 1858 cut down to the burial cist.



Fig. 4.18 Mr Flett's 1858 excavation pit became visible c. 0.7m below the top of Mound 1. Numerous rabbit burrows were encountered running through the top of the mound as are visible behind Judith Robertson.

it had been set due to the excavation being confined to an examination of the cist interior, leaving the cist and undisturbed mound in place. Nonetheless, it was established that below the lower cist fill (166) a thin layer of yellow clay overlay a grey–yellow clay (192), which formed the floor of the cist base. A small sandstone slab, unmodified but shaped like a circular pot lid (SF 114) was placed on the surface of the basal clay at the north-west of the cist. This mirrors the positioning of similar circular-shaped stones in the central cist at Linga Fiold Mound 9 (see Section 5.11.1) and Queenafjold barrow, Birsay (Ritchie and Ritchie 1974, 35). A small sondage excavated to investigate the clay (192) established it to be fairly loose and redeposited as opposed to the natural till of the underlying glacial mound. Examination of the manner of cist construction revealed the long side slabs were set in slots to a depth up to c. 0.14m. Due to the loose packing of the slots some large fragments of cremated bone and a tiny piece of gold (SF108: Fig. 4.25) had become mixed with the fill. During the cleaning of the basal layers of the cist further fragments of cremated bone fell from voids behind the eastern end slab and the east end of the northern side slab, as though some of the cremation deposit had fallen outside of the cist at the time of burial.

Given the evidence uncovered in Trench C of previous construction and the probable levelling of the earlier buildings, the redeposited clay (192) could be part of this process. Field observations of apparent weathering with some possible root damage indicate the redeposited clay (192) was not pristine and therefore not newly sourced for the cist construction.



Fig. 4.19 As the 1858 pit was emptied the stone make-up of the barrow was exposed in its sides, as were the tops of the two orthostats described by Petrie as flanking the central cist.

What this evidence does reveal very clearly is that the cist was erected above ground, as opposed to being constructed in a pit dug into the summit of the glacial mound (cf. Sheridan *et al.* 2003, 178). Hence, for some time during the mortuary process the cist would have been visible as a free-standing stone box on the summit of the knoll. However, this is not an uncommon practice in the Northern Isles and, as mentioned above (see also Chapters 5 and 6), there are numerous examples of free-standing cists that were subsequently covered by earthen/clay mounds or cairns (e.g. Ritchie and Ritchie 1974, 34–5; Barber *et al.* 1996).

4.4.2 Contents of the cist: the human burial

In Petrie's accounts (1859; 1927), there is only a casual mention of the presence of human bone; 'a quantity of fragments of bones lay in the grave, and it was the opinion of the finder that they had been burnt' (1859, 195). Nor is there any comment concerning their recovery. As noted above, fragments of cremated human bone were recovered from within the cist itself, through most of the backfill up to the level of the top of the paired orthostats and trampled into the surface of the access step cut into the mound. Judging from this distribution it appears that in the 1858 investigations there was a significant amount of cremated bone found within the cist, some of which was seemingly of little interest and included in the backfill.

The cremated bone was identified as representing a single individual at least 16 years old, but unfortunately, it was not possible to determine sex. The total weight of cremated bone recovered was 137.95g (this being the total weight derived from all excavated contexts including upper backfill). The cremated bone retrieved from the *in situ* lower cist contexts (165 and 166) and upright slot fill (168) forms the majority in weighing 107.45g (Table 4.1), while the cramp, some of which adhered to the cremated bone, had a weight of 42.6g (McSweeney: Appendix 3).

The weight of cremated bone recovered is a small fraction of what would be expected from an entire person but,



Fig. 4.20 Vertical view of the revealed central cist showing the stone make-up of Mound 1 and the pair of opposed flanking orthostats.

Table 4.1 The cremated human bone from Mound 1 cist.

Context	*SF no.*	*Description of remains*
165	61	3 frags vertebrae + 2 limb shaft frags + unidentified
	63	Unidentified
	77	Limb shaft frag. + unidentified
	79	Unidentified
	95	Unidentified
	96	2 unidentified frags
	118	Unidentifiable
	124	Unidentifiable
	192	Unidentifiable
	193	Unidentifiable
	196	Unidentifiable
	199	Unidentifiable, cramp adhering
	200	Frag. femur + unidentifiable
	203	Number of identifiable frags, cramp adhering
138	68	Piece scapula + unidentified, cramp adhering
	72	2 frags femur + unidentified
	115	Unidentifiable
	151	Unidentifiable, cramp adhering
139	70	Unidentified
	123	Unidentifiable
136	73	Unidentified
	74	Unidentified, cramp adhering
	162	Unidentifiable
	190	Unidentifiable, cramp adhering
164	76	Small frag. mandible + unidentified
	160	Unidentifiable frags
168	78	2 pieces metatarsal (foot) + piece limb shaft + unidentified
	107	2 frags of cranium, 2 of vertebrae, 1 each of humerus, femur and tibia + unidentified (2 samples selected for C14)
	111	Piece rib + unidentifiable, cramp adhering
166	101	Piece metatarsal (foot) + unidentified
	103	Small piece cranium + piece tibia + frag. 5th metatarsal + unidentified
	104 &105	Unidentified, cramp adhering
	172	Unidentifiable
	173	Piece limb shaft + unidentifiable, cramp adhering
	174	Unidentifiable
	176	Unidentifiable
	177	Unidentifiable
	194	Unidentifiable
	195	2 pieces limb shaft + unidentifiable, cramp adhering
	208	No. of identifiable frags
185	110	1 frag. cranium, 1 of vertebra, 2 of upper limb, 1 probably complete hand phalanx, 3 pieces lower limb bones, 2 of talus (ankle), 3 non-specific limb bone shafts + unidentifiable
		Unidentifiable
		Unidentifiable
163	120	Unidentifiable
161	121	Unidentifiable
	122	Unidentifiable
135	126	Unidentifiable, cramp adhering
	127	Unidentifiable
137	153	Piece cranium + unidentifiable, cramp adhering
140	156	Unidentifiable
162	158	Unidentifiable
116	187	Unidentifiable

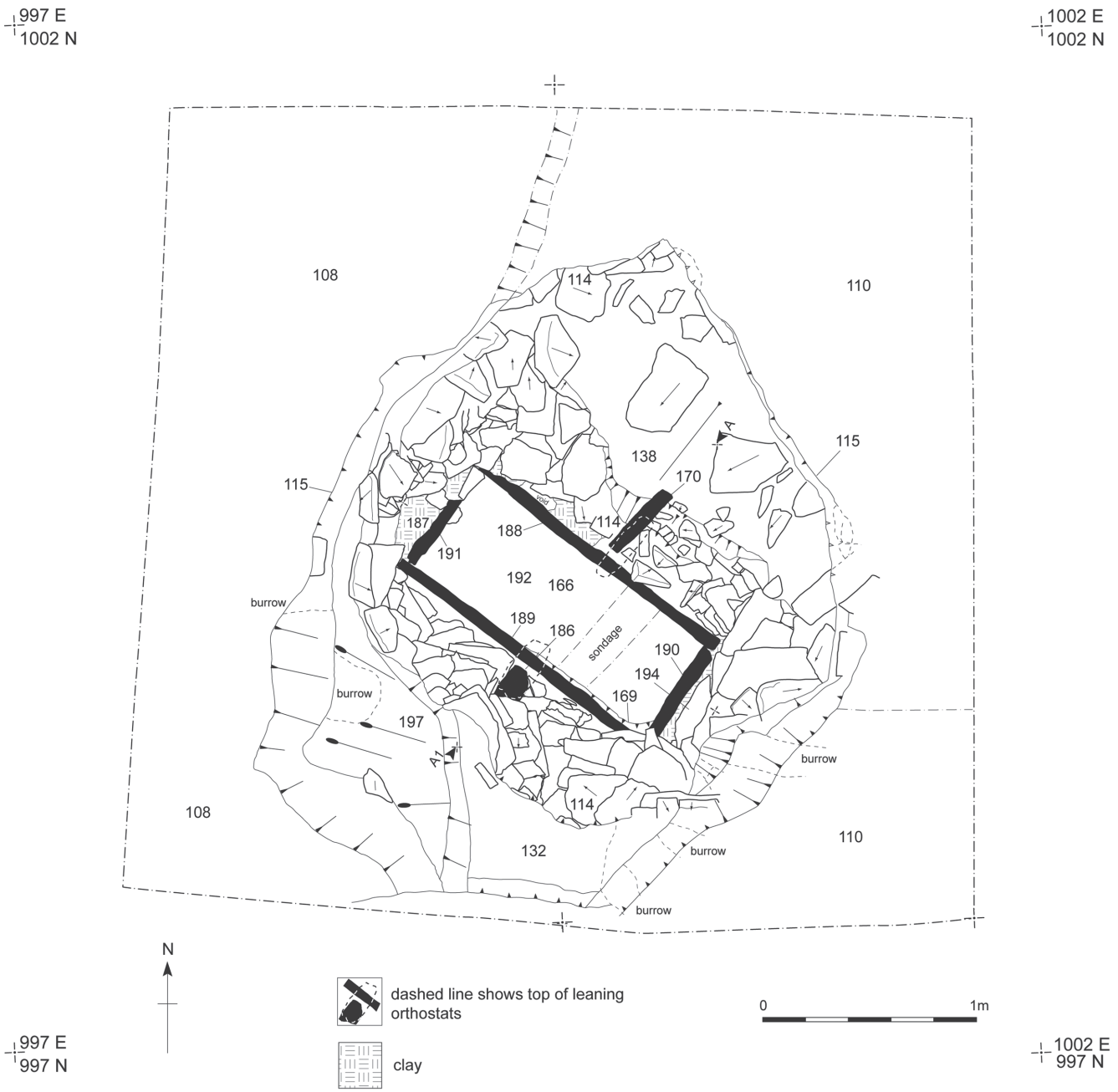


Fig. 4.21 Plan of the cist and mound.

given that the amount of bone removed in 1858 is unknown, any interpretation of the proportion buried is not possible. However, the bone and cramp appeared clean and possibly had been washed of burnt debris when picked out of the pyre, as there were very little other pyre debris present, such as ash, charred plant or burnt turf. The charred plant remains recovered from within the cist provide some indication that peat, or heathy turf, was employed as fuel for the cremation pyre (Alldritt: Appendix 21). There was very little charcoal present and this scarcity, compared with the larger quantity of rhizomes, suggests a reliance on peat or turf for fuel in this instance (Table 4.2). This contrasts with some other rare examples of exceptional primary burials, such as Linga Fiold Mound 6 (see Chapter 5), where wood was employed as fuel for the pyre.

Two radiocarbon dates were obtained from three fragments of calcined bone, as part of National Museums' Scotland's *Dating Cremated Bones Project* (Sheridan 2006, 205–6; Sheridan and Bradley 2007, 220). These dates, of 2130–1890 cal BC (Gr-A 32127) and 20301770 cal BC

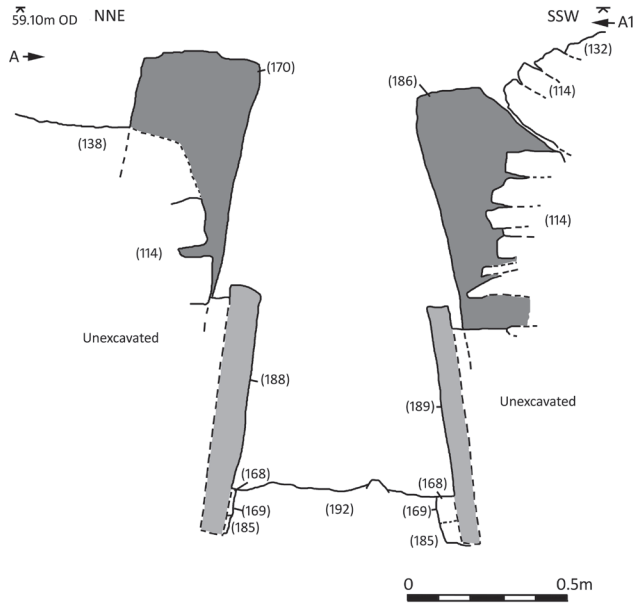


Fig. 4.22 Profile drawing of the cist and mound.



Fig. 4.23 The opposed orthostats, (170) in the north-east (left), and south-west (186) (right), flank the central cist in Mound 1.

(Gr-A 34776) are interesting in seemingly straddling the third and second millennia cal BC (Fig. 4.24; Table 4.3). However, a degree of caution is required as it has become evident that when peat or old wood have been used as fuel, there may be a carbon transfer across to the bone, making the result older than the true age of the bone (see Griffiths: Appendix 28; Sheridan *et al*. 2014, 215; Snoeck *et al*. 2014). These dates are significant more broadly due to the rarity of any secure dates relating to the so-called 'Wessex' series of graves and their comparanda (Sheridan *et al*. 2003, 183–4; Needham *et al*. 2010), especially in northern contexts.

4.4.3 Contents of the cist: the grave goods

In the 1858 investigations, Mr Flett found in one corner of the cist 'a piece of flat stone, on which lay the four gold disks or ornaments', which were accompanied by 'beads and angularly-shaped pieces of amber' (Petrie 1859, 195). Of the four gold foil discs two were relatively complete and the remainder in a more fragmentary condition (Fig. 4.1). These were accompanied by at least 27 amber artefacts, although only 20 pieces are in the National Museum of Scotland (Sheridan *et al.* 2003, 179). The three best preserved gold discs are interesting in having a ragged hole at their centre, which is clearly subsequent to original production. They also have a slightly domed upper surface which has been suggested to be a product of covering a button or some other stud-like artefact (Piggott and Stewart 1958; Coles 1969, 53; Sheridan *et al.* 2003, 178; Sheridan and Chapman: Appendix 17). The discs display fine decoration consisting of concentric ribs with a band of zigzag lines and another of 'straight or oblique lines between the ribs' (Fig. 4.1; Coles 1969, 53).

Unfortunately, no indication was given in either of the two reports (Petrie 1859; 1927) as to which corner the flat stone and grave goods were discovered, nor whether the 'flat stone' was shaped or held any additional significance. Nonetheless, it is clear from Petrie's account that the gold and amber artefacts were carefully positioned within the cist, and that some may have been 'lost among the debris which got into the grave' (Petrie 1859, 195).

In the recent investigations, the 'flat stone' upon which the grave goods had been placed was unidentified but part of a possible pot lid in backfill (136), and a fragment of a stone disc (SF 180) (Clarke: Appendix 16), are both possible candidates. Of greater significance was the discovery of fragments of decorated gold foil (SF 65) located in the south-east corner of the cist (Fig. 4.25), and an amber spacer plate (SF 66) and prismatic bead (SF 64) were both recovered from the upper layer (165), of the seemingly *in situ* deposits at the base of the cist. A further fragment of gold (SF109) came from a more secure deposit at the base of the cist fill (166), and a third fragment (SF 108) was found in the loose upper fill (168) of cut (169) which held the stone upright in the south-east area of the cist. Apart from confirming the probable position of the placed grave goods within the south-east corner of the cist, these finds also support Petrie's contention that a number were probably unrecovered. Five more prismatic amber beads and a fragment of a sixth were also found in the 2005 excavations (Fig. 4.26): one from context (165; SF 64) and the others from context (166; SFs 97–100 and 102) (see Section 4.8.2; Sheridan and Chapman: Appendix 17).

One of the most interesting aspects of the treatment of the gold discs is their transformation from the original manufactured form. At least two stages of alteration are revealed, first, the hole cut through the middle of each disc modifies their appearance and function to allow something to project through the centre, probably as some form of body adornment. Second is their dislocation from this role

in order to be placed together on the flat stone adjacent to the cremation deposit within the cist.

A similar process of alteration and dislocation is evident with the amber objects, which once seem to have been part of an elaborate necklace comparable to from Upton Lovell, Wiltshire (Piggott and Stewart 1958, GB. 33; Sheridan *et al.* 2003, 180–2). From the nineteenth century investigations the amber artefacts include a partial spacer plate, a partial trapezoidal terminal plate and two beads from a spacer plate necklace, ten V-bored prismatic beads and two complete and two fragmentary hook-shaped items (Piggott and Stewart 1958, GB. 33; Sheridan *et al.* 2003, 179–80).

Piggott and Stewart (1958, GB. 33) note that some of the amber objects are similar to those from Wessex Culture contexts, whilst others are very different. For instance, the two 'roughly hemispherical' beads (5–6) and hooks (7–9) are not seen as characteristic of the Wessex Culture bead series. The same is true for the 11 fragments originally collected in the 1858 investigations by Mr Flett, although they are possibly derived from broken spacer plates (cf. Sheridan *et al.* 2003, 179–81). In contrast, Piggott and Stewart (1958, GB. 33) consider the original spacer plate fragments to 'have good parallels from Wessex Culture graves at Upton Lovel [*sic*], Wilts … and Oakley Down, Dorset' (Piggott 1938, 102–6; see also Sheridan *et al.* 2003, 180–2). Of course, depending on parallels for these objects from an extremely partial representation of 'Wessex' grave goods is not robust, nonetheless, is does provide a guide that this material, particularly the amber pieces, is part of a broad 'assemblage' that extends south incorporating burial goods in southern England. This intriguing situation will be returned to in the final section.

Table 4.2 The charred plant remains from Mound 1 cist by context (layers in descending order) and amounts (g) of cramp and cremated bone per bulk sample.

Context	*Charcoal/seed*	*Cramp*	*Cremated bone*
165	*Corylus* <0.01g *Hordeum vulgare* × 4 Indet cereal × 2 Weeds × 8 Rhizomes × 10 frags *Calluna* stems 0.02g	21.1	20.85
166	Cerealia/Poaceae stem × 10 *Plantago lanceolata* × 5 *Carex* sp. × 2 Rhizomes × 9 frags	15.7	27.7
167	*Plantago lanceolata* × 1	0	0
168		5.8	22.8
185	Weed seed × 1	0	42.1
192	*Plantago lanceolata* × 1	0	0

4.4.4 The mound

The discovery that the grassy mound has a substantial core of stone blocks covering the cist and flanking orthostats was a complete surprise as it was not mentioned in either of the earlier accounts (Petrie 1859; 1927). Certainly, a dump of large stones within the upper backfill (107) and further rubble content in the main backfill (116) demonstrate that stone slabs were encountered and removed in the process of accessing the cist in 1858. Whether Mound 1 is termed a barrow or cairn, it comprised varying sizes of stone slabs, up to 0.60m long, arranged in a very roughly corbelled manner. The stones encircling the cist were, in places, interleaved and stacked to slope down and away from the cist, rising up to c. 0.15m over the tops of the flanking orthostats (Fig. 4.27). Although the cairn was not constructed as free-standing walling, the corbelling kept the weight of the stonework back from pushing the cist inwards, and the flanking orthostats provided additional rigidity to the cairn. Other cists have been found to have been supported and covered by a corbelled stonework arrangement, such as the primary burials of Mounds 8 (Fig. 5.79) and 9 (Fig. 5.86) at Linga Fiold, and Cairn 1 at Bu Farm, Westray (Barber *et al.* 1996, 108), but none of this scale.

The material employed to create the surrounding stone arrangement is clearly redeployed building stone derived from the fourth millennium cal BC houses that were revealed in Trench B (see Fig. 4.10). By the second millennium cal BC these buildings would have appeared as misshapen low mounds of collapsed masonry. In being an origin point, both temporally and spatially for the two linear groups of barrows forming the Knowes of Trotty cemetery, it will be argued below that the employment of this material from the Early Neolithic dwellings was highly strategic (Section 4.8).

The stone core of Mound 1 was covered and sealed by a clay capping c. 0.8m thick, comprising layers of redeposited yellow glacial clay. In the west side of the trench four distinct bands of clay were visible (198; 197; 196; 108). The clay capping appears to have been placed over the cairn material fairly quickly as there were no signs of micro-lamination or compaction and trampling present in the micro-morphological sample sequence, and boundaries between contexts were generally diffuse or not discernible (McKenzie: Appendix 25). These features suggest rapid activity to cover and clad the stone arrangement in clay, rather than it being carefully applied in layers. Significantly, the boulder clay capping included a certain degree of mixing of blown fuel residues, burnt soil and crushed pottery fragments and, in places, lignified tissue and fungal spores. These elements clearly relate to where the clay was quarried, which in all probability was local to the cemetery given the pre-barrow Neolithic habitation. With this clay capping, when completed, Mound 1 stood as a large yellow barrow, placed centrally on the flat-topped glacial mound, surrounded by a prominent stone kerb of greyish–white stone.

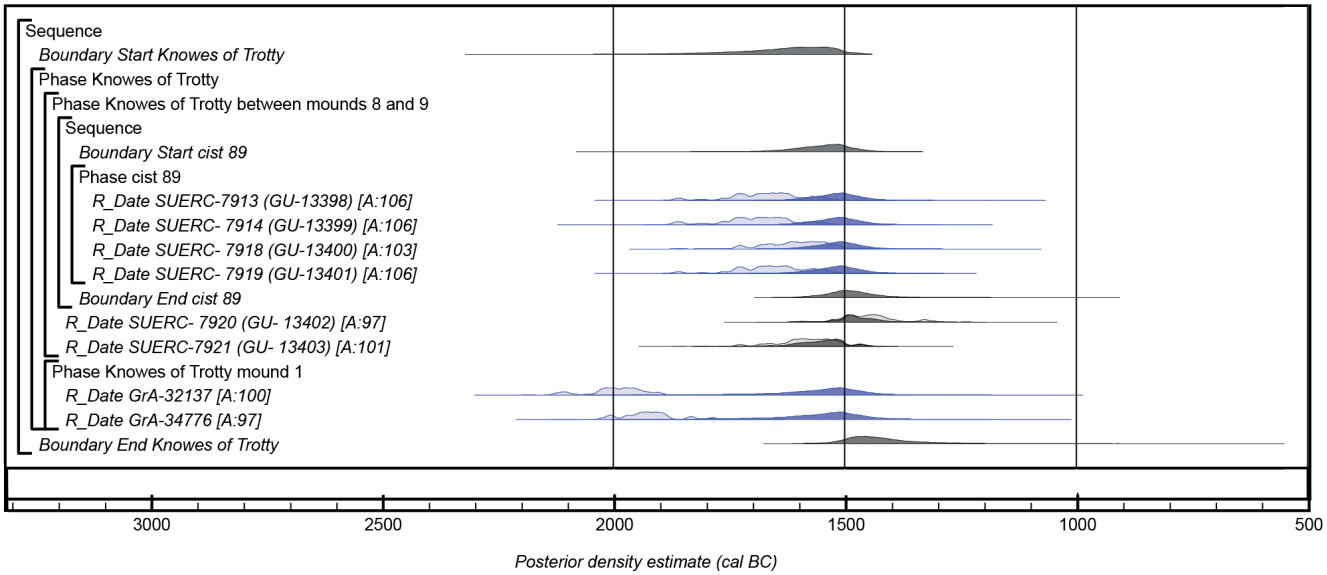


Fig. 4.24 Knowes of Trotty radiocarbon results as part of the overall analytical approach taken for results from burials associated with barrows. Results shown in blue are measurements on cremated bone, grey are on charred plant.

Table 4.3 The radiocarbon determinations from cremated bone, Mound 1 cist. The dates have been calibrated using OxCal 4.4 (IntCal13 atmospheric curve) and rounded to the nearest decade.

Site name	*Lab code*	*Material sampled*	*Context*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
Knowes of Trotty Mound 1	Gr-A 32127	Cremated bone	Cist fill	3625±35	2130–1890
Knowes of Trotty Mound 1	Gr-A 34776	Cremated bone	Cist fill	3575±35	2030–1770

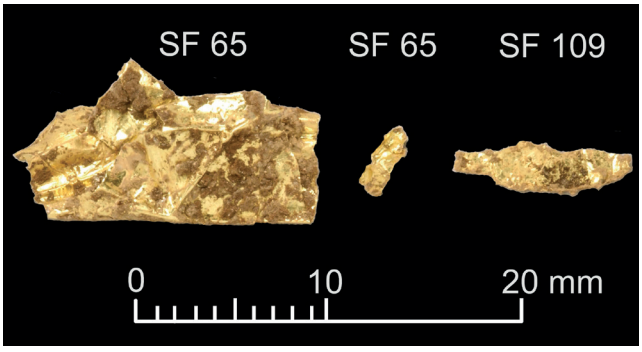


Fig. 4.25 Fragments of decorated gold foil (SFs 65 and 109) discovered in the central cist during the 2005 excavations (© National Museums of Scotland).



Fig. 4.26 The amber prismatic objects from Knowes of Trotty (© National Museums of Scotland).

4.5 A death house at the Knowes of Trotty: Trench E

Some 40m north-east of Mound 8, *Anomaly 13* was of particular interest as it was situated on a low glacial knoll and centrally placed within a curious gap in the eastern alignment of barrows (Figs 4.4 and 4.5). The geophysical anomaly was composed of two arcs of high magnetic readings, both positive and negative (Figs 4.6 and 4.7). Together these produced a sub-circular shape strongly resembling a small building. The presence of a possible building in this central position at Knowes of Trotty recalled the discovery of the death house (Structure 1) at the Linga Fiold cemetery which assumed an analogous position within the cemetery (Section 5.9.5.1). To investigate the anomaly further, in 2002 a small trench (Trench E), orientated north-west–south-east and measuring 4 × 1m, was positioned over the southern arc of the anomaly. This was subsequently extended by a 1m square to the north-east (Fig. 4.29). Excavation revealed a band of yellow–grey clay containing angular stones



Fig. 4.27 Mound 1: view of the stone cairn material from the north-east.



Fig. 4.28 The ruined remains of a probable mortuary or death house were uncovered on a knoll in Trench E. The slightly concave inner wall-facing stones can be seen on the right, while the outer wall face has been robbed or displaced as it lies on sloping ground.

(034) running approximately east–west across the trench, bounded on the north side by an incomplete arc of four large stones (033), with the imprint of an additional stone remaining (Figs 4.28 and 4.29). This is a typical Neolithic and Bronze Age construction technique with a clay wall core being faced either side with masonry. In this instance, the remaining stones form part of the inner wall facing with the outer face being either robbed or displaced as it was built on a downslope and had been heavily truncated by a track. Elsewhere, the circuit could be traced by stones protruding through the heather and grass.

Admittedly, the trench and area examined were small, but since no central hearth feature showed on the gradiometer survey (Fig. 4.6), nor was any midden material discovered, this seems a good candidate for a mortuary structure as was present at Linga Fiold. Supporting evidence comes in the form of the location of this building; not only does it assume a central position in relation to the eastern alignment of barrows but intriguingly corresponds to a gap

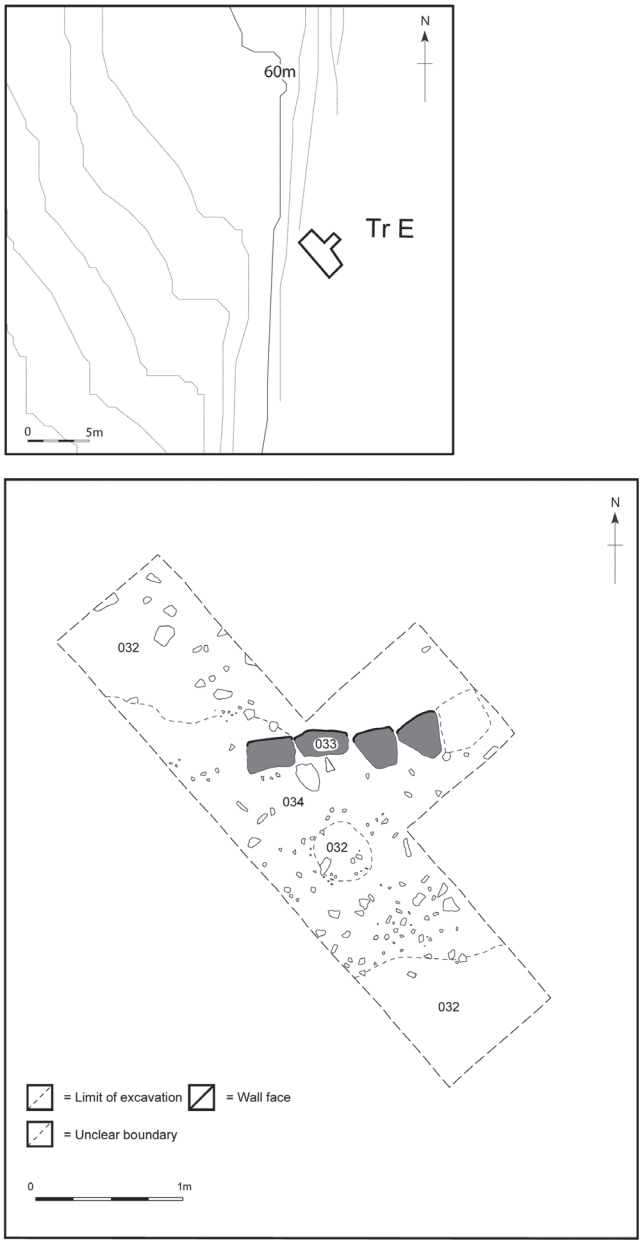


Fig. 4.29 Location and plan of Trench E.

in this linear arrangement (Fig. 4.7), almost providing a pivotal point between the southern and northern sections. Indeed, this gap is itself curious as it is not a consequence of unsuitable topography. A broader discussion of mortuary or death houses is presented in the next chapter (Section 5.9.5.1) but given the practice of cremating the dead within the confines of the Knowes of Trotty (see Section 4.7) and Linga Fiold cemeteries (Section 5.13.2), storing the body for any length of time beyond the settlement was always going to be a serious concern. Here lies the need for such a containing building which may have stored the corpse not only for a period of time before cremation, but also the cremated bone after the event.

4.6 Between the barrows

Geophysical survey at the Knowes of Trotty revealed many magnetic anomalies between the visible mounds demonstrating that extensive activities had occurred beyond the barrows (Fig. 4.7). Investigation of a number of these anomalies was undertaken in 2002 to determine if flat grave groupings and pyre sites were also a feature of this barrow cemetery as occurred at Linga Fiold (Chapter 5) and Gitterpitten (Section 6.3).

4.6.1 The cremation burial cists in Trench F

A trench (Trench F) measuring 3 × 2.5m (Figs 4.30 and 4.31), was opened between Mounds 8 and 9 where a large irregular-shaped area of high positive and negative magnetic anomalies (16–19) occurred to the south of the line of Mounds 12–15 (Figs 4.5, 4.7 and 4.30). Excavation revealed a dense concentration of seven cremation deposits in four cists (055, 056, 059, 089) and a pit (054). Five of these were fully or partially excavated, but two further likely cists; one (058) indicated by orthostats forming two sides of a box structure to the west of cist (055), and the other represented by a large capstone (098) at the west end of cist (056), remained unexcavated (Fig. 4.31). In the excavated cists there appeared to be no relationship between the size of the burial deposit and the number of individuals within it, for example, the largest deposit in Cist (089) contained the cremated remains of only one individual while the smallest, Cist (056), contained three individuals.

After removing the turf, the cist uprights became visible, surrounded by areas of horizontal flagstone paving (096 and 097) amidst thin spreads of redeposited clay (046, 047, 048, 052 and 053) which simply represent the variability of a single context (Fig. 4.32). The paving lay on a hard compact surface deposit (086) overlying a natural podsolised



Fig. 4.30 View of Trench F from the south being excavated, with the good dog Finn in the foreground and Netherhouse Farm in the distance.

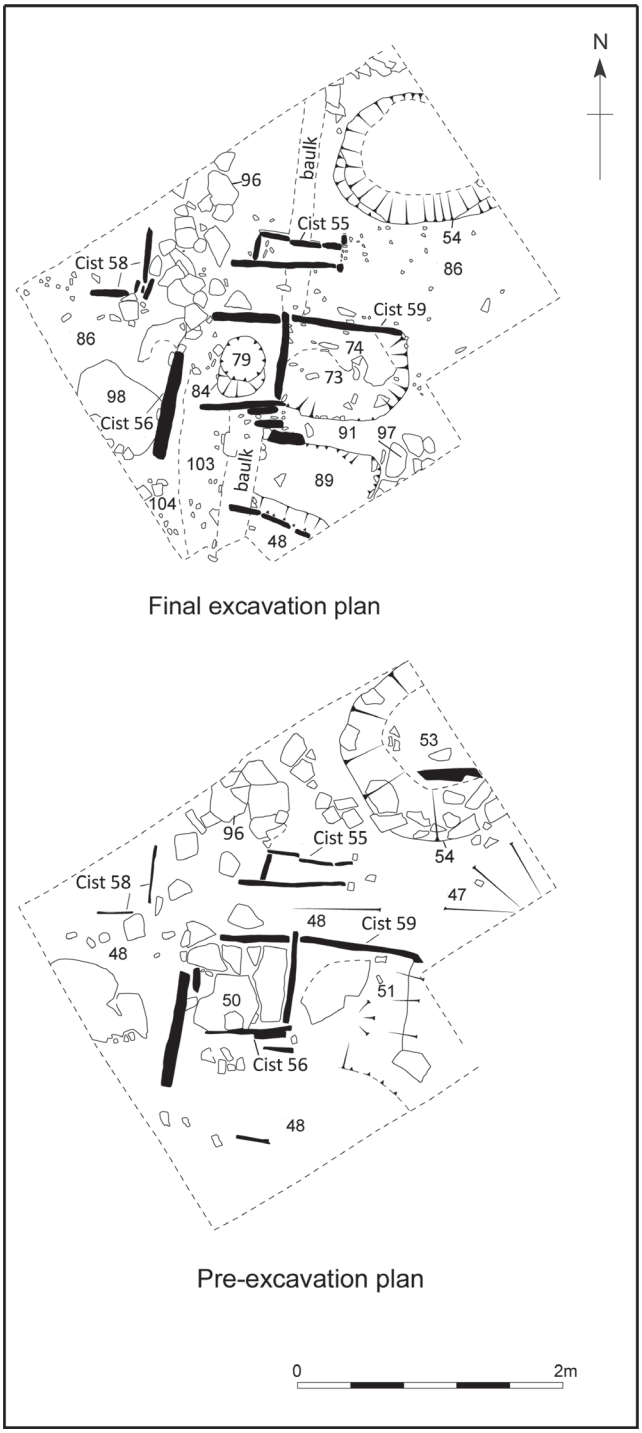


Fig. 4.31 Pre- and post-excavation plans of Trench F.

grey clay layer (083) which in turn overlay natural boulder clay. It was clear that all the features were inserted from the compact surface (086). Fragments of cremated human bone were present within the clay layer (048), one piece being identified as an adult of unknown sex (Table 4.4; Roberts: Appendix 3). A small, 'pristine' polished stone axe of soft micaceous siltstone (SF 15, Fig. 4.34) was also retrieved



Fig. 4.32 The cists in Trench F were surrounded by flagstone paving (096) and (097).

Table 4.4 Summary of identified minimum numbers of individuals (MNI), age and sex recovered from contexts in Trench F.

Feature	*MNI*	*Age and sex*
Cist 089	1	Young adult female
Cist 059	3	1 Young adult unknown sex, 1 child aged 8–12 years, 1 young infant
Cist 056 & Pit 084	3	1 Adult unknown sex, 1 infant aged 6–12 months, 1 child/adolescent aged 9–15 years
Cist 055	1	Adolescent aged 12–15 years
Pit 054	1	Young adult unknown sex
Layer 048	1	Adult unknown sex
Total MNI	10	

from within the same clay, to the west of Cist (056). This axe is very similar in size, form and condition to that found at Mousland, Stromness, which was likewise positioned at the side of a cist (Fig. 1.6; Clarke: Appendix 16; Downes 1994, 144–5). Two flint flakes (SF 17), one of which was burnt, were also recovered from the clay spread (048) (Wickham-Jones: Appendix 18).

One cist (055) was spatially separate, while to the south the remains of three further cists (056), (059) and (089), were positioned more like compartments (Figs 4.32 and 4.35). This group appeared to be of unitary construction with a series of orthostats set in a single large hollow that was cut through layer (086) into the glacial till. Some of the orthostats formed the wall of more than one cist (Figs 4.31 and 4.35). Neither Cist (059) or (089) was fully defined by orthostats. However, the vertical sides of the cuts, together with vertical choking stones at the east end of Cist (089), and a shallow linear cut parallel to the south side suggest that originally each had been stone-lined, with some uprights having been robbed.

Table 4.5 Summary of amounts of cremated bone (g), cramp (g) and fuel-type within the four cists (055), (056), (059) and (089), and two pits (054) and (084).

Feature	*Contexts*	*Cramp*	*Fuel (pieces)*	*Cremated bone*
Pit 54	53	2.45	Weed × 2 Burnt peat × 13 Rhizomes × 6	4.1
	61	0.98	Weed × 5 Rhizomes × 28 Burnt peat × 200+	48.3
	62	0.46	Weed × 5 Burnt peat × 500+ Rhizomes × 2 *Calluna* × 2	10.3
	64		Burnt peat × 3	0.2
Cist 55	85	2.97	Burnt peat × 1 Rhizome × 1	9.6
Cist 56	75	7.89	Weed × 2 Burnt peat × 96, × 116 Rhizomes × 2	1.3
	76	0.99	*Calluna* × 1 Burnt peat × 20	4.2
	77	0.15	Burnt peat × 2	0.3
(Pit 84)	79	1.01	Burnt peat 100+	1.98
Cist 59	51	22.2	Burnt peat 17	16.23
	71	4.44	Burnt peat 21	10.05
	72	6.77	Burnt peat 40+ *Calluna* × 3	42.75
	73	7.41	Burnt peat 64 *Calluna* × 3	28.01
	67	7.4	Burnt peat 35	4.3
	74	10.6	Burnt peat 7	28.2
Cist 89	90	99.84	Cereal/poacaea × 4 Weed seeds × 39 Burnt peat × 137 Rhizomes × 17 *Calluna* × 31	210.7
	92	81.84	Cereal/poacaea × 40 Weeds seeds × 36 Burnt peat × 96 Rhizomes × 16 *Calluna* × 28+	83.9
	95	21.4	Cereal/poacaea × 4 Weed seeds × 16 Burnt peat × 137 Rhizomes × 10 *Calluna* × 2	113.4

Cist (055) was oriented east–west and measured c. 0.6m in length while the width tapered from c. 0.2m at its west end to c. 0.1m at the east. The southern side was formed by a single upright slab while the north side comprised three smaller separate slabs. The west end of the cist was a single slab while the east end was open but embellished with two small stones at right-angles to the sides of the cist. The upper fill (049) contained small amounts of burnt peat and cramp (Fig. 4.33; Table 4.5). The deposit (085) towards the bottom of the cist included calcined human bones (unfortunately, the age and sex of the cremated individual(s) were unidentifiable), together with pyre material represented by the fragments of burnt peat, rhizomes and cramp. Birch charcoal was also present in small amounts (Section 7.4.4).

Cist (056), c. 0.6m square, was the most complete and complex of all the cists with all four stone sides intact. The cist was covered and sealed by two superimposed capstones. Sandwiched between the capstones was a thin ashy deposit (068) which contained cremated human bone, cramp and burnt peat (Fig. 4.33 and 4.,37). One of the fragments of cremated human bone was part of a tooth from a child aged between 9 and 15 years. Beneath the lower capstone (070), in the upper ashy fill (075), was a rectangular block of very friable burnt peaty turf (SF 16), together with smaller fragments of burnt peat, occasional macrofossils (from heath habitats), cramp and cremated bone (Sections 7.4.4 and 7.4.6). Among the latter were two fragments identified as deriving from an adult (possibly female). Also present were fragments from a 'juvenile', a 'probable juvenile' and two tooth fragments from a child aged between 9 and 12. The middle fill (076) contained three cremated fragments of an infant long bone (Roberts: Appendix 3). At the centre of the cist floor, sealed beneath the thin lower fill (077), was a sub-circular pit (084), c. 0.3–0.4 m in diameter and filled by ashy soil (079) (Figs 4.31, 4.33 and 4.36). This fill contained fragments of burnt peat and further fragments of cremated human bone (Tables 4.4 and 4.5). One of the bone fragments was from the developing crown of a mandibular molar, indicating an age at death of between 8 and 12 years, and another fragment may have come from an adolescent. Accepting that the age categories 'juvenile', 'probable juvenile', and the various age categories around 9 and 12 years, may all relate to the same individual, there are still a minimum of three people represented in this cist: one adult, one juvenile and one infant. Of further interest is that the teeth of the child (9–12 years old) were present throughout the fill and also sandwiched between the two superimposed capstones, demonstrating that the contents were deposited in a single event (Roberts: Appendix 3).

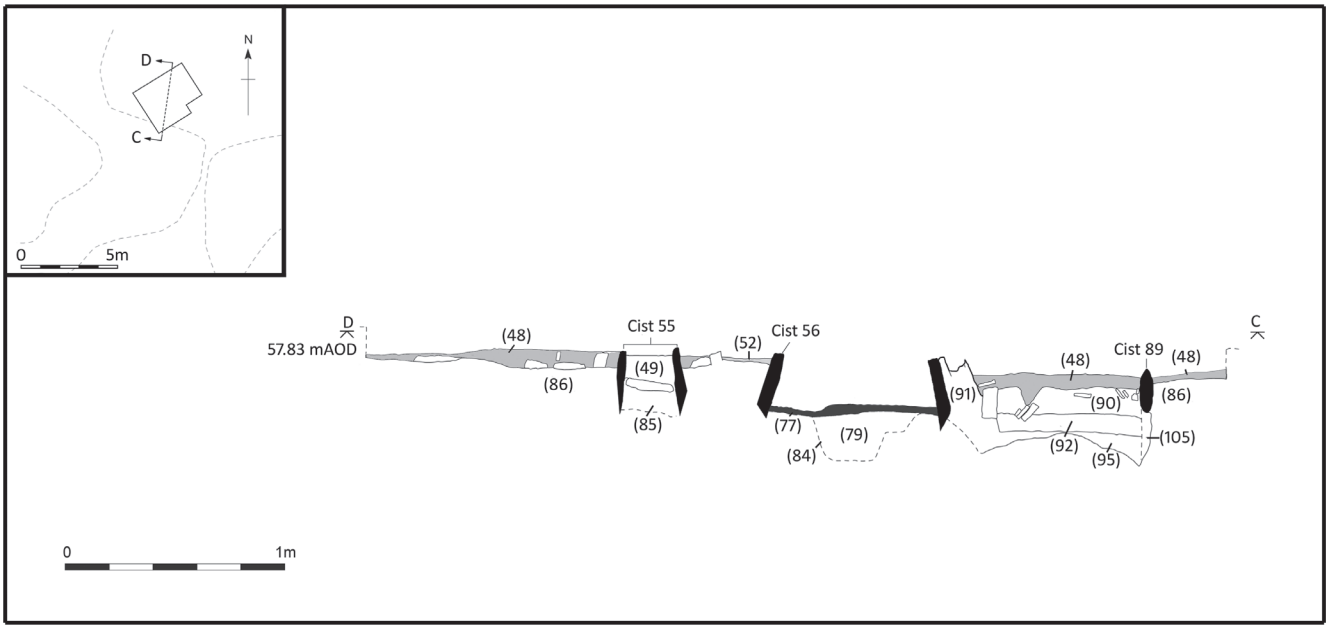


Fig. 4.33 Knowes of Trotty Trench F, west facing section through cists (055), (056) and (089).

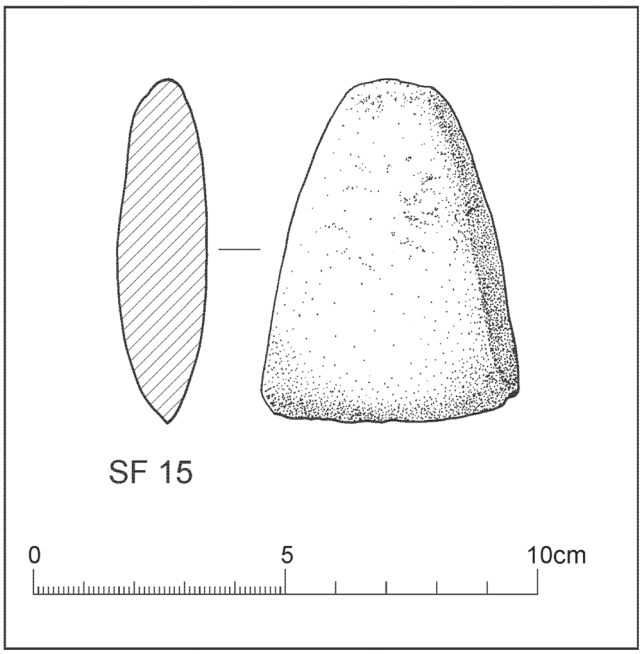


Fig. 4.34 A finely ground axe of micaceous siltstone was discovered in the clay spread (048).

Cist (059) adjoined cist (056) to the east, and measured c. 0.8 × 0.55m. It was filled with several dark layers; upper fills (051 and 071), and lower fills (072, 073, 074), with a dark ashy basal layer (067), (Fig. 4.37). All the fills contained cremated human bone, cramp and burnt peat, with the lower fills, (072 and 073) containing more bone than the upper fills (Tables 4.4 and 4.5; Section 7.4.4). Surprisingly, given the non-waterlogged environment, a quantity of uncarbonised bark fragments were present in one of the upper fills (071) of the cist. Cremated human bones in this cist were derived from a young adult, probably female, a child or adolescent aged 9–15 years and a young infant up to 3 years old (Roberts: Appendix 3). The similarity of the cremated human remains between cists (055) and (059) both in number of individuals (three) and age (adult, juvenile and infant), is likely to be the remains of a multiple person pyre being split between the two cists.

Cist (089) measured c. 1.4 × 0.55m and lay south of cists (055) and (056) (Fig. 4.31). Only the east half was excavated and was found to be filled with a homogeneous ashy deposit, which was removed in three spits (090, 092 and 095). Within the fill, cremated bone was the most abundant material with burnt peat and cramp also present in quantity (Tables 4.4 and 4.5). All the identifiable cremated bones retrieved from this cist could have derived from a single young adult, probably female. The charred plant samples were found to be full of ling heather (*Calluna* sp.) fragments and rhizomes, derived from heathland (Section 7.4.4). There were also more cereal grains, stem fragments and weed seeds in this deposit than in any of the other sampled contexts (Alldritt: Appendix 21). Overall, this deposit is different from the other cremations in several ways. It contains more identifiable cremated bone than do the other sampled contexts (Tables 4.4 and 4.5). It also contains greater numbers and types of charred plant remains, including



Fig. 4.35 View of Trench F from the east. To the left of the scale, the three cists or compartments (056), (059) and (089) were clearly built as a single unit.



Fig. 4.36 View from the west of sectioned pit (084) in the base of cist (056). Cist (055) can be seen to the left.

remains of cereal and grass stem; and greater amounts of weeds from cultivated land and heathland, which may indicate fuels gathered from different locations were being used for the cremation pyre. The cist appeared to contain an unsorted, homogeneous cremation deposit, and unlike other cist contents no washing or sorting of the pyre debris appeared to have occurred. In terms of the weight and fragment size of the cremated bone, the burial deposit had greater completeness, in terms of proportions of elements from the different areas of the skeleton.

An oval-shaped Pit (054), c. 1m wide and 0.4 m deep, was discovered in the north-east of the trench, being part-sectioned on its east side by the trench edge (Figs 4.31 and 4.37). As with the cists, the pit was oriented east–west, and on top lay a large, narrow prostrate slab, perhaps originally intended as a grave marker, as also occurred at Gitterpitten

(Section 6.3.1.1). Redeposited natural clay (053) sealed the pit which contained a small amount of burnt peat and rhizomes, two charred seeds from weeds of pasture (*Plantago lanceolata*), and small quantities of cremated human bone and cramp (Table 4.5).

On excavation the pit was found to be steep-sided and flat-bottomed with two curious grey–brown fills (087) and (088) running around and vertically down its sides. The fills were sterile and contained no botanical evidence, nor any artefacts. These deposits are almost certainly a fill formed around some form of organic container holding the cremation. Lined by these two vertical deposits, were four layers (Figs 4.31 and 4.38). At the top a red–black ash fill (061), c. 0.9m thick overlay a thin band of clay (063). Below the clay band was a second thick black ashy deposit (062), c. 0.08m in thickness, which overlay the basal fill (064). This contained a small amount of unidentifiable human bone, together with a small quantity of burnt peat

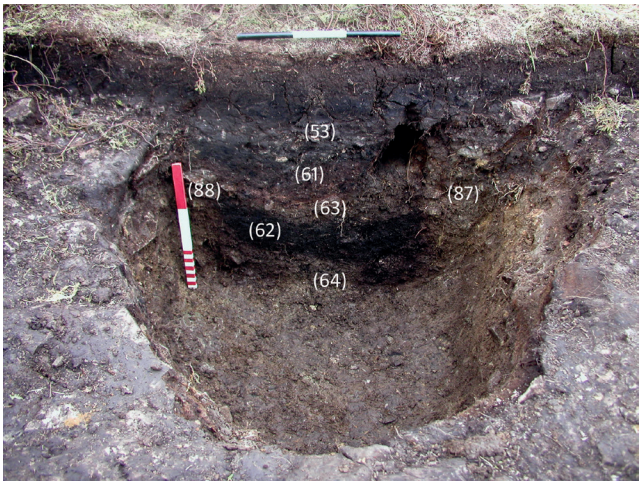


Fig. 4.38 South-west facing section of pit (054). Note the vertical edges of fills (087) and (088) which may have formed around some form of decayed organic container.

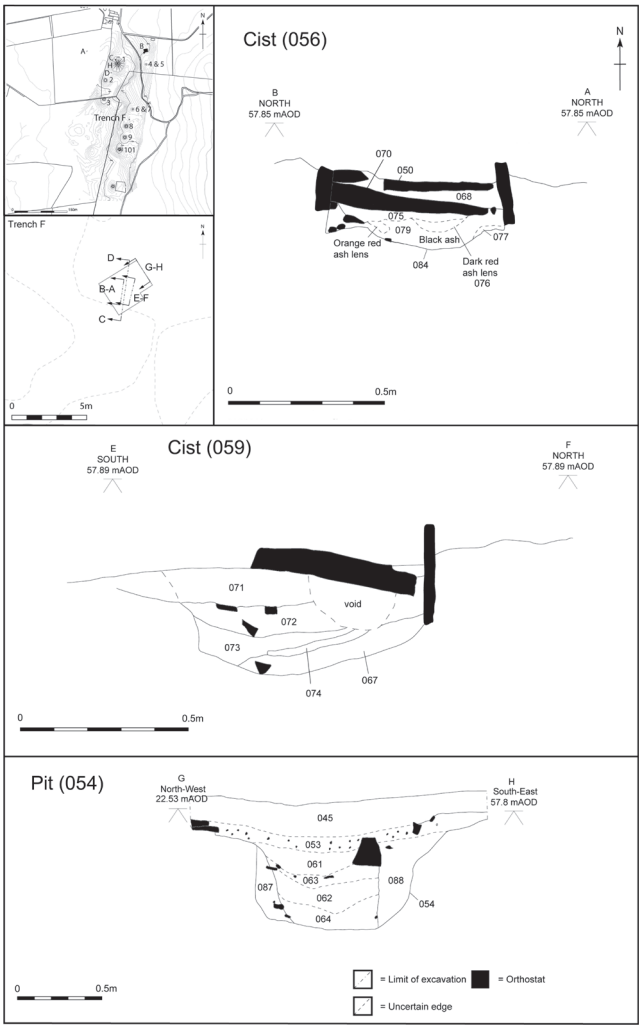


Fig. 4.37 Section drawings of Cists (056: west-facing), (059: west-facing) and Pit (054: south-west-facing).

(Table 4.5). The human bone recovered from the upper fill (061) yielded no information on age or sex, but the lower black ashy fill (062) contained a fragment of mandibular incisor root from a young adult. No wood charcoal was recovered but significant volumes of burnt peat indicate the employment of peat cut from the hillside being employed as fuel for the pyre (Table 4.5).

Overall, the presence of four cists and a substantial pit in such a small trench provides some insight into the potentially high number of cist burials lying between and beyond the identified barrows at Knowes of Trotty. Not only were deposits of cremated bone discovered in each cist but analysis of the charred plant remains revealed the large pit (054) to contain dumped pyre deposits.

4.6.2 Trench D: the rock-cut pit

Trench D was opened to investigate one of a number of distinct high magnetic anomalies scattered in the area between Mounds 1 and 2, extending to the west and the north-east of Mound 1. The trench was located on one of these anomalies lying approximately half-way between Mound 1 and Mound 2 (Figs 4.5 and 4.7); it measured 2 × 2m and was aligned north-north-east by south-south-west. Excavation revealed part of a sub-triangular rock-cut pit (015), about a metre across, and c. 0.4m in maximum depth. After removing the topsoil, the uppermost layer (014) contained medium-sized flat slabs that tilted into the pit. Below this were two ashy secondary fills (023) and (022) overlying a basal silty layer which also contained traces of burnt soil (027). The base of the pit sloped down into the eastern baulk (Fig. 4.39) Two flaked mattocks (stone bars SF 3 and SF 26; Clarke: Appendix 16) were recovered from the basal layer (Fig. 4.40), which may have been employed to strip areas of turf.

*Table 4.6 Radiocarbon dates from cremated bone in Knowes of Trotty Cists (089) and (055), and Pit (054) in Trench F, and cereal grain (*Hordeum vulgare*) in pit-fill (022) Trench D.*

Site name	*Lab code*	*Material sampled*	*Context*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
Trench F Cist 89	SUERC-7913 (GU-13398)	Cremated bone	90	3380±50	1780–1520
	SUERC-7914 (GU-13399)	Cremated bone	90	3395±50	1830–1600
	SUERC-7918 (GU-13400)	Cremated bone	95	3330±50	1740–1500
	SUERC-7919 (GU-13401)	Cremated bone	95	3370±50	1780–1520
Trench F Cist 55	SUERC-7921 (GU-13403)	Cremated bone	85	3305±50	1700–1490
Trench F Pit 54	SUERC-7920 (GU-13402)	Cremated bone	61	3175±50	1540–1310
Trench D Pit-fill 22	SUERC-7922 (GU-13404)	Cereal grain: *Hordeum vulgare*	22	3465±50	1920–1660



Fig. 4.39 View of the portion of pit (015) excavated in Trench D. Note the rock-cut base angling down into the eastern baulk.

Although the layers filling the pit appeared ashy, in contrast to other areas of the site associated with cremation the samples taken from these contexts did not contain any cremated bone, charcoal or cramp nor any fragments of burnt peat. However, a single charred grain of *Hordeum vulgare* was recovered from layer (022) which produced a radiocarbon date of 1880–1730 cal BC (Table 4.6). This pit is therefore part of the activity occurring at the cemetery and overlaps slightly with the dates obtained from the cremation in the Mound 1 cist (but note the latter may be affected by old wood/peat effects: Griffiths: Appendix 28). The grain of barley, as with those from the cist in Mound 1 indicates the presence of processed crops in the vicinity, perhaps relating to feasting or offerings. Because only a portion of this pit was excavated it is difficult to interpret function, and although the fills contained burnt material, it is not that expected from pyre debris. The sloping nature of the pit bottom is also curious. It is possible that this may be the corner of a cist-cut but again these tend to have more regular shape and are better defined. However, flaked stone bars are deposited at burials and barrow sites (Clarke 2006) and are on occasion cached (Downes 2009).

4.7 Cremating the dead at Knowes of Trotty: Trench G, an elevated pyre site

One of the prominent glacial mounds in the eastern line of barrows, to the south of Mound 10, had never been recorded as a barrow despite being situated along the eastern barrow line between Mounds 10 and 11. This is puzzling as it was among and in line with the glacial features which had been utilised to give the barrows greatly enhanced prominence (Fig. 4.42). Interest was further raised when the magnetometer survey revealed very high positive anomalies (*Anomalies 30* and *24*) on the summit of the glacial mound and on its north-east side (see Fig. 4.7) In order to investigate whether the mound was actually a small unrecognised barrow, a trench 2 × 2m (Trench G), was opened to correspond with the anomaly on the summit. The peat topsoil was extremely shallow and after its removal a compact surface of brown/grey clay containing flat slabs (043) was encountered (Fig. 4.41). This rough paving appeared a little similar to that found around the cists in Trench F (Fig. 4.28). In the south-east half of the trench the edge of a very large shallow-sided scoop (069), c. 0.4m in depth, was exposed, of which a small section was excavated (Figs 4.41 and 4.42). Judging from the slight curvature of the scoop exposed in the trench we can estimate a rough diameter of over 4m, which is a substantial hollow dug into the top of the glacial mound.

The silty fill (044) of the hollow was very distinctive in being very ashy and darkly coloured. Amongst the ash was a large proportion of burnt and vitrified stones with cramp adhering to them. Although no carbonised remains or burnt bone were recovered from soil samples taken within the small, excavated area, this burnt deposit is clearly the debris from substantial burning events consistent with successive

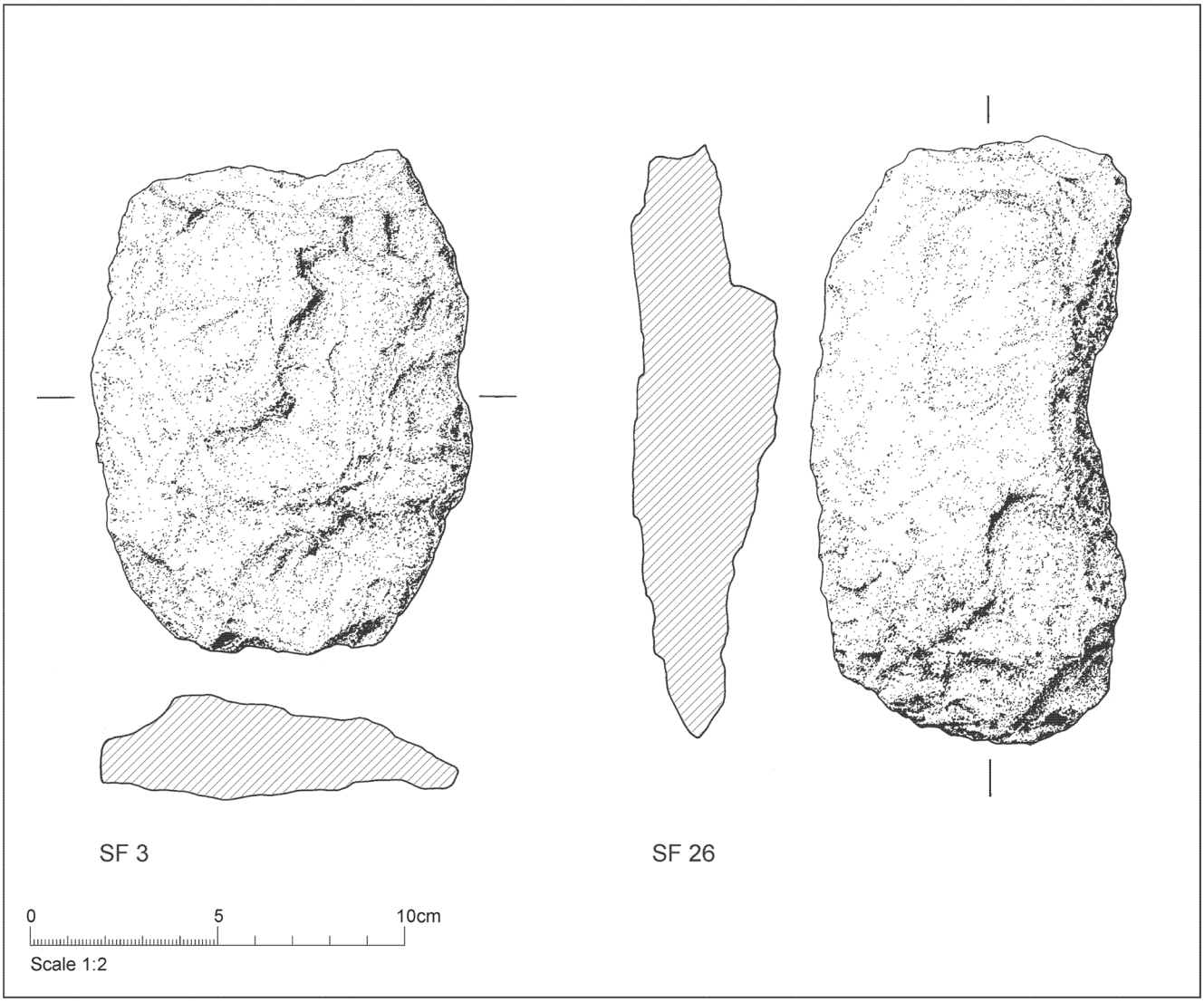


Fig. 4.40 Flaked stone bars SF 3 and SF 26 from Trench D.

cremation pyres. In size, the burnt stones varied from chips to larger flagstones and blocky lumps. Due to the intense heat that the pieces of siltstone and sandstone had been exposed to, their surfaces were not only blackened and reddened but some had actually melted, becoming vitrified (Fig. 4.41). Even though a very small part of the scoop was excavated a large quantity of additional loose cramp was recovered, totalling 277.55g. This weight of cramp is almost as much as that found from all the burial features in Trench F combined, which is 286.52g (Table 4.7; Section 7.4.6). Given the small area examined at the edge of what is likely to be a massive shallow hollow, the absence of cremated bone is unsurprising. Of course, the amounts of cremated bone remaining at a pyre site will vary according to the care taken in sorting through and collecting bone from the burnt material (see McKinley 1997a, 142).

Table 4.7 Cramp from all features at the Knowes of Trotty (see Section 7.4.6).

Feature	*Trench*	*Contexts*	*Cramp weight (g)*
Cist 89	F	90, 92, 95	203.08
Cist 55	F	85	2.97
Pit 54	F	53, 61, 62	3.89
Pit 59	F	51, 67,71, 72, 73, 74	66.22
Cist 56	F	68, 75, 76, 77	9.35
Pit 69	G	44	277.55
Pit 84	G	79	1.01
Topsoil			59.52
Wall core	B	57	32.0
Total			655.59



Fig. 4.41 View of Trench G from the east showing excavated slot through ashy soil (044).

Cramp can form at between 650°C and 850°C, which are temperatures that can be easily achieved and maintained over long periods of time (see Section 7.4.6.1; Photos-Jones: Appendix 27; Photos-Jones *et al.* 2007, 19–20). So, the production of the burnt material recovered from scoop (069) is easily produced during the prolonged temperatures necessary for cremation of up to and over 1000°C (e.g. McKinley 1997a, 134). Furthermore, this material clearly derived from high temperature *in situ* burning events within the hollow as the bedrock was heavily scorched and discoloured (Section 7.4.6; Photos-Jones: Appendix 27).

Excavation of just a small portion of the burnt material and pyre residue from what appears to be a roughly 4m diameter scoop makes it difficult to be identify the complete range of cremation fuels with any certainty. Nonetheless, an absence of carbonised remains in the excavated fill (044) is considered by Photos-Jones (Appendix 27) to corroborate the argument that the fuel for the cremation pyre was mainly peat and turf, with the possible inclusion of seaweed. It has even been suggested that not only was seaweed possibly 'spread in a thick layer over stone slabs', but also a layer 'may have covered the body as well' (Photos-Jones *et al*. 2007, 19).

In summary, Trench G was positioned due to the presence of geophysical Anomalies 24 and 30 (Fig. 4.7), occurring on a substantial glacial knoll. Because this knoll continued the alignment of large Mounds 8, 9 and 10 running roughly north–south (Figs 4.4 and 4.5) it seemed a good candidate for an unrecognised barrow within the Knowes of Trotty cemetery. However, no barrow was discovered, instead a large pyre site occupied this summit. The act of cremation is acknowledged as highly performative; a spectacle being in many cases the main event in the mortuary process (Chapter 7; Downes 1999a; Oestigaard 2004; Sørensen and Bille 2008). In this respect, the selection of the summit of a substantial knoll reserved for cremations within the precincts of the cemetery is an obvious place, confirming both the drama of the burning pyre and the close linkage between pyre and burial (Fig. 4.43).

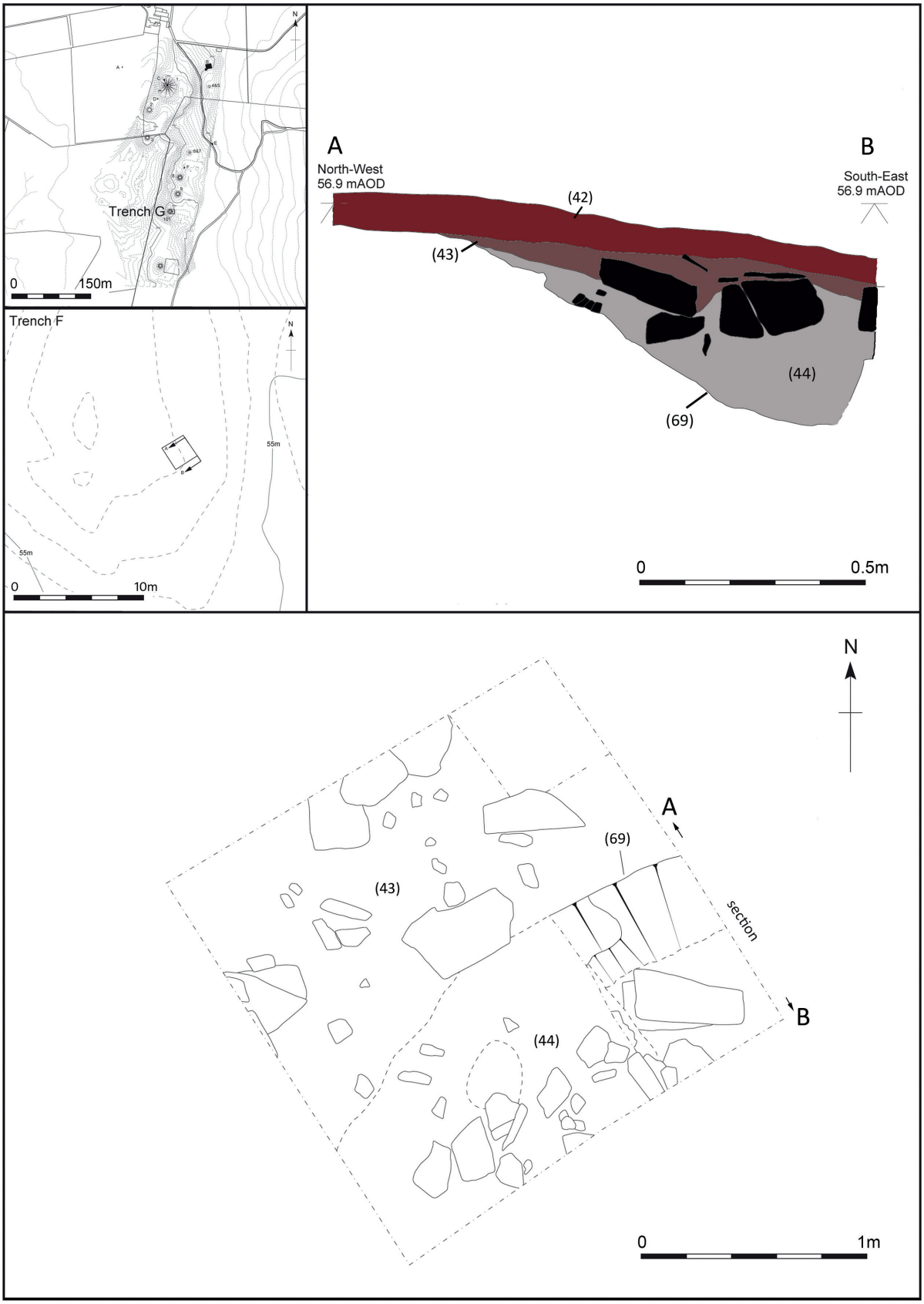


Fig. 4.42 Plan and section of cut (069) in Trench G.

4.8 Knowes of Trotty: the anatomy of a cremation cemetery

Biological death need not mean that a person is culturally dead and the interruption or slowing down of the mortuary process can be a powerful means of control. This was argued in the last chapter to be a function of the Orcadian unobtrusive accessible cists, that we can now identify in substantial numbers. In conjunction with wrapping the corpse, it was suggested that storage strategies as manifest in the architecture of the accessible cist, retarded and concealed the dissolution of the relational person. Hence, while biological death may well have marked the separation of the deceased from the living, through strategies of storage and containment the mortuary process was interrupted thereby delaying the severing of social connectedness.

As will be discussed further in the final chapter, the introduction of cremation had the opposite effect in the rapid destruction and immediate dissolution of the body. This new practice immediately created a redundancy in the accessible cist as a technology of storing the dead and delaying bodily dissolution. The corollary of this redundancy is interesting to follow because there is a period of time when the cremated body appears to be treated in the same manner as the inhumed body (cf. Sørensen and Bille 2008, 257; Sørensen and Rebay 2008, 62–3). For example, cremation deposits are inserted into older unobtrusive accessible cists such as Werne 1 and 2 (Fig. 3.42; Hedges 1980, 52–3), Sandfiold (Fig. 3.43; Dalland 1999, 382–3) and Kewing (Figs 3.44 and 3.45; Ballin Smith 2014, 91–9), Cranit West (Fig. 3.46; Ballin Smith 2014, 30–3) and Redland (Section 3.3.2). But slowly, from this point on, we see changes in the architecture and spatial organisation of the funerary process. Cists become smaller and are no longer constructed to be accessible, for example, Werne 3 (Hedges 1980, 53–4) and Lower Ellibister (Hedges 1980, 55–6). After a brief period of remaining as subterranean structures, cists come to be built above ground as free-standing stone boxes. Ultimately, they are sealed and contained within an earthen mound or cairn. In this changing burial strategy we see the reconstitution of the cremated person in what Strathern has called 'the persons of others' (1996, 527), however now these persons are not of the living. Indeed, it is in the context of interment in barrow cemeteries as a visible and monumental form of architecture that relationships in the



Fig. 4.43 View from the south of the glacial knoll on which a large pyre site was discovered in Trench G. Mounds 10 and 9 are visible directly behind the knoll and Mounds 3, 2 and 1 can be seen to the left (Sue Dyke).

'persons of others' move away from those of the living to those of the dead.

This changing form of relationality is commonly recognised as a feature of single barrows and barrow cemeteries but expressed in terms of creating genealogical relations. For example, sequential burials within a single barrow have been seen as exemplifying some form of genealogical continuity where each burial is an attempt at renewing social relations 'and affinity with the dead' (Harding and Healy 2007, 216). The same has been argued for barrow cemeteries where 'lines of specific genealogical identity were constructed whose own origins then became fixed by mythological images of increasingly more distant times' (Barrett 1994, 127). This view encompasses two important issues, both of which are pertinent to the Knowes of Trotty.

The first is fixidity in relation to a mythologically distant past (Garwood 2007, 42–5). Humphrey Case recognised this many years ago when he identified the positioning of barrow groups at Stanton Harcourt, Oxfordshire, as relating to particular social groups claiming affiliation to the Devils Quoits henge monument (Case 1982, 111). A comparable situation is present in Orkney with barrow groups clustering around the Ring of Brodgar (see Chapter 8). But as opposed to having henge monuments or stone circles as the reference point which, although being several hundred years old at this juncture would not necessarily be seen as monuments of a distant past, at the Knowes of Trotty a more subtle relationship is being established with a deep and distant mythical past. Earlier it was observed that the Early Neolithic stone house discovered in Trench B (Section 4.3; Downes *et al.* 2016), would appear as a vegetated mound of stone debris. Accepting the constraints of topography, it is quite clear that this settlement mound formed the origin point for the two lines of barrows running in a southerly direction (Fig. 4.5). Without further excavations and dating evidence it remains inconclusive but certainly Mound 1 has all the ingredients of a founding barrow for the western alignment (Ritchie 1995, 90). Mound 4 is less impressive but is situated in a prominent position, so its role as a founding barrow for the eastern alignment is less certain.

There would be no remembered linkage between the inhabitants of the ruinous settlement and the barrow builders, and as such it was a place of myth. Hence, by aligning the mounds on such a place we see the materialisation of John Barrett's (1994, 127) idea of the dead being 'fixed by mythological images of increasingly more distant times'. At the Knowes of Trotty relational ties between the dead and mythical origins were now forged through spatial proximity, which brings us to the second point.

Linear arrangements of barrows have been more readily identified as materialising genealogical descent. The distinction between the relationship created by situating both Mounds 1 and 4 near the decaying 2000-year-old settlement and that between the mounds comprising each linear grouping could be characterised by Johnston's dual scheme of 'kinwork' and 'relations made across longer gaps of time' (2021, 81). The latter adheres to relatedness to a mythical past, while the former describes the highly strategic construction of a linear progression of barrows. Here, movement along or mere observation of the lines of barrows 'aligned on places that affirmed mythological origins … revealed timeless natural cycles' and 'the unassailable status and sacred identity of an elite descent group could be seen to be true manifestations of natural and cultural order' (Garwood 2007, 42). In short, each linear cemetery provided a 'physical expression of lineages and the stages for performing those lineages' (Johnston 2021, 83). But what did this performance involve, and how did it create the conditions necessary for reconstituting the relational person in who were no longer living? What was the journey of the dead at Knowes of Trotty?

4.8.1 Knowes of Trotty: journeys of the dead

The performance of initial mortuary rites is likely to have occurred within the house of the deceased, which falls within Sørensen and Rebay-Salisbury's (2023, 114) primary stage of the cremation process (see also Chapman 1994). Actually, we would see a blurring of this with their stage 2 (cremation) in the events occurring at the Knowes of Trotty. Certainly, the house and home are typically a place for a 'good death', and regardless of the place of death the body would be brought back to the person's place in the world which is also the material hub for social relations. But, because of the provision of a death house at the barrow cemetery, preparations of the corpse within the dwelling may well have extended and continued after the dislocation represented by the transportation of the corpse to the cemetery. The centrally placed death house uncovered in Trench E within the Knowes of Trotty cemetery (and Linga Fiold: Section 5.9.5.1), will have served as a place to store and prepare corpses before further rites were performed (cf. Downes 1999a). While the presence of mortuary buildings may lend weight to the proposal that the corpse was a pollutant to be kept at a distance from the living, it also continues the theme of storage and containment in anticipation of future transformation as seen in the earlier unobtrusive accessible cists (see Chapter 3). Significant steps to preserve the body for longer might have been taken if the cremation was to be delayed and, in some instances, the long dead may have been brought from an intermediate place of storage where they had been curated (see discussions in Chapters 3 and 8).

At some time after storing the corpse within the death house preparation for the funeral activities would begin at the cemetery. It is possible that the duration of storage could vary according to the social status of the deceased (see Downes 1999a), but perhaps more importantly is the timing of the cremation event contingent for strategic and practical reasons. For instance, one strategy for the reconstitution of

the cremated relational person may involve multiple cremations. Certainly, the size of the crematoria hollow discovered in Trench G is of a magnitude that would permit several pyres to be in operation at the same time. Indeed, this may indicate why it was dug on such a large scale.

Decisions would also have been taken as to whether a new barrow would be founded and, if so, its size and composition. This could have been contingent upon a number of variables, for example how, when and where a person died (a good or bad death, an auspicious day, season or place). Of greater significance could be the question of how the cremated remains could be strategically deployed, given the specific circumstances of death, to maintain or recreate relational order in the world of the living and the dead. Alternatively, the cremated remains may be destined to be interred at the edge of an existing barrow, or between specific barrows, as seen in the cists within Trench F (Section 4.6.1). Given the lack of information regarding interment in the other barrows at the Knowes of Trotty, it is impossible to know whether a choice existed between cremation or inhumation as the latter may have been dominant at this time. Nevertheless, undertaking the journey to the Knowes of Trotty death house probably demonstrated an intention for the deceased to be buried within the barrow cemetery, but interment within or adjacent to a barrow is a strategic decision requiring further consideration.

Clearly, the construction of a new barrow at the Knowes of Trotty was a complex affair due to the limitations of topography in conjunction with the desired position within the highly structured barrow cemetery. Consequently, this would almost certainly require considerable negotiation and compromise. For instance, a location for burial close to an important ancestor may well outweigh the prestige of being interred in a new visible barrow. However, for that to happen a degree of discussion and mediation would be required. Here, it is possible to recognise two elements. The first is the generative capacity of positioning a burial 'out of place'. This would entail a potent practical act that strikingly and visibly materialised any claimed revisions of genealogy. No amount of polemic would possess the same efficacy as manipulating the relational order by situating the recent dead in locations that physically reconfigure genealogical sequences. Second, what may archaeologically appear during excavation as small and insignificant cremation burials adjacent to, or between, large impressive standing barrows can be entirely deceptive.

Alongside these decisions, fuel for the pyre would need to be gathered, prepared and stored. Again, insufficient areas were examined within the Knowes of Trotty to be able to recognise variation in fuels, however, judging from the evidence obtained from Linga Fiold (Chapter 5) this may not have solely been a question of expediency as some such as timber were scarce, if not precious resources. Not only was the selection of the fuel type, for example, turf, peat, seaweed and timber, important in terms of the highly visual consumption of important resources, but the places from which it was obtained would be presenced through the fuel materials which had been brought to the site (see Section 7.4). The pyre would then be prepared.

At an appropriate time, the journey of the deceased from the death house to the pyre, which in the case of the Knowes of Trotty required moving in a southerly direction to the pyre site located in Trench G elevated on the summit of a glacial knoll (Fig. 4.44). The conveyance of the corpse, or pieces of corpses, to the pyre may have begun the spectacle that is cremation. With due care, the wrapped corpse was carried from the death house to the pyre. This is likely to have been a community event, and even if more secluded once the pyre was set afire the flames and smoke would have been visible over a wide area; a signal of the power to sacrifice and consume precious resources. Of all the ways to destroy a corpse in the open air, and transform the human body into fragments, cremation is the most visibly spectacular; it is indeed a highly sensory experience and

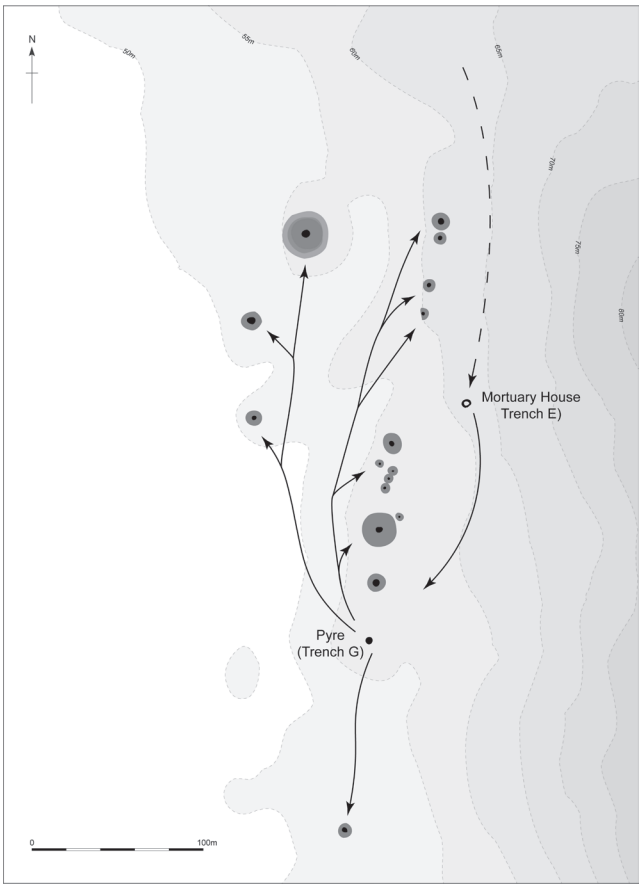


Fig. 4.44 Plan of the Knowes of Trotty showing the potential journey of the corpse from entering the cemetery and being stored in the death house to the pyre and then to a place of interment. The dotted line represents a possible route into the cemetery, although areas of habitation lay downslope to the west.

of great drama (e.g. Barrett 1994, 128; Garwood 2007, 37; Sørensen and Rebay-Salisbury 2023, 126). In an Orcadian context it is also generative in the creation of a new materiality; cramp is a viscous slag-like material formed through a fusion of the body fats, pyre fuel and underlying soil (see Sections 7.4.6.1; 7.4.6 and 8.4). As will be seen in examples throughout this volume, cramp is unsurprisingly treated in some interesting ways that are indicative of its special status as a new materiality or physical transmutation of the deceased person (cf. Sørensen and Bille 2008, 255). Such a quality may have been most evident when cramp was hot and a fluid 'living' substance. This new materiality also extends to the pyre debris itself (see Chapters 5 and 7; Brittain 2007, 147), but its ontological status is difficult to establish as it could equally remain 'a vibrant, perhaps unstable and malign material' (Johnston 2021, 89).

A receptacle for the collection of the cremated skeletal remains and cramp would have been prepared, probably a basket or pottery vessel, and once the corpse had been sufficiently destroyed, the fractured calcined bones and cramp were carefully picked out of the cooling embers. Frequently they were washed and cleaned, and there is some evidence that this material was in some instances returned to the death house and stored, awaiting the construction of a cist. At Queenafjold, Birsay, excavation of a barrow revealed a small deposit of cremated bone sealed below the basal slab of the central cist. This was subsequently found to contain a fragment of long-bone which conjoined with a piece from the cremation deposited within the cist, thereby demonstrating that in this instance the cist was built sometime after the cremation had occurred (Ritchie and Ritchie 1974, 34–5).

Whether before or after a cremation, once a site was selected a cist would be assembled. Certainly, with Knowes of Trotty Mound 1, the cist was positioned between two orthostats and propped up by the surrounding slabs. At many other second millennium cal BC barrows and cairns excavated across Orkney central cists were also free-standing structures (e.g. Ritchie and Ritchie 1974; Barber *et al.* 1996), these are often being assembled at some time before the mound was constructed (see Chapter 5). If not within a barrow, a construction pit would be dug into the natural till in which a cist would be built. At the Knowes of Trotty, stone for the cist would potentially be available at the ancient settlement to the north (not without consequence, as will be discussed below) or alternatively be quarried from outcropping flagstone. Finally, the cremated remains would be deposited within the cist, but rarely does this represent the entire remains of the body (see Chapter 7; Rebay-Salisbury 2010), an occurrence that has been offered as evidence for the partible, distributed person by Brück (e.g. 2006a).

Of particular interest is the manner in which virtually all mortuary practices are now contained within the cemetery (Fig. 4.44). Each of these requires movement beginning with the body being brought from the house of the living to the death house, a separated place of containment and storage. There is no evidence for the direction of travel into the cemetery, however, almost certainly settlement was downslope to the west. From the death house movement would have been in a southerly direction to the summit of the glacial knoll on which a pyre had been prepared. The elevated height of the pyre site would have ensured that both the true drama and spectacle of cremation was experienced both in close proximity and further afield as this would have been a very open landscape at this time. The elevated position of the cremation event also has a practical function in exposing the pyre to all wind directions apart from easterlies. This would allow sufficient draught to attain the high temperatures required to completely burn and destroy a body and produce cramp, the production of which seems to have been of equal importance. After the cremation event and the pyre has cooled, the burnt skeletal remains would be carefully picked out of the ashes, as would the newly created cramp. Judging from the proportion of cremated skeletal remains within burial deposits it seems that after the calcined bones have been collected, they were subdivided for interment and storage in different places. From the evidence from Queenafjold, Birsay, described above, a containing cist may have yet to be constructed and if so, the cremated remains could return to the death house. Either way, a journey northward is undertaken to inter the remains within the cemetery. Of interest, is the single barrow (Mound 11) lying to the south, which is not only an outlier in the cemetery, but interment in which required a journey in the opposite, southerly direction.

This choreography of cremation is entirely restricted to the burial place, which contrast dramatically with the earlier practices of depositing and storing bodies within unobtrusive cists. Knowes of Trotty is a place of the dead where all the funerary practises surrounding the storage, destruction and transmutation of the body occur within its confines, as do the reconstitution of relations of the dead.

4.8.2 Home and away

In this final section an examination will be made of some of the most interesting features of Mound 1 at Knowes of Trotty. Specifically, the selected materials of barrow construction, the internal architecture and the presence of extraordinary grave goods accompanying the cremation burial.

4.8.2.1 Home

In the absence of any knowledge concerning the materials employed to build the other Knowes of Trotty barrows, or their primary burials, it is difficult to estimate whether Mound 1 is atypical or not. Certainly, Mound 1 is the largest and most prominent of the barrows forming the cemetery, the most elegant, a feature mainly due to its situation on a level platform created by modifying a prominent glacial knoll (Figs 4.2 and 4.16). In this respect, Mound 1 is

consistent with Garwood's (2007, 37) contention that 'these monuments express a strong sense of architectural finality and completeness, not only in terms of their massiveness but also in their symmetrical designs, bounded and closed architectural forms, and surface finishes'.

Mound 1 lies c. 75m south-west of the Early Neolithic stone-built house in Trench B, and a similar distance north-east of a possible second represented by *Anomaly 39* (Fig. 4.7). Taken together, the proximity to Early Neolithic settlement in conjunction with the size of Mound 1 is suggestive of this being a founder barrow (Øvrevik 1985, 135). In assuming this status Mound 1 would be earlier and different from the rest of the barrows, which may well include construction materials.

In the next chapter it will be suggested that at the Linga Fiold cemetery there is a substantial gap in time at some barrows between the pre-barrow events and mound construction (see also Last 2007b). Undoubtedly, there would have been lengths of time between assembling the cist arrangement (see discussion below), depositing the cremated remains and grave goods and building the barrow. However, in the absence of full excavation, the duration between these elements is difficult to establish; suffice is to note that for a certain length of time the cist and flanking uprights would have stood proud on the knoll for all to see. It has been argued that the mound operates as little more than a form of closure and containment; a process labelled 'mounding' by Brophy and Noble (2012; see also Section 5.13.4). However, the fulfillment of this function does not preclude the selectivity and significance attached to the constituent materials of the mound.

In the past, just like Aubrey Burl's (1977, 71) assumption that stone circles were situated in places due to the 'nearness of stones' so Paul Ashbee, whilst recognising that barrows were built of different substances, felt that they were derived 'from, presumably, a convenient source' (1960, 44). Equally, although in many accounts of Bronze Age barrow excavations, the mound material is described in detail, this description tends to be later employed in the identification of construction phases and to some degree this procedure occurs within this volume.

Accepting that any given locality afforded certain materials based on its geology, from her research on barrow construction in south-west England, Mary Ann Owoc noted that covering mounds 'were carefully constructed of distinct materials that were often contrasted spatially and/or temporally in terms of their colour, natural stratigraphic position, texture and consistency' (2001, 198). From this she concluded that 'localized building traditions … made use of these varied physical elements of the landscape' but in a 'knowledgeable and meaningful way' (Owoc 2002, 132).

Indeed, one of the consistent features of mound make-up is the selectivity and purity of the materials, for instance, 'clean' gravel, clay, chalk, and so forth, and clear-cut boundaries between them (see Brittain 2007, 149–51). Whilst we can now agree about 'the importance of the colour, texture and source of the material used to build Early Bronze Age burial monuments' (Brück 2004a, 185; see also, Johnston 2021, 273), an imperative is to provide an account of the strategic purpose of deploying such carefully selected and separated substances.

At first glance, the composition of Mound 1 at Knowes of Trotty does not appear unusual in the deployment of stone slabs to form a cairn. Generally, in the north and west of Britain, the use of stone to create burial cairns is a common form of construction, including northern Scotland and Orkney, for instance at Bu Farm, Westray (Barber *et al.* 1996) and Loth Road, Sanday (Sharman 2007). What makes the cairn forming Mound 1 exceptional is that it is clearly constituted of building stones (Fig. 4.20) which are almost certainly derived from the collapsed masonry of the Early Neolithic house discovered in Trench B (Section 4.3; Downes *et al.* 2016). If Ashbee's (1960, 44) interpretation of barrow building is followed then the ruined house structure comprises a readily available source of material to be exploited. However, is the re-use of this material more than an act of expediency on behalf of the builders?

To address this question, first it is worth considering the practicalities of gaining access to this material. This would have initially involved clearing the undergrowth and soil off a mound consisting of mainly of collapsed Early Neolithic masonry. During this excavation a range of stone and flint artefacts, together with ceramics, would also have been exposed, but this material would have appeared alien and different due to it being nearly 2000 years old. Encountering the material remnants of people's lives from a distant and mythical past would have paradoxically drawn the past and present closer together whilst reinforcing the otherness and antiquity of these artefacts and the people who used them. Indeed, the potency of this intimate contact may have resulted in a replication of some of the things encountered. A good example of this practice may be the small, 'pristine' polished stone axe (SF 15) discovered adjacent to the burial cist (056) in Trench F north of Mound 9 (Figs 4.32 and 4.34). Not only was this axe freshly manufactured, but it was made of micaceous siltstone which was far too soft for any functional use.

The concept of *vibrant matter* (Bennett 2010) has been applied widely, and this would seem a particularly apposite employment in conceiving this material, including the collapsed building stone of the ancient, ruined house. As a place associated with origins, the significance and special character of the ruined and collapsed Early Neolithic house cannot be overstated and is demonstrated by it becoming an origin point for the entire Knowes of Trotty cemetery. The extraction and redeployment of the stone slabs of the ancient dwelling materially brought the past into the present by becoming the fabric of the barrow that now covered and

contained the burial cist and cremated remains. It is quite probable that both the cist slabs and flanking orthostats were also derived from the ruined house. Under these circumstances the significance of the burial and associated items in Mound 1 being wrapped by the stone excavated from a site of mythical status and importance is twofold.

The architectural arrangement of the cist is unique in having been positioned between two opposed orthostats (Figs 4.20–4.23). In Section 4.4.1, this unusual architecture was related to the divisional orthostats in the 4th millennium cal BC houses and stalled cairns. Because the 2005 investigations were restricted to uncovering the 1858 excavation trench, it was not possible to determine whether these were part of an earlier structure or had been built as part of the cist construction. However, they appear to have been set in place before the cist was assembled. Here, it is worth thinking about the role of this 'stalled' arrangement in these earlier structures. In every instance, the paired orthostats are employed as internal divisions, partitioning different spatial areas, as seen for example, in houses at Knap of Howar (Ritchie 1983, fig. 3) and Stonehall Meadow (Richards *et al.* 2016a, fig. 5.34) and the nearby Early Neolithic house in Trench B (Section 4.3; Downes *et al.* 2016, fig. 3.4). The same function is performed by the paired orthostats in the fourth millennium cal BC stalled cairns such as Midhowe, Rousay (Callander and Grant 1934, figs 11 and13, pl. v) and Knowe of Ramsay, Rousay (Callander and Grant 1936, fig. 2). Many years ago, in relation to stalled cairns, this architecture was identified as representing doorways between linear spatial segments because they reproduce the paired door jamb arrangement as seen house architecture (Richards 1992). That the Knowes of Trotty cist is straddled by opposed orthostats, or rather is placed between them, situates it in what would be a liminal or transitory position within the house and tomb. In this respect it is immaterial whether the orthostats are part of an earlier structure or not because this architectural arrangement places the cist and burial in a transitional space. While conceptually relating to the journey of the deceased, it also creates extremely potent imagery especially when it is realised that this arrangement would have been free-standing and completely visible for an unknown duration of time before being covered and contained by the cairn of stone slabs.

The relatedness between the barrow cemetery and the ancient decaying house was established through a dual strategy of spatial proximity and material appropriation where a strong relationship between the present and the past is being forged and presented. In this we see the efficacy of the material obtained from the ruined building as redeployed to create the fabric of the barrow which, in all probability, includes the slabs forming the central cist and flanking uprights. As an origin point, the ruined Early Neolithic house, with its appearance as a low mound, becomes incorporated in the two lines of barrows running south. Here the conjunction of past and present is presented as a linear sequence of barrows, and as both Barrett (1994, 127–8) and Garwood (2007, 41–2) explain, in the sequence of burial monuments mythological relations are affirmed (see also Johnston 2021, 83). In this respect the ruined Early Neolithic house mound could itself be argued to be the 'founder barrow' of the cemetery.

Whilst, in this strategy we see a clear attempt being made to situate and connect the early second millennium cal BC dead with an ancient and mythological past, this is also a powerful statement of belonging. Nor should it be forgotten that in this example it is in relation to a localised Orcadian past. As such the deployment of stone from the early house to form the fabric of Mound 1 is situated in what Barrett defined as a 'field of discourse' (1994, 72–7), which is very much concerned with contexts of local relationships and interactions. Of particular relevance in the context of barrow building at Knowes of Trotty is the potential of such social interactions and materials to form different social realities (Barrett 1994, 76). But buried deeply within this barrow are the cremated remains of a young adult person contained within a stone cist. Accompanying these remains are the unburnt gold discs and amber items; things which are extraordinary in the context of Orcadian second millennium cal BC burials, and as is suggested below, afford an entirely different form of relatedness.

4.8.2.2 Away

Rather than abstracted artefacts, here the significance of the presence and condition of the gold discs and amber objects within the context of the burial cist is further discussed. Taking the four gold discs first (Fig. 4.45), there has been a tendency to consider these in terms of their original function. This has been suggested to be as slightly domed button covers (Piggott and Stewart 1958), probably jet or 'shale "cones" plated with gold which appear to be exaggerated forms of the V-bored button as present in several Wessex barrows' (Piggott 1938, 79; see also Needham 2015, 256–7). Their origins are equally obscure as, in composition, the high silver content suggests a Scottish mainland source, possibly central Scotland (Sheridan and Chapman: Appendix 17), but it does not follow that their 'saturation decoration' (Needham 2015, 260) was applied in the same location (see Taylor 1970, 65; 2005; Needham 2015, 257–9).

Whether the discs were initially employed as domed button covers in a complete form is difficult to know, however, the observation that the central hole in each disc is 'slightly ragged' (Sheridan *et al.* 2003, 178) is suggestive of secondary use. What is unequivocal is that, when deposited, the gold discs were no longer of domed form but had been flattened, as they were when discovered in the 1858 excavations (Petrie 1859). Hence, the discs were not only



Fig. 4.45 The four gold discs recovered by Mr Nicol Flett from Knowes of Trotty, Mound 1(© National Museums Scotland).

severed from the buttons they once covered but also from their function as bodily adornment in some manner. As part of that disjunction, they were returned to their original sheet form as pieces of flattened gold (see Needham 2015, 256). In each example, the disc displays the marks and scars of this journey as it shifted from one relational field to another. Yet, this material biography, especially the relatedness to other broader networks (and assemblages) as recognised by Piggott and Stewart (1958; see also Sheridan *et al.* 2003, 181–4; Needham *et al.* 2015, 208–54) is key to understanding why the now dislocated and unaccompanied discs end their lives deposited in the Mound 1 cist.

A very similar narrative encompasses the amber pieces present in the Mound 1 burial cist (Figs 4.1 and 4.26; Sheridan and Chapman: Appendix 17). These pieces are recognised as once having been components of a composite necklace or pendant (Piggott and Stewart 1958), and dress accessories (Sheridan *et al.* 2003, 179–80). In this respect they are comparable to the majority of amber, jet or shale pieces found in burial contexts where the necklace of which they were once part no longer exists. In this respect they follow a similar trajectory to the pieces of cremated bone which are derived from the dissolution of the human body by fire. However, up until this point in time, the amber pieces have enjoyed the potential of participating in processes of re-formation. Indeed, they may have followed a sequence of fragmentation and re-incorporation in necklaces any number of times before. Now, however, they are re-assembled for the last time as part of the Mound 1 cist assemblage.

Here, the inclusion of these items, together with the gold discs and the cremated remains of a young adult, created a new assemblage. If we return to the notion, discussed above and in the previous chapter, that death severs the relational bonds forming the living person then it follows that it necessarily 'leads to change in the assemblages of relations that surround the deceased' (Crellin 2017, 114). This is also the potential that cremation offers in that it allows a series of new relationships to be created through the separation of portions of the burnt bones of the deceased. In the context of the Mound 1, the stone cist provides the container for a new assemblage created through the association of the cremated remains and different grave goods. This is such a good example of Bennett's (2010, xvi) notion of 'thing-power' where in this assemblage things (gold discs and amber pieces) and other things (cremated human bone and cramp) act together to produce a form of efficacy articulated through new narratives.

The inclusion of things from afar alludes to expansive and wide-ranging relationships radiating through time and space, a process noted many years ago by John Coles:

> perhaps more direct, but of doubtful chronological validity, are the fragmentary amber spacer-plates from the Knowes of Trotty, Orkney, barrow; these amber pieces if intact would be similar to plates from Upton Lovell, Wiltshire, and Oakley Down, Dorset. Continental fragments have been recovered from south-west German graves of the Tumulus Bronze Age, and the Mycenaean grave-finds are also well-known. What they mean in terms of chronology for the re-used Orkney amber pieces is open to discussion. Associated with these are four sheet gold discs, possibly originally covers for shallow cone-like buttons, and which may relate to Beaker V-bored buttons of jet, to gold coverings from Wessex graves, or to the simpler Migdale metal covers. (Coles 1969, 71)

For some authors, these distant origins and relationships are clearly revealed in the aged and worn condition of the amber spacer plate necklace which, according to Stuart Piggott, 'must certainly be a Wessex Culture export' (1962, 98). This was due to it being of 'identical type to the southern English examples' and there assumed to have 'almost certainly' been 'acquired in Wessex' (Hunter and Woodward 2015, 381). The wear of the amber pieces testifies to a deep history of use and re-use as part of one of more necklaces, and as single items. Less certain, is their potential route of travel and the nature of relationships and ownership that ultimately brings them to Orkney to be deposited with a burial in Mound 1 at Knowes of Trotty. In this context perhaps we should reconsider the question of whether the deposition of these different things within the cist entirely annuls and extinguishes the networks in which they were

once enmeshed. Or does their inclusion collapse and disclose their breadth and potency and 'speak of material journeys, the colour of stone (amber in this case) and the texture of gold capturing relations that flow across landscapes' (Crellin *et al.* 2023, 101)? Perhaps, even though split, disbursed and recombined the amber pieces remain part of an imagined assemblage that reaches across time and space (cf. Frieman 2012, 346–9).

In conclusion, when thinking about the material composition of, and burial within, Mound 1 at Knowes of Trotty a paradox is evident. In the selection of material from the ruinous Early Neolithic house to be re-used to form the fabric of the barrow, a direct linkage is made between the past and present whereby the Bronze Age dead become covered and contained in the materiality of the deep past. This entanglement fuses and produces a physical relationship between mythical origins and the dead of second millennium cal BC Orkney. From this point onwards, the process of 'kinwork' (Johnston 2021, 81) spatially unfolds manifest in the linear development of the Knowes of Trotty cemetery, which now incorporates the actual mound of the ruined Early Neolithic house (Fig. 4.5). In the creation of the linear cemetery the relational network of the dead is clearly materialised through monumentality, as Garwood says it is 'visible history' and a potent expression 'of permeance and origins – in terms of mythologies of belonging and timeless social and cosmic order that were related to significant 'ancestral' locales and the identities of mound-building groups' (2007, 47). As such, it should also be recognised that once this process is established it provides a context for inter-group competitive strategies (cf. Garrow *et al.* 2014, 231). Yet within the Mound 1 burial cist a completely different form of relatedness is brought into being. This is achieved through the creation of a new 'expansive' assemblage of persons and things, all contained within a stone box at the heart of the barrow.

Once Mound 1 is constructed, the barrow and its contents become fused in a new unitary assemblage. Interestingly, in discussing the decorated chalk drums from Monkton Up Wimbourne, Dorset and Folkton, Yorkshire, Andrew Jones notes a parallel situation as in both drums 'the materials that bore these designs were clearly local, while the designs themselves spoke of other places' (2017, 92). Here too, in this conjunction two quite different sets of relationships become fused within a single thing. Although a different medium, there is a degree of resonance between the material and designs of the chalk drums and the materiality and grave goods of Mound 1. In the different spheres of discourse enabling the construction of Mound 1, interring the burial and selecting and positioning grave goods, we witness 'a form of social practice concerned with making or establishing connections between assemblages' (Jones 2017, 92). However, in making this barrow, not only have new connections between assemblages been established, but Mound 1 is itself *a new assemblage* that speaks of both local origins and distant places within the same breath (cf. Fowler 2017, 105–6; Crellin *et al.* 2023).

5

Looking northwards: the Linga Fiold barrow cemetery, West Mainland, Orkney

with contributions by D. Alldritt, M. J. Bunting, L. Campbell, S. Carter, A. Challands†, A. Clarke, R. Crozier, R.E. Jones, Q.J. Fisher, S. Griffiths, J.I. McKinley, A. MacSween, M. Oxenham, P. Sharman, R. Tipping and C.R. Wickham-Jones†

> On the S. slopes of Linga Fiold, near Upper Lyking, is a group of 15 or 16 mounds, which seem to have been constructed mainly of earth and several of which have been largely destroyed. (RCAMS 1946, 265)

5.1 Complexities of Bronze Age Orcadian barrow cemeteries

In the previous chapter the organisation of the Knowes of Trotty barrow cemetery was found to be surprisingly complex. This was partially due to the spatial and temporal dimensions of mortuary practices occurring between pyre and burial, in conjunction with two slightly converging linear barrow arrangements which were orientated towards the Early Neolithic habitation. This situation instantly raises the question of whether such a breadth of complexity is restricted to Knowes of Trotty or extends to other barrow cemeteries. The presence of a substantial pyre site in a prominent position within the Knowes of Trotty cemetery is perhaps not unexpected, although elsewhere in Britain cremation pyres are not a common component of barrow cemeteries and only seem to become associated with barrow sites after c. 1650 cal BC (Owoc 2001, 196; Garwood 2007, 37; Caswell and Roberts 2018, 345). Yet the selection of an appropriate place for cremating the dead is not only concerned with performance and visibility but extends to the very heart of how belief systems are situated and materialised in the world through practice (Downes 1999a) In this context should we expect to find degrees of uniformity in the internal spatial organisation within Orcadian barrow cemeteries, particularly built funerary architecture choreographing a path from cremation to burial?

This question leads directly to other issues concerning topography, situation and development. In the previous two chapters, an interesting interplay between funerary architecture (cists and barrows) and glacial mounds has been observed, such as at the Knowes of Trotty where barrow placement, form and elevation were seen to merge seamlessly with the glacial features. Yet surely the interplay of these elements would have introduced a tension between the desired spatial organisation of a barrow cemetery (see Woodward 2000) and glacial formations. Indeed, it is unclear to what extent the spatial configuration of drift geology subverted or enhanced the desired inter-relationship between barrows and place, and perhaps more importantly structured the position of those who were interred within them. This also raises allied questions regarding not only the ontological status of glacial mounds themselves (Bradley 2000b, 156; Mullin 2001; Bradley and Watson 2019), but also the inter-relationship between the form and material constituents of glacial knolls and burial mounds.

The blurring between beautifully rounded glacial mounds and constructed round barrows introduces a degree of ambiguity concerning the role and status of a mound (Ingold 2010). Of course, many years ago, it was assumed that the material constituents of barrows were of little consequence, being merely the expedient use on the part of the barrow builders of readily available materials (see Ashbee 1960, 41). In recent years, much has changed with an appreciation that the selection and layering of materials within mound

construction extend beyond pure utility (e.g. Owoc 2007; Downes 2009; Wiseman *et al.* 2021, 724–5). As Jonathan Last notes, barrow construction conceived as merely facilitating the creation of a mound 'overlooks the substances and performances embedded in its final form' (2010, 177). Here it is the sequence and tempo of monument building that are being brought to the fore, and in respect to the large earthen round barrows being built c. 1900–1700 cal BC, mounds are consistently being added to, layer after layer, frequently accompanied by burials but sometimes not. An appreciation of the organic growth of burial mounds raises a further question of when a barrow begins. One of the difficulties of being restricted to re-opening an antiquarian trench in Mound 1 at the Knowes of Trotty was the inability to examine deposits beneath the barrow. Judging from the position of the central cist and the flanking uprights (Fig. 4.20), substantial activity had occurred upon the levelled glacial platform before the barrow was erected. This raises the interesting issue of whether the frequently discovered pre-barrow mortuary activities were the beginnings of an anticipated process culminating in barrow building. Jonathan Last posits a temporal dimension to this question, 'whether we see these open sites as brief preludes to barrow mound construction or significant monuments in their own right depends in part on how long these open phases lasted' (2007, 159). If we consider the practice of mounding as an 'act of appropriation or closure' (Last 2007, 156), then should it be conceived as merely a technology of containment? This is precisely the role afforded to 'mounding' by Brophy and Noble who argue that 'that the processes of blocking and mounding were other (perhaps more extreme) strategies employed to seal in and contain' (2012, 32). If this argument is valid, then a disjunction between barrow and burial is affected. Once this occurs it becomes quite reasonable to suggest that whilst round barrows in the Early Bronze Age consistently cover burials, it is quite conceivable that they may contain, cover and close something else.

In Orkney, just as across the British Isles during the second millennium cal BC, the passage from life to death involved a complex ritual process punctuated in some instances by the extraordinary spectacle of cremation. Less visible are the events occurring before and after the cremation; what were the essential acts of preparing the body and for how long did these last? In some instances, was curation of the body deemed appropriate? Equally, after the cremation event, to what degree did the complex mortuary practices continue with the careful selection and manipulation of both the burned skeletal remains and the resulting debris from the pyre (see Chapter 7)? In Chapter 3, it was noted that the provision of subterranean accessible cists enabled the unfolding of planned sequences of funerary practices, but how these practices were managed within the large barrow cemeteries of Orkney is poorly documented and understood (see, however, Hedges 1977). In order to explore these questions, and other related issues, four further barrow cemeteries that were excavated as part of the Orkney Barrows Project are introduced over the next two chapters. Here, we begin with Linga Fiold, Sandwick, West Mainland, which was the most extensively investigated barrow cemetery of the entire project.

5.2 Introducing Linga Fiold barrow cemetery

There are many Bronze Age cemeteries in West Mainland, Orkney, particularly in the parish of Sandwick which is traditionally renowned for its substantial number of burial mounds (Clouston 1845, 55; Figs 2.6 and 8.19). Although diminished today, one of the larger cemeteries is at Linga Fiold, situated c. 3.5km east of the Ring of Brodgar (Fig. 5.1). Overlooking the loch of Stenness, this group of barrows lies on slightly rising ground on the southern hillside of Linga Fiold (Fig. 5.2). The dominant view is to the south, across the loch towards the hills of Hoy, however, when present at the cemetery the eye is also drawn along the southern side of the Brodgar isthmus where the Ring of Brodgar and massive Salt Knowe barrow are clearly visible in the distance (Fig. 5.3). This is also the direction from which the cemetery is intended to be viewed as the barrows are carefully false-crested to be silhouetted against the skyline on the western horizon.

This is an extensive barrow cemetery and when moving among the mounds there initially appears to be a coalescence with several pairings or small groups which are less evident on the drawn plan (Fig. 5.1). After a period of walking between the visible barrows it becomes obvious that they are actually arranged in two linear groups, one to the west and the other to the east and both are aligned south-west–north-east (Fig. 5.1). A single barrow is anomalous (Mound 7) in occupying a pivotal position between the two linear arrangements. It is hard to be sure of the original number of barrows forming the cemetery. In 1882, the Ordnance Survey 1st Edition map showed a group of 11 barrows measuring between c. 4.6m and 15.8m diameter and c. 0.3–1.7m in height, whereas the entry in the Royal Commission Inventory for Orkney notes the presence of 'a group of 15 or 16 mounds', although when the investigator visited the site in the summer of 1928, it was observed that 'several have been largely destroyed' (RCAMS 1946, 265).

Neither did Linga Fiold escape antiquarian interest. The Rev. Charles Clouston reported that eight mounds 'between Voy and Lyking' (1845, 55), were opened the previous year (1844) by the Orkney Natural History Society; investigations that were later described with mirth by Fraser as 'seemingly unnatural research by naturalists' (1924, 28). Some barrows at Linga Fiold were included in this number, but only detailed descriptions of Mounds 1 and 2 are provided in the *New Statistical Account for Orkney* (Clouston 1845, 55–8). The 1844 date of these enquiries is in some doubt,

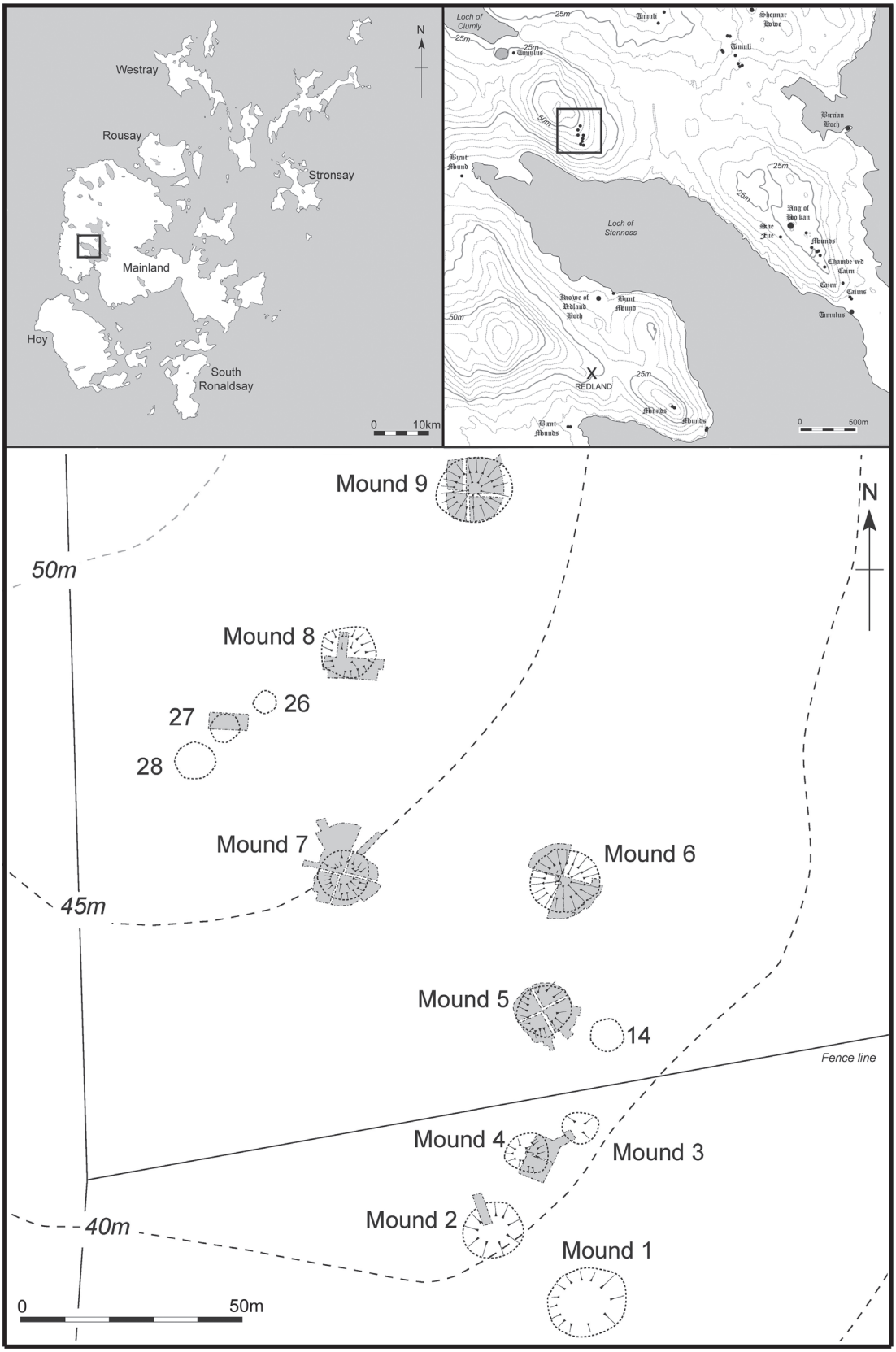


Fig. 5.1 Location of Linga Fiold barrow cemetery in West Mainland, Orkney, showing the position of the eleven remaining mounds, and excavated areas.



Fig. 5.2 Southern view from the lower part of the barrow cemetery with the loch of Stenness directly below (Steven McKell).

however, as the urn recovered from Mound 1 is described as being 'dug out of a large tumulus at Upper Lyking, Sandwick in 1838' (Fig. 5.8), which is taken as the correct date. During the current investigations described here, it was found that the upper parts of Mounds 5 and 6 had also been disturbed, which probably occurred at this time.

While the 1844 excavations would have damaged the barrows, 11 remained standing until at least 1882 (1st Edition OS map). Moving forward in time, the land was taken into cultivation for pasture sometime during the Second World War. At this time the existing fence line was established, running east–west between Mounds 3 and 5, a little to the north of an old track (Fig. 5.1). Subsequent ploughing over the decades has levelled the remains of several of the smaller mounds in the western alignment. The current land use is improved pasture for stock grazing, usually cattle. At the time of excavation in 1994 seven mounds were clearly visible (1, 2, 5–9), while Mound 4 showed as a slight rise, as did Mound 27, all of which are visible in the LiDAR data (Fig. 5.5).

The Royal Commission investigator, Mr Corrie, mentioned that the remains of cists could be observed at the centre of two of the mounds (these are probably Mounds 5 and 6) and parts of disturbed cists were still visible in 1994. Two years before, in 1992, the Historic Environment Scotland monument warden, Julie Gibson, excavated the contents of another cist that was eroding out of the east side of Mound 9 (Moore and Wilson 1995).

5.3 Investigating Linga Fiold

Due to the damage being caused by cattle poaching and rabbit burrowing, it was decided to undertake extensive excavations at Linga Fiold. In total, eight identified barrows were examined comprising Mounds 2, 4–9 and 27 (Fig. 5.1). A further small barrow (Mound 29) and kerb cairn (Mound 30) were discovered in a trench extending northwards from Mound 7 (Figs 5.54 and 5.55). The investigation of a barrow cemetery on this scale allowed not only comparative evidence to be obtained but also



Fig. 5.3 View to the east from Linga Fiold along the Brodgar isthmus. Mound 2 is in the foreground and Mound 1 beyond.

sequences of construction and burial to be charted. Perhaps one of the most unexpected and exciting elements of this enquiry was the evidence obtained of the mortuary process. The ability to identify and chart spatially and temporally the different events occurring from cremation to interment, particularly the extraordinary practices and acts of deposition, make Linga Fiold an outstanding example of the complexities of Bronze Age rites of cremation (see Chapter 7).

All excavated burial mounds exhibited different levels of complexity in both structure and agglomeration of features. Burial activities at the barrow cemetery appear to occur between a start date of 1850–1520 cal BC and an end date 1500–1180 cal BC (see Griffiths: Appendix 28); beginning in the Early Bronze Age and running into the Middle Bronze Age (see Tables 5.13, 5.18, 5.25, 5.33, 5.34, 5.36). Given the period of burial activities, it is unsurprising that virtually all mortuary practices featured at the cemetery were associated with acts of cremation. What is surprising is that all the various stages of cremation and burial are represented within the confines of the barrow cemetery, including a mortuary or death house (Structure 1), pyre sites, spreads of pyre debris and nearly 100 cists and pits, many containing cremation deposits.

5.3.1 Geophysical survey and LiDAR

with A. Challands

Before excavations began, 56, 20 × 20m survey grids covering the entire cemetery were subject to a gradiometer survey undertaken at 1m increments (Fig. 5.4). The survey detected upstanding barrows and a number that had been completely levelled through ploughing. Overall, a total of 12 barrows were located. This is an addition of one (Barrow 3: Fig. 5.1) to the 11 shown on the 1882 1st Edition OS map. More recent LiDAR data clearly show the 11 known barrows 1, 2, 4–9, 26–28 (Fig. 5.5). The barrow (Mound 3) discovered by the gradiometer is also apparent, as is the 'destroyed' mound (14) situated to the south-east of Mound 5. Of interest is another possible barrow situated east of Mound 6 which assumes a similar appearance to that of

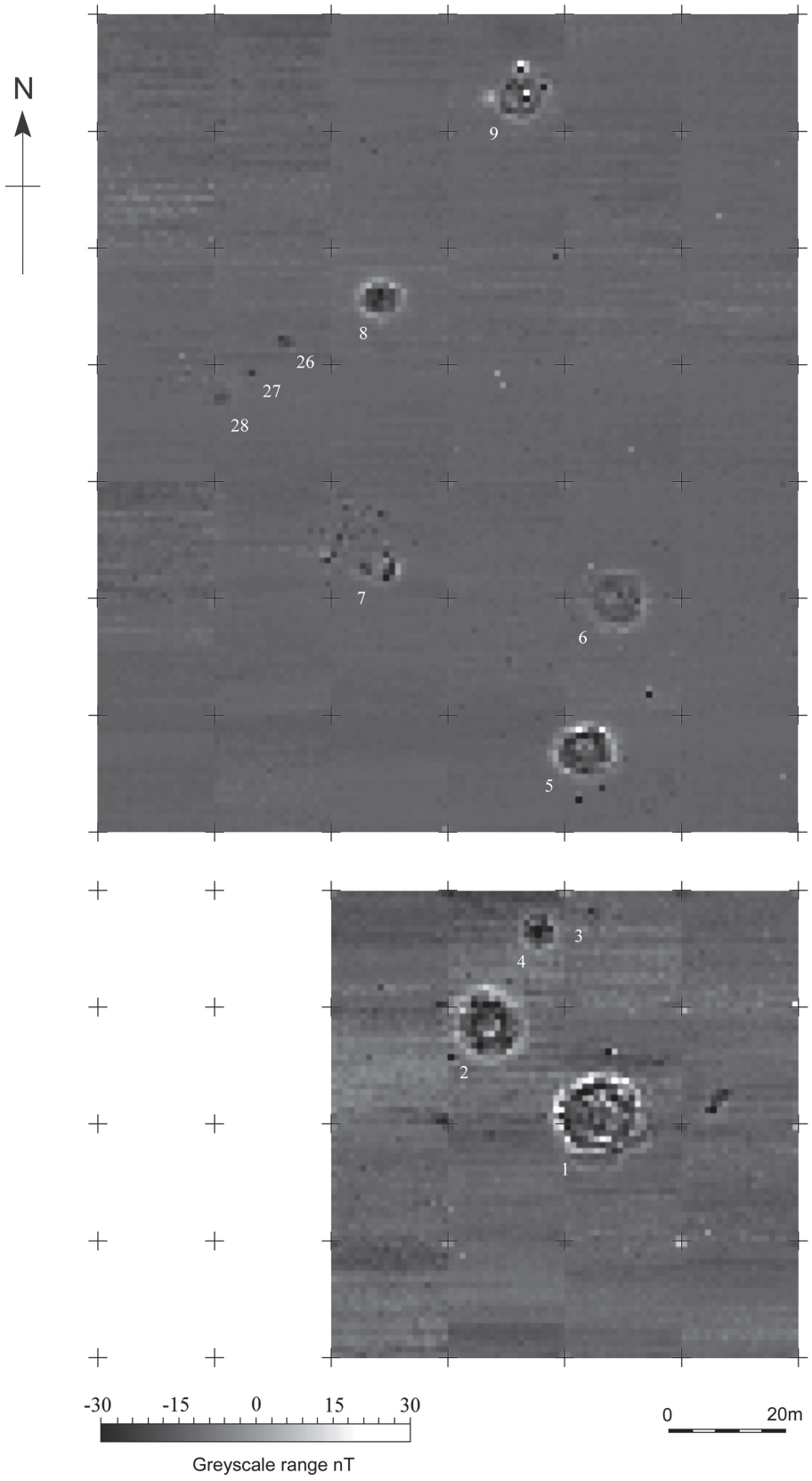


Fig. 5.4 The results of the gradiometer survey at Linga Fiold, which shows the previously unrecognised barrow (Mound 3) east of Mound 4 (Adrian Challands).

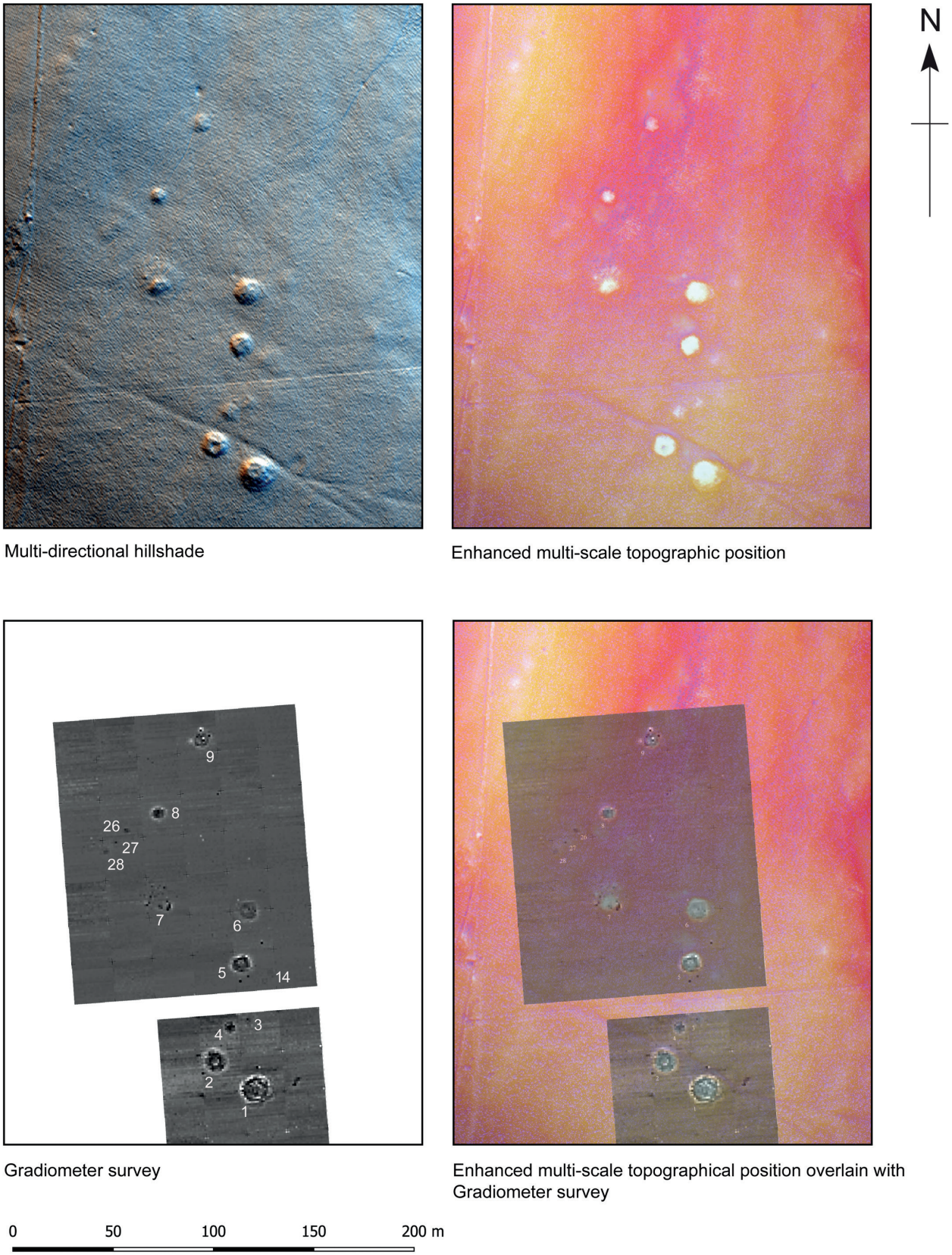


Fig. 5.5 LiDAR and Gradiometer plots for Linga Fiold showing the badly damaged Mound 14 east of Mound 5, and a possible new barrow east of Mound 6 visible in top left (Crane Begg).

'destroyed' Mound 14. Another possible flattened barrow is apparent to the north-west of Mound 9 (Fig. 5.5).

Despite the current visual appearance of Linga Fiold as comprising small groups of standing barrows, the geophysical survey results and LiDAR confirmed the cemetery to be organised into two roughly linear arrangements (Figs 5.4 and 5.5). Mounds 2–6 run almost north–south, and Mounds 28–9 follow a north-east–south-west alignment. Between these linear arrangements is Mound 7.

Unlike Knowes of Trotty, magnetic anomalies indicative of activities in the open areas between the mounds were few at Linga Fiold (several anomalies detected further from the mounds were sampled and found to relate to modern disturbance or pieces of metal from farm machinery). The geophysical survey results, however, revealed probable features grouped consistently close to the mounds, particularly Mound 7, and this was found to be replicated in surveys at two other barrow cemeteries: Gitterpitten and Varme Dale (Chapter 6). One interesting result of the gradiometer survey was that each mound demonstrated a slightly different character through its magnetic signature and in the course of excavation this was borne out as the mounds differed markedly from one another in method of construction, sequence of events and locations of post-barrow funerary-related features. The geophysical survey proved very successful in not only detecting the remains of activities associated with cremation rites such as pyre sites, pyre debris deposits and burials, but also revealed the death house, Structure 1, that was situated north-west of Mound 7 (Section 5.9.5.1).

5.4 Mound 1: a founding Barrow?

It has been noted that single Orcadian Early Bronze Age round barrows tend to be larger than those congregating in cemeteries (Øvrevik 1985, 135). In some barrow cemeteries, such as Knowes of Trotty (Chapter 4) one or two barrows are noticeably bigger. This has prompted a suggestion that these larger mounds are early barrows from which the cemetery extends throughout the second millennium cal BC (Øvrevik 1985, 135). In 1838, Rev. Charles Clouston (1845, 55) noted that Mound 1 at Linga Fiold was the largest of the barrow group (Fig. 5.6), and it is also the southernmost of the barrows. The size and position of Mound 1 may attest to its founding status, but these features also attracted the attention of Clouston and his companions as this was the first barrow they dug into. A trench was cut from the outer edge towards the centre of the mound which was composed of 'wet adhesive clay' (Clouston 1845, 55). Judging from a depression on the upper eastern side of the barrow, it is likely that Clouston's trench extended in from this direction at a relatively high level. In running in at elevated height, the trench would have missed the enclosing masonry kerb which has recently been revealed by cattle poaching (Fig. 5.7).

At its centre a large flagstone measuring c. 1.7m long, c. 0.97m wide and c. 0.09m thick was found to cover a 'grave'. The grave, orientated east-north-east–west-south-west, was an upstanding cist as 'the bottom of the grave was on the level of the surface of the earth' (Clouston 1845, 56). The cist contents sealed beneath the capstone were 'free from injury, and the pieces of bone as white and clean, as if formed only the preceding day' (Clouston 1845, 55). At the east end of the cist was an inverted urn shaped like a 'flower-pot', the surface of which was 'dark, not unlike burnt cork, and seems to be rude earthen-ware, into the composition of which, bits of stone enter liberally' (Clouston 1845, 56). The urn was found to be empty and unfortunately 'soon fell to pieces', but Clouston managed to 'put them together with Roman cement' and the urn is now on display in Stromness Museum (Fig. 5.8). Although labelled 'Lyking' (Linga Fiold farm name), the urn fits the description given by Clouston.

At the other end of the cist 'about a hat-full' of burnt bones which had been cleaned of any ashes was found (Clouston 1845, 55). These bones were covered by a stone c. 0.30m across, upon which lay a brown mossy substance and white ashes. The separation of deposits in different parts of a cist is found frequently in burial contexts, for example, at Sandfiold where an enlarged Food Vessel containing cremated bone was situated in the south-west corner of the cist, a deposit of cremated bone in the centre and unburnt bones occupied the northern end (Fig. 3.43; Dalland 1999). This central burial has been found to have contained the cremated remains of a child (see below, 5.4.1).

This barrow was not investigated in the 1994 excavations but the erosion of the barrow cemetery is an ongoing issue of which Mound 1 provided an erosion index. At the time of the Orkney Natural History Society investigations in 1838, the barrow was reported as measuring c. 2.3m (7½ ft) in height (RCAMS 1946, 266). By 1992 it was reduced to c. 2m high, and almost 20 years later, in 2011, was further denuded to a height of c. 1.40m (with much of it being only c. 1.00–1.10m high). Therefore, approximately a metre had been eroded since the dimensions were first recorded by Clouston in 1845, while c. 0.60m of the height reduction has occurred over the last few years. As an example, the erosion of Mound 1 undoubtedly shows the impact of the cemetery being taken into improved pasture, and the process is clearly continuing (Fig. 5.7).

5.4.1 Cremated bone

R. Crozier and M. Oxenham

The cremated bone weighed a total of 397g (Crozier and Oxenham: Appendix 1). The cremated remains still surviving can be characterised as minimal, not representative of a complete individual, and most likely belonging to that of a young child. Surviving cranial fragments are too thin to have derived from an adult and are more likely to have been from



Fig. 5.6 View of Mound 1 (left) and Mound 2 (right) looking south (Steven McKell).



Fig. 5.7 Mound 1 in February 2024, where cattle damage on the southern side has revealed a section of kerbing.

a non-adult. A fragment of the posterior arch of a vertebra was identified as fused, a developmental process that occurs within the first or second year of life (Cunningham *et al*. 2016). Additionally, the dimensions of the condylar process of the mandible (jaw fragment) are also consistent with that of a young child, with measurements taken providing a range of older than 1 year and less than 5 years (Karlo *et al*. 2010). In accepting the colour of the bone as a proxy for the level of thermal destruction, it is noteworthy that the interior (endocranial) surface of the cranial fragments is black, while the outer surface (ectocranial) is white, implying full calcination was not reached for the entirety of the corpse. Five very small fragments of fuel ash slag (less than 1mm) were also identified.

5.5 Mound 2

Situated only c. 9m west of Mound 1, Mound 2 remains a relatively substantial barrow with a central depression containing a group of displaced stones (Fig. 5.9), the presence of which is undoubtedly a consequence of Clouston's 'excavations' in 1838. At that time the mound was recorded as being c. 9.9m in diameter and c. 1.8m in height. The barrow had reduced to a height of c. 1m high by the time of the 1994 excavation and, as with Mound 1, the diameter had

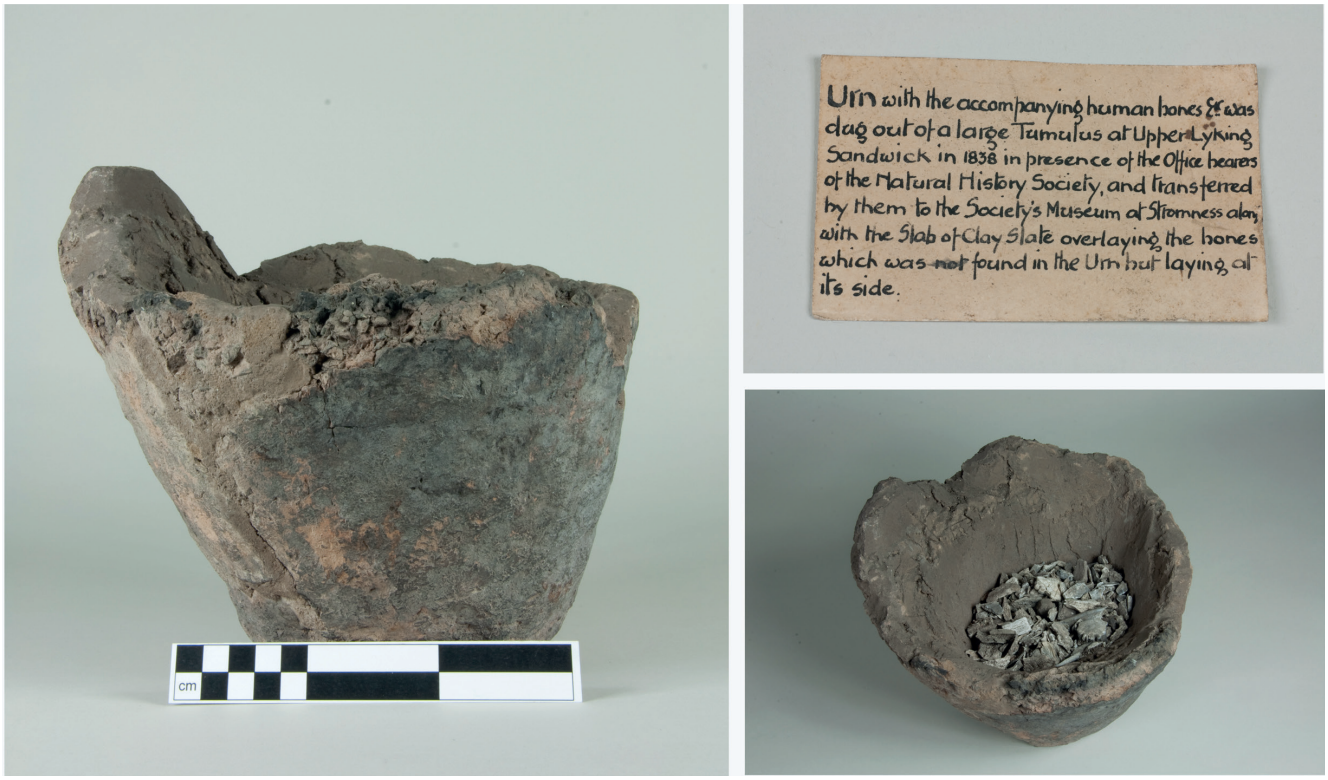


Fig. 5.8 The pottery vessel and cremated bone on display in Stromness Museum (Rebecca Marr).

spread to c. 12.0m. Again, this is the product of intermittent ploughing and cattle poaching serving to both reduce the height and spread of the mound.

This was the second barrow Clouston examined and judging from the 1845 report was more extensively excavated than Mound 1. It was found to be far more complex in containing six cremation burials; five of which were in cists and the other in a pit (Fig 5.10; Table 5.1). At the centre were two adjacent cists with capstones in place, each having been erected on the ground surface with their bases formed by the glacial clay sub-soil. On the east side a substantial angled flagstone, c. 1.52m in length and c. 1.27m wide, rested against both capstones. This extended c. 0.3m above the cists and in conjunction with surrounding clay and 'lumpy' stones provided support for the free-standing cists, although the size of the slab indicates a displaced and re-used capstone.

The sides of the northernmost Cist A were unusually 'formed by a double row of upright flags, on all sides except the south, next to the second [cist], where there was only a single row, and small pieces substituted at the corners' (Clouston 1845, 56). This 'cist in a cist' arrangement is curious especially as the outer skin of uprights were c. 015m higher than the inner. In all the burials encountered during this project, together with the cists reported in Chapter 3, it is clear that containing and wrapping the dead were of prime concern. The cist in a cist architecture appears to be an elaborate materialisation of this concern for containment. But after the capstone was removed, the northern cist in a cist was found to be empty apart from silts that had entered the void. However, in the clay floor, a small flagstone covered a circular pit c. 0.3m in diameter and c. 0.22m deep. which contained cremated bone and charcoal. Cist B lay c. 0.28m to the south and consisted of the more typical box construction, c. 0.5m long by 0.38m wide with a flagstone base, upon which was a 'heap' of cremated bone (Clouston 1845, 56–7).

Unlike the two upstanding cists, further to the south was a flagstone covering a pit containing larger fragments of burnt bone and cramp – possibly a similar grave to that beneath Mound 5 (Section 5.7 below). The other three cists are not described in great detail (see Table 5.1), and apart from the second double-skinned Cist D, resembling Cist A, it is unclear whether they were set into or upon the ground. They are said to have contained ashes of a reddish colour (probably burnt turves or peat) and small pieces of burnt bone (Table 5.1). All the cists were orientated north-north-east–south-south-west except the sixth, to the north, which was orientated north-east–south-west (Fig. 5.10).

To investigate the composition of Mound 2, a small trench, measuring 2 × 6m, was excavated in 1994 through the north-west outer edge of the barrow (Fig. 5.11).



Fig. 5.9 View of the central depression from the south containing a group of displaced stones in the top of Mound 2, which is undoubtedly due to Clouston's 'excavations'.

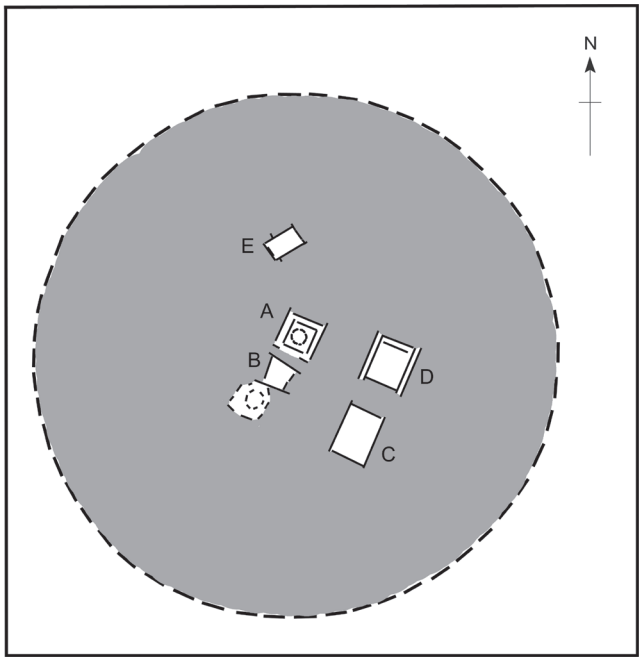


Fig. 5.10 Plan (no scale) showing five cists (A–E) and a pit discovered in Mound 2 (after Thomas 1851; RCAMS 1946, 266).

Judging from the area examined, the mound appeared to be built as a single event being composed uniformly of orange–brown silty clay (470). Sealed beneath the mound material, located in the southern end of the trench and disappearing into the section on the southern and western sides was a c. 0.12m thick spread of black pyre debris (471). This layer contained 66.8g of cremated human bone, representing an older infant/young juvenile (Table 5.2; Carter: Appendix 23), and small amounts of pyre debris (in thin-section this comprised fragments of cremated bone, carbonised peat and cramp, in a matrix of fine oxidised and reduced ash (see Table 5.3; Section 7.4.3). This burnt material directly overlay the old land surface (472/490). Interestingly, these deposits were in proximity to Cist E examined by Clouston (Fig. 5.10), and the two may be associated. As will be seen occurring at other barrows within the cemetery, the turf (490) had been removed from around the area of the future barrow leaving a circular raised platform or 'island' of turf. This can be seen clearly in the section drawing through the north-west section of Mound 2 where the turf-line stops at 'Stone a' (Fig. 5.11), beyond which the mound material (470) lies directly on the glacial till. Given the size of the trench, it was unclear whether 'Stone a' formed part of a continuous edging enclosing the now elevated turf platform.

Although the trench did not extend far enough into the body of the mound to allow a complete investigation of construction, the soil micromorphology analysis through the buried soils and pyre debris deposit proved interesting in relation to sequence (Carter: Appendix 23). The buried soil (472/490) sealed beneath the barrow displayed an extremely well-preserved profile with a distinct surface organic layer (whereas the organic component under other mounds was not so well preserved). Of significance was the presence within the buried soil of fragments of heated and fused debris, which is interpreted as indicative of an earlier burning event. There is also clear evidence of a hiatus between the traces of burning seen in the buried soil, and the subsequent pyre debris dump or pyre site (471), which indicates a lengthier period of cremation activity at this site. What is unclear is at what time the broader turf removal episode occurred, and to what extent it served to define the area used for cremation.

Table 5.1 Details of cists in Mound 2 (see Fig. 5.11).

Cist	*Length (m)*	*Width (m)*	*Height (m)*	*Above ground or set in pit*	*Base*	*Contents*
A (inner cist)	0.5	0.5	0.30	Above	Clay	Empty apart from slab covered pit cut into base with cremation deposit
B	0.55	0.38	0.6	Above	Flagstone	A heap of bones
C	1.04	0.68	?	?	?	9 inches (0.23m) of ashes & bone
D (inner cist)	0.86	0.68	?	Above	?	6 inches (0.15m) of peat ashes, with bits of bone.
E	0.60	0.35	?	?	?	?

Table 5.2 Cremated human remains from Mound 2.

Fill/layer	*Mound no.*	*Feature*	*Type*	*Total wt (g)*	*No. Ind.*	*Age*
471/472	2	Layers	Pyre site/debris deposit	66.8	1	older infant/young juvenile

Table 5.3 Contextual information for pyre debris (471) and underlying turf (472).

Feature	*Fill/layer [sample]*	*Feature type*	*Cramp*	*Charcoal*	*Burnt turf (g)*	*Cremated bone (g)*
471/472	–	Pyre debris dump	Yes: u/k	None: ash 30%	1.1 +	66.8

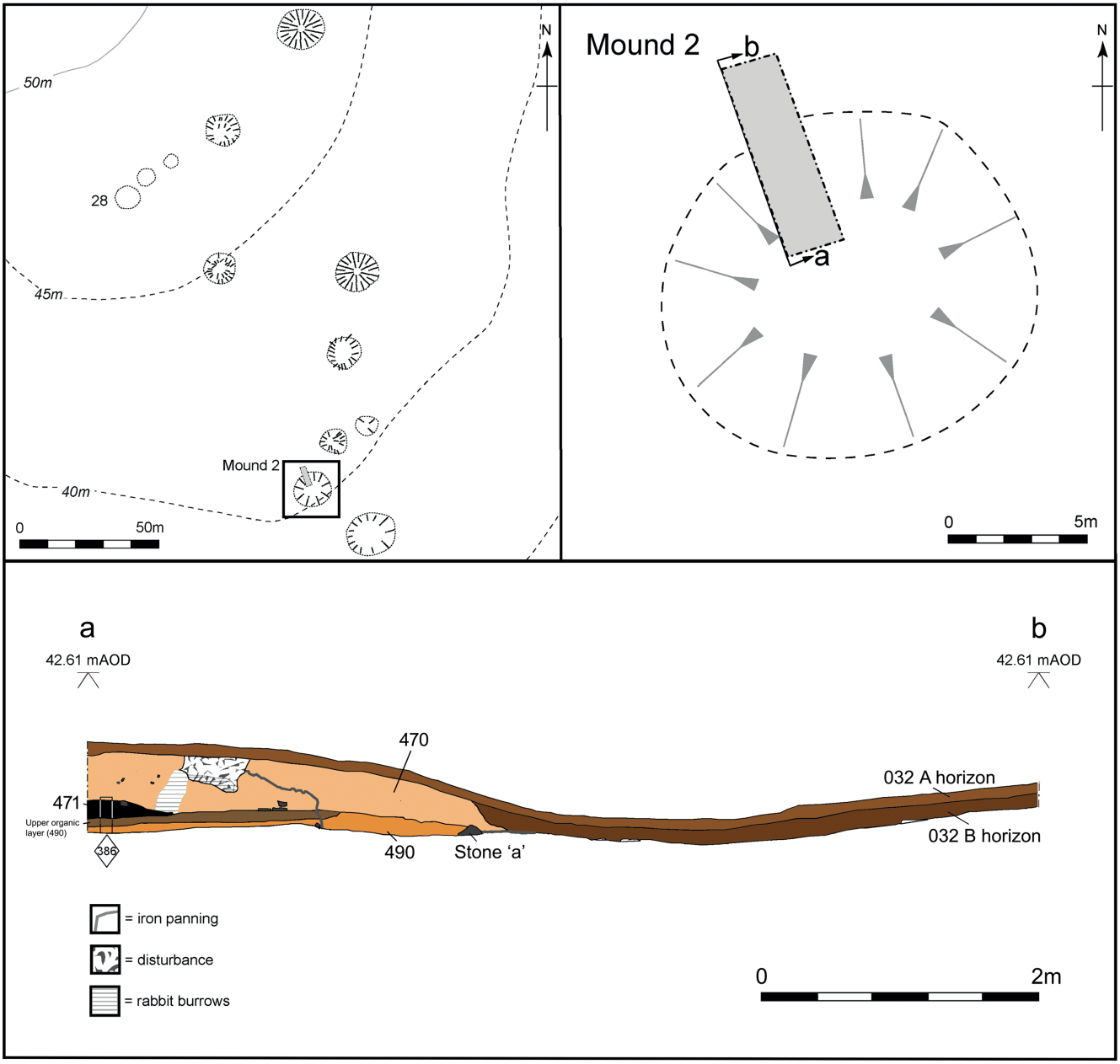


Fig. 5.11 Mound 2 showing 1994 trench location plan and north-east facing section.

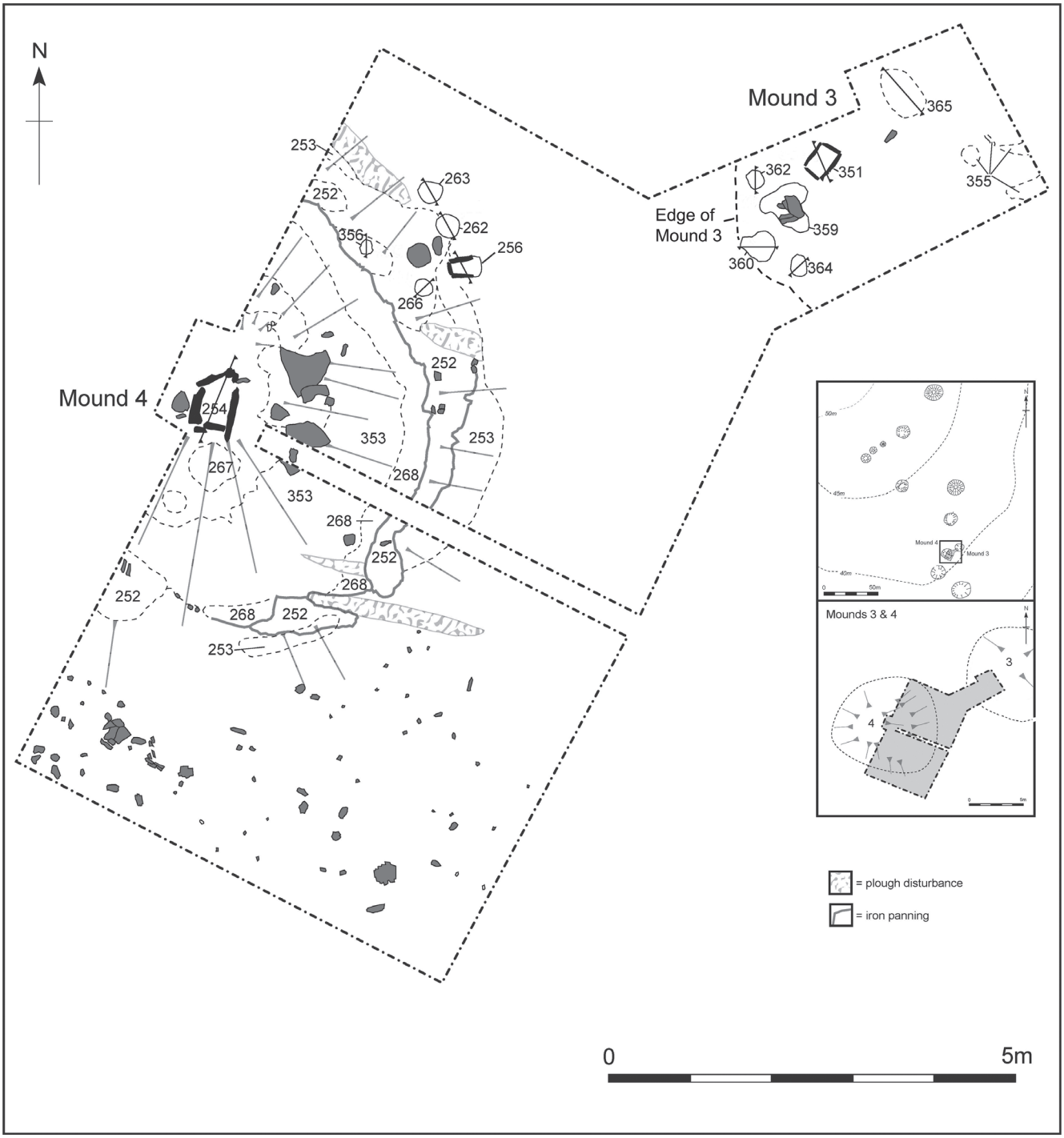


Fig. 5.12 Composite plan of Linga Fiold Mounds 3 and 4.

After the initial episode of burning, possibly a cremation event, an unknown but significant amount of time elapsed, enough for a turf to form over the disturbed soil which includes burnt material, before the thick spread of pyre debris (471) was deposited and Mound 2 erected. It is likely that the fragments of heated material in the buried soil (490) were debris from an earlier pyre which had become incorporated by trampling or mixing of a broken soil surface which then revegetated before Mound 2 was built (see Table 5.3). Some flat stones were present upon the surface of the pre-barrow old land surface (OLS) possibly laid as scattered paving in order to consolidate the ground.

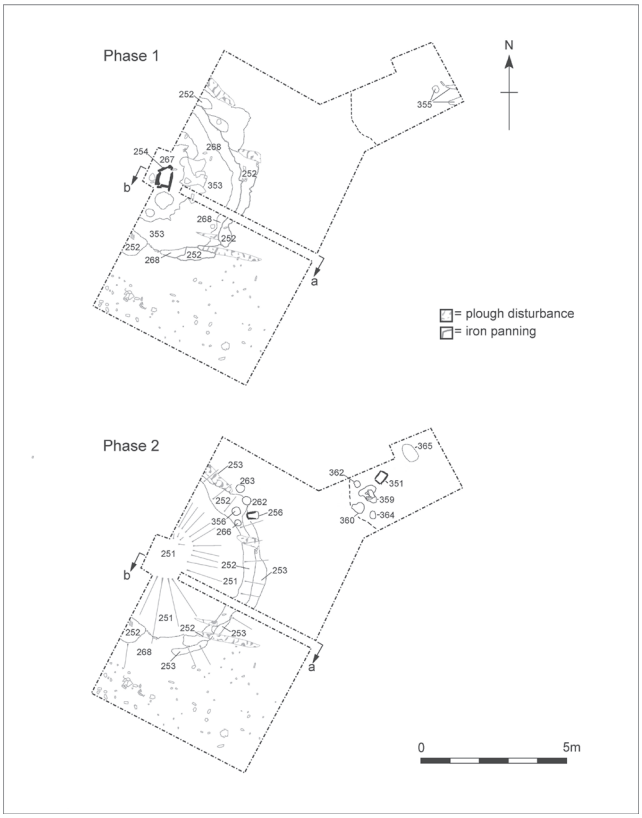


Fig. 5.13 Mounds 3 and 4: phased plans.

5.6 Mounds 3 and 4: significance of the pyre

Just to the north of Mounds 1 and 2 are the smaller Mounds 3 and 4 which today are so badly truncated that they are virtually invisible on the ground, particularly the latter. However, in 1994, Mound 4 appeared as a low rise c. 0.2m high with a diameter of c. 6.0m, and the magnetic signature of this barrow disclosed as a central cluster of high negative values surrounded by a weak ring of positive values (Fig. 5.4). In contrast, Mound 3 was barely visible and only represented on the gradiometer survey as a central negative value (Figs 5.4 and 5.5). Excavation focused on the eastern half of Mound 4 with a trench extending east into the western side of Mound 3 (Fig. 5.12).

5.6.1 Mound 3

Relocated by the gradiometer survey (Fig. 5.4), Mound 3 was invisible on the ground (but see later LiDAR imagery: Fig. 5.5). Due to the obvious denudation, investigation of this barrow was confined to a small eastern extension of the Mound 4 trench. On excavation the truncated remains of mound material were revealed, as well as a group of features which appeared to be cut into the south-west part of the barrow (Tables 5.4 and 5.5). These were very similar to those located in the north-east of Mound 4 (Fig. 5.13), comprising two cists (351) and (359), two pits (360) and (365) and two post-holes (362) and (364). All these are assumed to be later as the remnant mound material was

Table 5.4 Details of secondary pits at south-west edge of Mound 3.

Feature	*Diameter (m)*	*Depth (m)*	*Fill*	*Fill description*	*Burnt bone*	*Small Find (SF)*
Pit 360	0.4	0.09	269	Red-black burnt soil: pyre material	no	361
Pit 365	0.60 × 0.40	0.05	352		no	no
Post-hole 362 (truncated)	0.2	0.09	361	Mid-brown loam	no	no
Post-hole 364	0.2	0.09	363	Mid-brown loam	no	no

Table 5.5 Contextual information of Mound 3 features.

Feature	*Fill/layer [sample no]*	*Feature type*	*Cramp*	*Charcoal (g)*	*Burnt turf*	*Cremated bone (g)*
351	354 [293]	Cist		negligible		
356	265 [175]	Pit				0.4
359	270 [181]	Cist		0.75	observed	
	[185]			1.1		
	[188]			*Betula*	observed	
	[189]		observed	0.8		
				0.9		
				0.1		
360	269 [291]	Pit		0.3 *Alnus*		
				0.1 indet.		
362	361 [295]	Pit: poss. post-hole	0.4			
364	363 [294]	Pit–post-hole				
365	352 [184]	Pit (scoop)	0.1	0.1		
	[187]			0.1		

Table 5.6 Details of stone artefact from Mound 3.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
On surface at the edge of the mound	360	Ard point	15.7	Object of grey micaceous sandstone burnt & broken along length. Though very fragmented this piece resembles an ard point because of its squared butt & pointed end. No sign of wear visible.

Table 5.7 Details of pottery recovered from Mound 3.

Vessel	*Context*	*SF no*	*Diameter*	*Thickness (mm)*	*Description*
3.1	269	361	u/k	13	9 body sherds. The exterior has been smoothed with a wet-hand finish. The fabric is fine sandy clay with c. 90% of steatite frags which is reduced (grey).

not excavated. An ard point was found in topsoil at the edge of Mound 3 (SF 360) in a position of a potential kerb (Fig. 5.83; Table 5.6; Clarke: Appendix 15). A group of steatite tempered sherds (SF 361) from an urn were also found on the edge of the mound in the burnt fill (269) of pit (360) (Fig. 5.14; Table 5.7; MacSween: Appendix 11; Campbell *et al*. Appendix 12).

Neither of the two cists appeared to be central burials, and both varied considerably in preservation. Measuring c. 0.38m long by c. 0.25m wide and c. 013m deep, small Cist (351) was well preserved and consisted of a small sub-rectangular structure of four upright slabs oriented north-east–south-west. No cremated bone was present within its grey ashy fill (354). In contrast, Cist (359) was badly plough-damaged resulting in the absence of three side stones, and a displaced side stone (Fig. 5.13). This damaged larger cist measured c. 0.50m long by c. 0.50m wide (in the northern end) and c. 0.20m deep, it was filled with a disturbed red–black ashy soil (270), but again no cremated bone

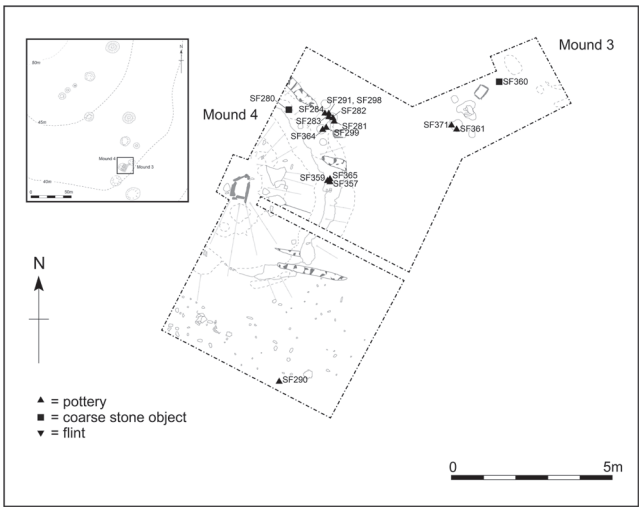


Fig. 5.14 Mounds 3 and 4: finds distribution.

5.6.2 Mound 4

Far less denuded than Mound 3, sufficient deposits remained of Mound 4 to identify the sequence of pre-barrow activity and barrow construction and associated funerary deposits. First, around the area to be occupied by the barrow a large area of turf and topsoil was stripped down to natural glacial till leaving a raised circular platform of turf (353). Although no upright stone slabs were found *in situ* during the excavation, the vertical outer edge of the underlying turf-line (see Fig. 5.15), is suggestive of the same upright slabbing defining the elevated platform area as occurred beneath Mound 5 (Section 5.7.1; Fig. 5.22). When uncovered by excavation, the surface was seen to be burnt and reddened by the heat of a cremation pyre. Indeed, the upper c. 4cm of the OLS was heavily burnt and found to contain cremated bone and other pyre debris. Shortly after this cremation event much of the cremated bone was collected and removed. Then, a substantial amount of pyre debris, including burnt soil, was scraped up and curated.

At a later time, an upstanding stone cist was erected on the cleared surface of the turf platform; it measured c. 0.45m wide by c. 0.57m long and c. 0.48m deep and was aligned north-north-east–south-south-west. The upright side-slabs of the cist were set in a cut through the turf-line (353) into the natural glacial clay, which also formed the base of the cist (Fig. 5.15). The cist slabs were partially bonded by a grey clay (264) and held in place by several angled slabs (357) and a small deposit of mottled clay (368) packed around their bases. Surrounding the cist on all sides, these slabs leant against the upright side-stones providing its main form of external support (Figs 5.15 and 5.16). Once the cist was standing it was filled with the collected remains of a cremated adult and ashy material (260), and then the capstone was set in position (Tables 5.8 and 5.10). Because of later disturbance, on excavation the capstone was found to be displaced (Fig. 5.17), and the upper cremation deposits (255) disturbed and mixed with ploughsoil.

The curated burnt pyre material and soil (267) were then heaped up around the outside of the primary cist, over the

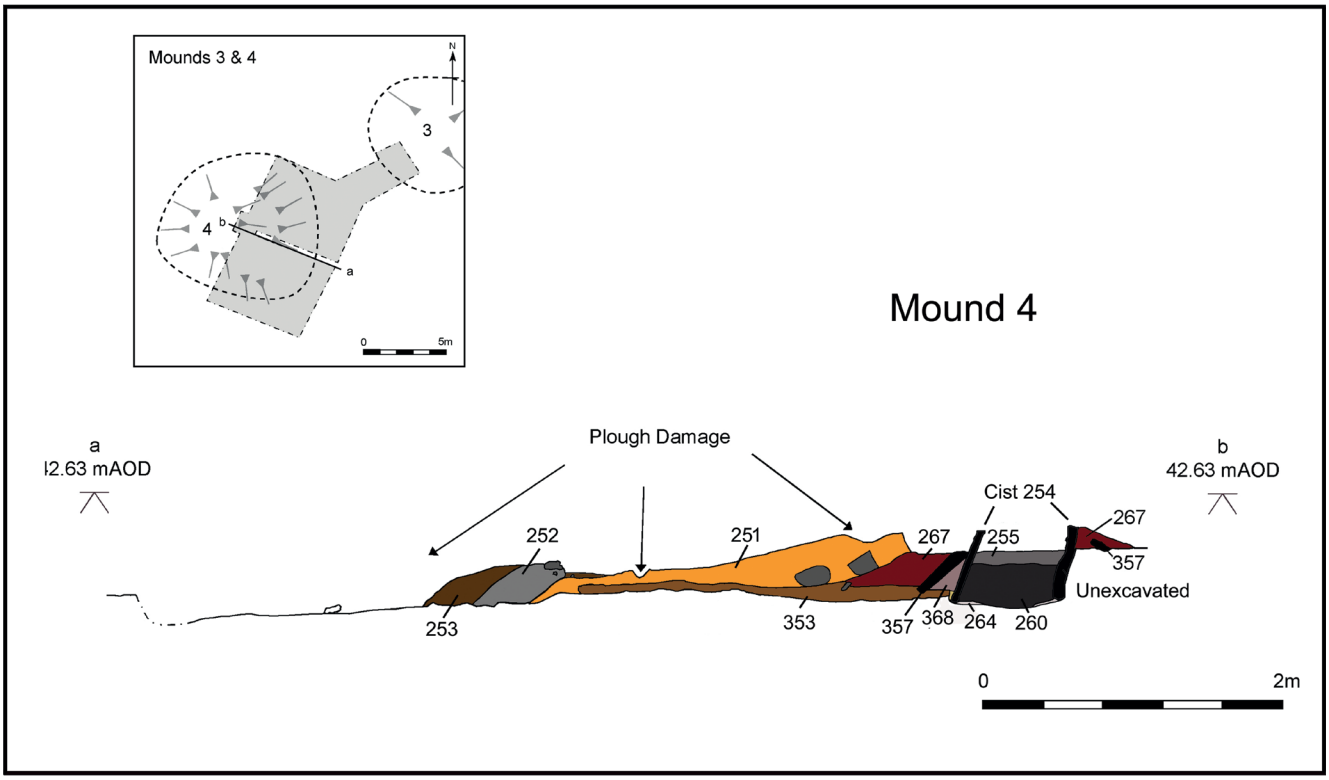


Fig. 5.15 South-west facing section through Mound 4.



Fig. 5.16 View of central cist (254) from the south-east, one of the angled supporting slabs (357) remains in position.

supporting clay (368) and the angled slabs (357) (Fig. 5.15). Judging from the surviving deposits this soil completely covered the cist and capstone creating a small mound of burnt soil, extending c. 0.6m from the cist. The remnant mound of burnt soil (267) contained c. 9.5g of cremated bone (from an adult), as well as flecks of charcoal and cramp.

At a later time, a substantial amount of quarried glacial till (251) was employed to form a large mound, c. 13m in diameter, which entirely covered the raised turf island and central cist. Unsurprisingly, on excavation this mound material was found to be severely truncated, but around its periphery (and separated by a thick layer of iron pan) was an ashy grey silty clay (252), associated with a few large stones (Figs 5.12 and 5.15). Interestingly, similar coloured silty clays, with burnt material (possibly pyre debris), are associated with the kerbs of other mounds. At Mound 4, given its peripheral position and association with occasional large stone blocks this deposit may relate to a destroyed kerb originally encircling the barrow. Alternatively, this may be the highly truncated remnants of a second clay capping of the entire barrow.

A flat, oval cobble tool of sandstone (SF 280) was found in this material in a very abraded and possibly burnt condition. Several sherds of pottery from two different vessels were also derived from the peripheral deposit (252) (SF 357, 365, 359) (Table 5.11) (Fig. 5.14; Table 5.12). Curiously, a large sherd (SF 365) appeared to be packed against a stone block which was interpreted as being part of the destroyed kerb (Fig. 5.34). Beyond this clay was a crumbly skirt of brown soil (253) spread around the edge of mound (Fig. 5.15). It is uncertain whether this brown soil had naturally formed or was a deliberately deposited as similar layers occur elsewhere such as at Quoyscottie, West Mainland, Orkney (Fig. 6.61; Hedges 1977).



Fig. 5.17 Two views of the central cist. When first revealed the displaced capstone of the cist was visible (top), and the contents were a mixture of the cremated remains of an adult and pyre debris (bottom).

5.6.3 Mound 4: subsequent use

At the edge of Mound 4 to the north-east, five possible burial deposits comprising a small stone cist (256) and four shallow scoops or pits, (262), (263), (266), (356) appeared to post-date the barrow (Figs 5.13 and 5.18). Certainly, pits (262), (266) and (356) were cut into the grey clay layer (252) but lay beneath the crumbly brown soil (253). Pottery sherds from a single steatite-tempered vessel (SF 364) were recovered from the burnt soil 'pyre' fill (265) of pit (356). Whilst not stratigraphically linked to the other pits, pit (263) is almost certainly of the same date as the adjacent pit (262), because a pottery sherd (SF 209) from the fill (259) of the former was identified as being part of the same vessel as a sherd (SF 284) from the redeposited pyre material (258) filling pit (356) (Figs 5.14 and 5.19; Table 5.11). This is clear evidence for pyre debris (burnt turves) and artefacts from the same event being redeposited and incorporated into two adjacent features (Fig. 5.19; Table 5.9). The covering of these features by the 'brown soil' (253) could relate to a later enlargement of the mound or alternatively may be a result of more recent mound slippage. Whilst all these features were truncated to some degree, they were probably never very substantial and while containing redeposited pyre debris very little cremated bone was included (see Tables 5.8–5.10; Chapter 7).

Three upright slabs defined Cist (256), with the fourth absent through plough damage. The cist was orientated east–west, and measured c. 0.38 × c. 0.20/0.28m and c. 0.14m deep (Figs 5.13 and 5.18). Stratigraphically, it lay beneath brown soil (253) and was cut into a portion of the clay layer (252). Internally, it had a mixed fill with red ashy lumps overlain by a grey–black burnt soil (257), possibly pyre material, but no cremated bone was present.

5.7 Mound 5: inverting the world

Mound 5 continues the north-north-east–south-south-west alignment of barrows forming the eastern linear grouping (Figs 5.1 and 5.20). In 1994, despite being under intermittent cultivation since the 1940s, it was clearly visible as an extant barrow standing c. 0.70m high and c. 12–13m in diameter. It had not escaped the unwanted attention of antiquarian investigation and displayed the characteristic hollow in the top of previous incursions. This may well be another of the eight mounds dug into by Rev. Charles Clouston and members of the Orkney Natural History Society (Clouston 1845, 55). Given the disturbance and the lack of any account of previous investigations it was decided to examine Mound 5 in greater detail, consequently, the entire mound was stripped of turf, and the trench extended in places to locate geophysical anomalies (see Figs 5.4 and 5.5). Excavation then focused on parts of the mound surface and edges where features were apparent – the south-east and south-west quadrants – with the south-east quadrant being excavated in its entirety (Fig. 5.21).

5.7.1 Mound 5 begins

The excavation of Mound 5 provided a fascinating insight into the complexities and sequence of cremation, interment and barrow construction. The narrative starts with the stripping of a substantial area of open grassland (Section 7.4.2; Bunting and Tipping: Appendix 20) and leaving a circular area of turf c. 8–9m in diameter. As occurred at other pre-barrow sites at Linga Fiold (see also Owoc 2007, 121–2), the turf was stripped over an area leaving a circle of uncut turf around which a circular stone kerb of vertical slabs (370) was erected. Beyond the edge of the turf 'island' an area of stripped turf would have appeared as a 'sea' of yellow–white glacial till.

Table 5.8 Cremated human remains from Mound 4.

Fill/layer	*Mound no.*	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
255	4	254	Cist	26.6	1	Adult	? Male
260	4			618.5		Older adult	
264	4			6.1		Subadult/adult	
267	4	Associated with 254	Cist	9.5		Adult	
257	4	256	Cist	0.1		?	
265	4	356	Pit	0.4		?	

Table 5.9 Details of secondary pits at north-east edge of Mound 4.

Feature	*Diameter (m)*	*Depth (m)*	*Fill*	*Fill description*	*Burnt bone*	*Small finds*
Pit 266	0.20	0.04	491	Grey ashy soil	no	no
Pit 356	0.30	0.08	265	Red–brown–black ashy soil	yes	SF 364: pot sherds from single vessel
Pit 263	0.27	0.05	259	Red–brown ashy soil – burnt turves – pyre material	no	SF 284: thin-walled steatite tempered vessel
Pit 262	0.25	0.05	258	Red–brown ashy soil – burnt turves – pyre material	no	SFs 281, 282, 283, 298, 299: 15 sherds from a single flat-based vessel with angled walls with steatite tempered vessel: 1 sherd (SF 209) was from the same vessel (SF 284) deposited in the adjacent pit (263)

Table 5.10 Contextual information of Mound 4 features.

Feature	*Fill/layer [sample no]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
254	255 [134]	Cist	3.3		0.8	26.6
	255 [135]		1.9		1.5	2.7
	260 [139]		12.3		8.1	31.5
	[142]		19.5	Trace	19.2	55.8
	[146]		71.7	Observed	5.5	81.8
	[150]		50.5	Observed	38	217.4
	[151]		26	Observed	38.3	80.4
	264 [160]		5.5	Trace	3.8	7.7
	261 [147]		0.5	0.6		
256	257 [149]	Cist	0.8	Observed	0.8	0.1
262	258 [144]	Pit (scoop)				
263	259 [143]	Pit (scoop)	0.1	1.6 19 × *Corylus avellana* nut shells		
266	491 [171]	Pit (scoop)	5.5	0.1		
267	267 [302]	Pyre debris (around cist 254)		0.1		9.5

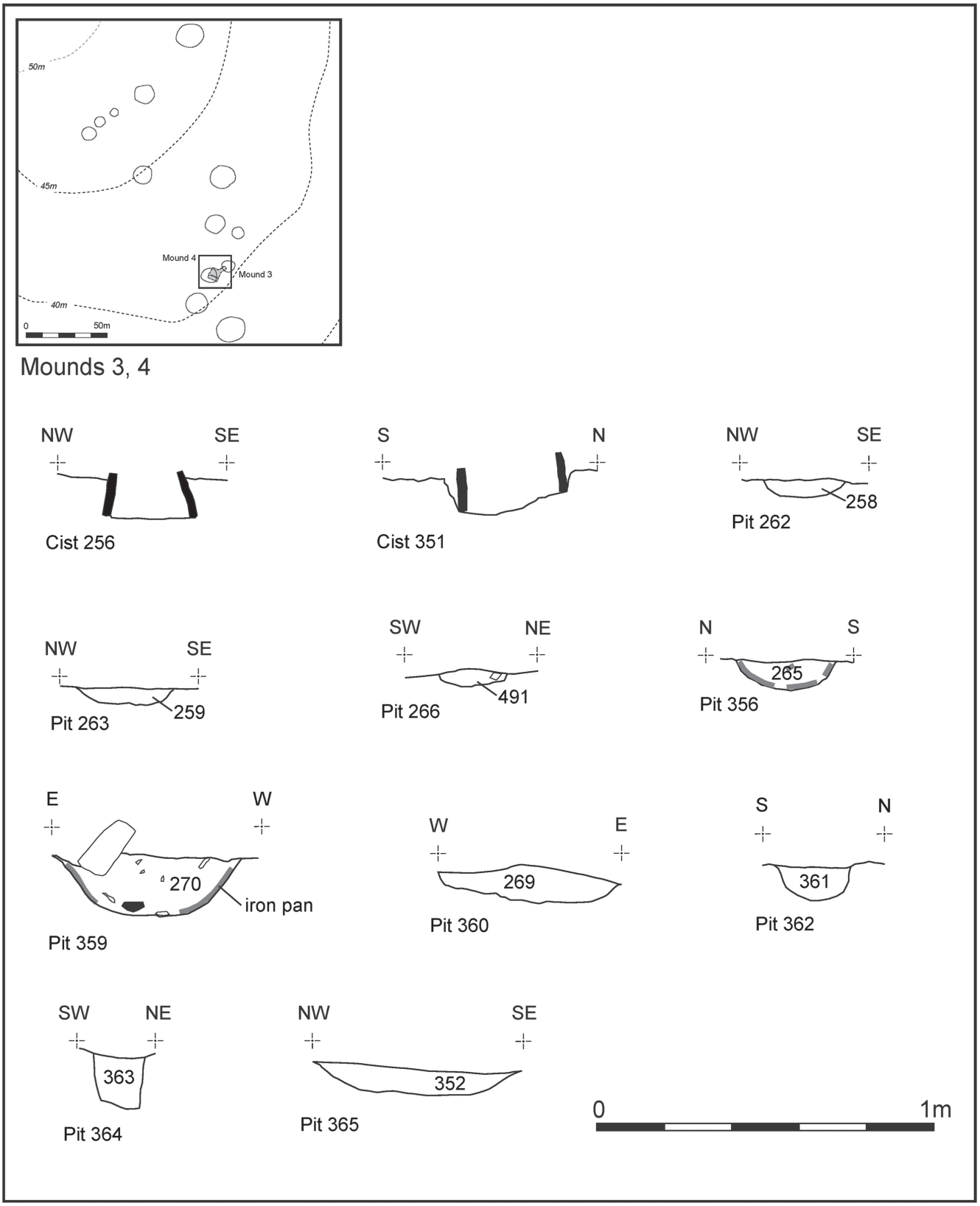


Fig. 5.18 Mounds 3 and 4: sections of cists and pits.

On excavation the circular area OLS comprised a compressed turf layer (376), c. 2–4cm thick, the upper portion of which appeared scorched and reddened (Figs 5.23 and 5.24). As with Mounds 2 and 4, this was a result of *in situ* burning and given the incorporation of substantial amounts of charcoal and cramp this is identified as a cremation pyre. Of particular interest is that the cremation activity was restricted to the elevated turf 'platform' as the reddened old land surface only extended as far as the kerb.

After the turf platform had functioned as a cremation area, the next event was the burial of a cremated adult during the first three centuries of the second millennium cal BC (Table 5.13). At the centre of the burnt area (376), a sub-rectangular grave (379) was dug through the turf into the natural glacial till, heavily disturbing and spreading the burnt debris derived from the pyre site (Figs 5.22 and 5.32). The grave was orientated north-west–south-east and measured



Fig. 5.19 Both of pits (263) (right) and (262) (left) contained redeposited pyre material, including sherds from the same vessel.

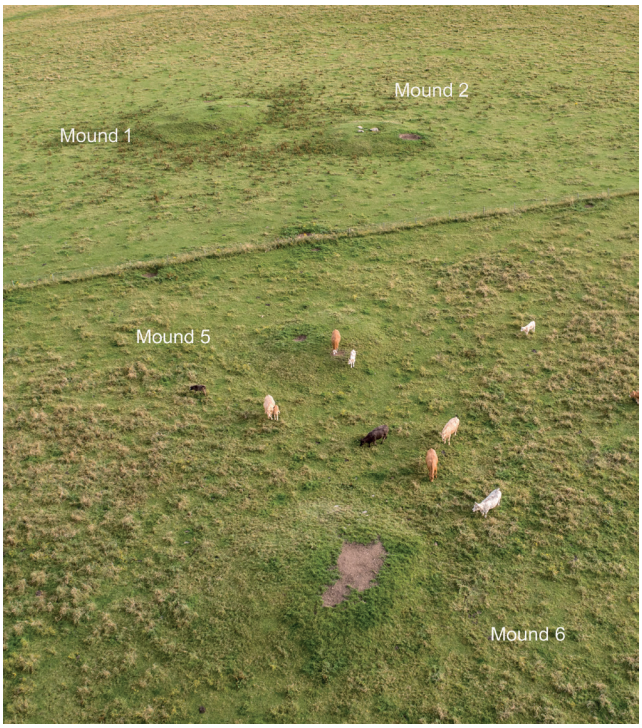


Fig. 5.20 Aerial view from the north showing Mounds 5 and 6 in relation to Mounds 1 and 2 (Steven McKell).

Table 5.11 Details of pottery recovered from Mound 4.

Vessel	*Context*	*SF no*	*Thickness (mm)*	*Description*
4.1	252	365*	13	2 body sherds (1 large). The fabric is fine sandy clay with c. 80% of rock frags (probably steatite), is reduced (grey). The exterior surface is sooted.
4.2	252	357, 359	10	4 sherds plus crumbs. The fabric is fine sandy clay with c. 90% of rock frags (probably steatite),s reduced (grey).
4.3	258	291, 282, 298, 299	10	2 basal sherds & 13 body sherds from a flat-based vessel with angled walls. The fabric is fine sandy clay with c. 50% angular rock frags, reduced (grey) with an oxidised exterior surface (buff). 1 sherd from SF 299 was thin-sectioned.
4.4	258 259	209 284	6	2 body sherds. The fabric is fine sandy clay with c 20% angular steatite frags, reduced (grey) with oxidised surfaces (buff).
4.5	265	364	15	1 body sherd & 3 frags. The fabric is fine sandy clay with c. 80% steatite frags, reduced (grey) with oxidised surfaces (buff).
4.6	258	281		1 sherd (see Appendix 12)

*illustrated

Table 5.12 Details of the stone artefact from Mound 4.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
252	280	Cobble	12.5	Flattened oval shape. Very abraded/burnt all over.



Fig. 5.21 Linga Fiold Mound 5: composite plan of excavated areas.

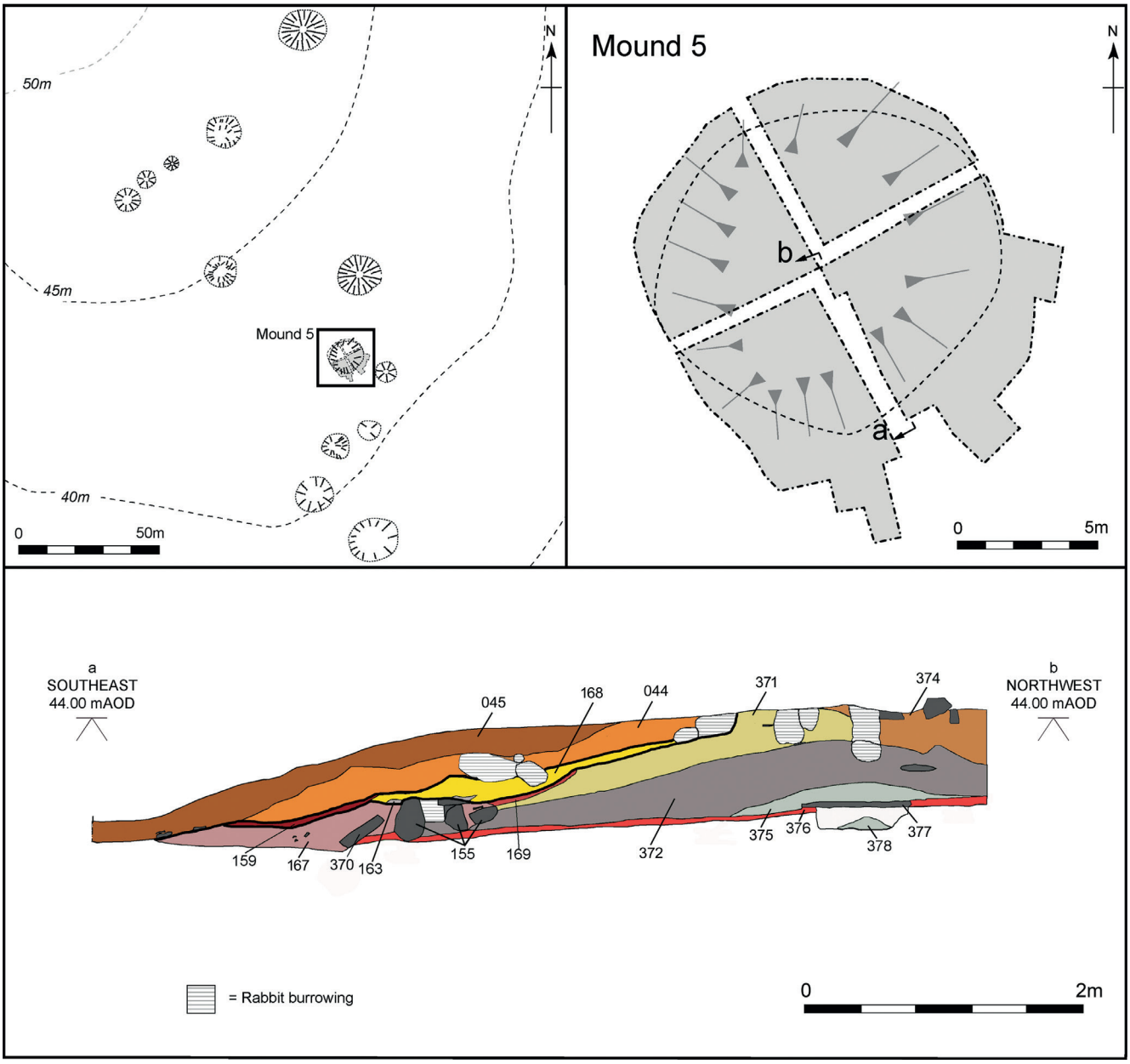


Fig. 5.22 South-west facing section through Linga Fiold Mound 5; heavy lines define the two phases of enlargement.

c. 1.40 × 0.50m, and c. 0.20m deep (Fig. 5.25). Here, we encounter a curious situation as the elongated shape of the grave pit would seem to be in anticipation of an inhumation burial, of a size to accommodate a child. Yet, deposited in a small pile in the west side of the grave were the cremated bones of an adult (378), (Figs 5.25–5.27 and 7.7). After interment the grave was tightly sealed by a flagstone (377) measuring c. 1.60 × 0.60m, and c. 0.04m in thickness (Fig. 5.28). On excavation, the cremation burial was found to not have been covered by soil or any other material, and very little silt had entered the grave (Fig. 5.26). Consequently, it was very well-preserved, and of all the cremation deposits encountered during the 1994 excavations, this had the largest fragments of bone, measuring up to 10cm (Fig. 5.27; Table 5.15). Overall, the skeletal material, probably adult male, weighed 1497.3g in total, which was also the largest weight of bone from any burial context at Linga Fiold.

After closure, a dump of pyre debris (375) was heaped on top of the capstone (Figs 5.22 and 5.25). There are two significant aspects to this deposit. First, this is the only instance at Linga Fiold where a direct association between a specific burial and pyre debris can be demonstrated through conjoining cremated bone derived from the two contexts (Table 5.15). Second, within the grave, cramp and bone had



Fig. 5.23 Linga Fiold Mound 5: plan of primary burial and burnt old land surface (376) which as the surrounding turf was removed would have stood as a raised platform.



Fig. 5.24 Spread of red burnt clay (376) within outer kerb (370) represents burning on the old land surface beneath Mound 5. The central burial capstone is visible running into the rear section.

frequently fused. In contrast, cramp from the pyre material piled over the grave had no adhering bone (see Section 7.4.6.1). This provides a fascinating example of differential categorisation between the pyre debris and cremated bone, and depositional context (see below and Chapter 7). The radiocarbon date from charcoal (*Alnus* sp.) from this deposit (375) was 1940–1640 cal BC (GU-4884) (Tables 5.13 and 5.14). This is the earliest definitive radiocarbon date from Linga Fiold obtained from short-lived tree species, and therefore probably the most reliable earliest date for the site (see Griffiths: Appendix 28).

Soil micromorphology through the pyre dump (375) provided clear evidence for the creation of cramp (Carter: Appendix 26). Here, a substantial amount of this material had been produced on the pyre by a high intensity of heat effectively melting the underlying ground surface, which created an extraordinary 'sheet' of cramp c. 0.10–0.15m thick (see Section 7.4.3). The extensive heat had also fused the cremated body to the upper surface of the pyre material. The production of such a mass of cramp indicates that this cremation burnt at a much higher temperature than was achieved at other pyres within the Linga Fiold cemetery.

At this time another cremation event occurred c. 4m away to the south-south-east of the central grave (Fig. 5.23). Here, a sub-rectangular pyre (492) oriented north-north-west–south-south-east and measuring c. 0.90 × 0.50m, and c. 0.05–0.15m deep contained substantial deposits of turf ash (175) including cramp and burnt bone (see also Fig. 7.1). This is interesting pyre architecture as it employs a rectangular scoop or shallow pit at the base (Fig. 5.30). A radiocarbon date from *Alnus* of 1880–1520 cal BC (GU-4886) was obtained for this pyre deposit (Table 5.13). Stratigraphically, we can be certain that this cremation event was a primary act as the pyre partially lay beneath the secondary barrow kerb (155). Taken together, the deposition of a cremation into the central grave and another pyre site (175) to the south-south-east demonstrates considerable activity occurring on and around the raised turf platform before the building of a mound commenced.

To begin the barrow-building process, a substantial masonry kerb (155) of at least two courses of large sandstone blocks was built upon and surrounded by a soft ashy clay with a pink tinge (167). This was erected c. 0.38m inside the original orthostatic kerb (370), to delimit a smaller area of c. 7.0m diameter (Figs 5.22, 5.23 and 5.31). As is present throughout the barrow cemetery, used and worn stone tools, for example, two abraded mattocks (flaked stone bars: SF 126 and SF 276) (Fig. 5.33; Table 5.17) were part of the collapsed kerbing (Clarke: Appendix 15). A further stone mattock (SF 278) was found in close vicinity among mound material (372), which had been heavily disturbed by rabbit burrowing (Fig. 5.33). These stone tools would in all probability have been employed to cut and strip the surrounding turf and scrape the exposed glacial clay. That they are included in the kerb construction of the first mound may indicate that the stripped surrounding turf was expanded at this time.

In conjunction with the erection of a kerb, material was piled up to form a mound, but in a very particular order. First, the base of the mound material (372) comprised stacked turves covered in loose topsoil (Carter: Appendix 23; Downes 2009, 130). The topsoil deposit was then

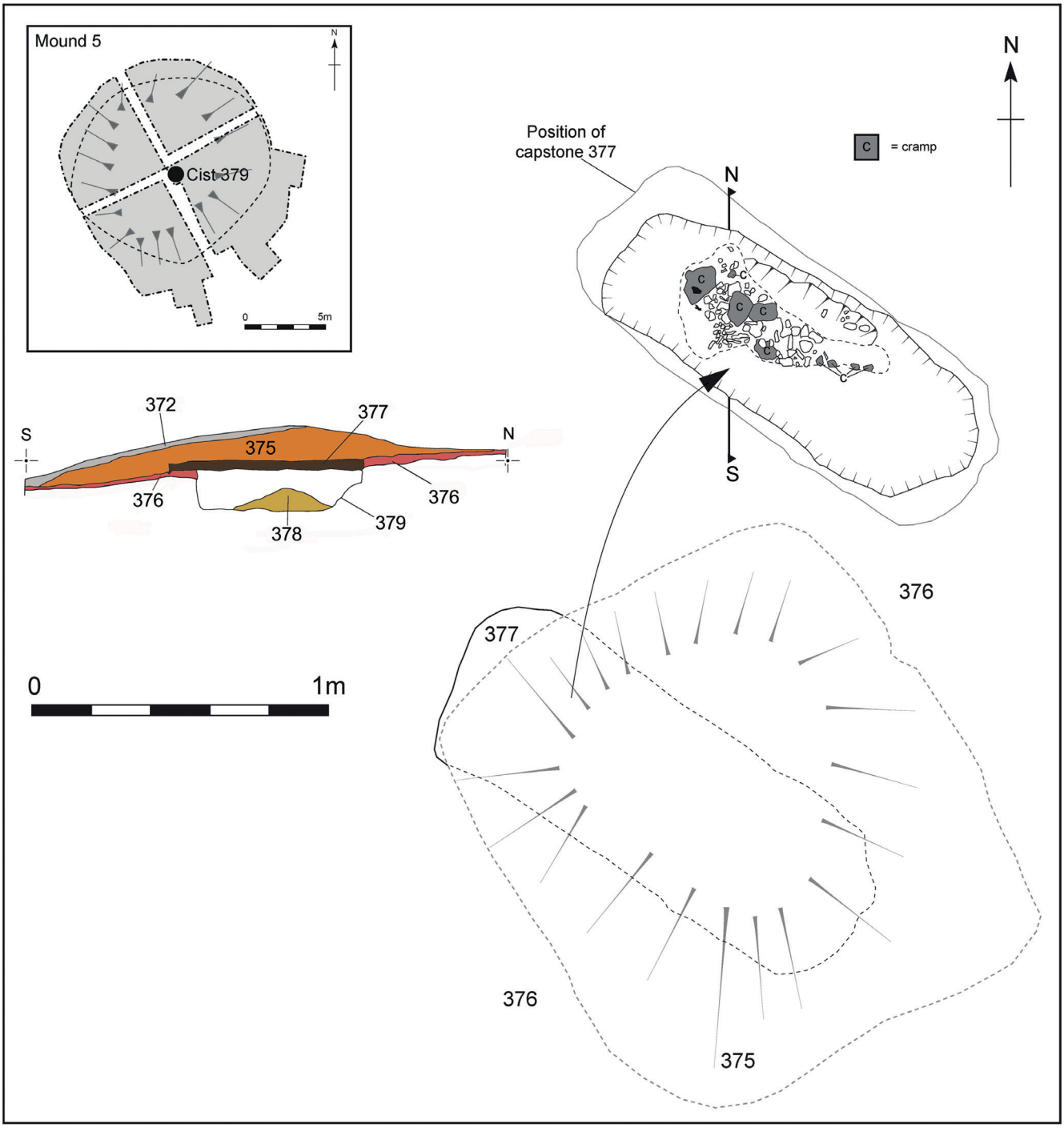


Fig. 5.25 Plan and section of central primary burial (379) and pyre site (175) beneath Mound 5.

capped by a thick layer of redeposited yellow glacial clay (371) giving a mound height of c. 0.5m over the primary grave (Fig. 5.22).

5.7.2 Mound 5: enlarging the barrow

At a later time, in the south-eastern area of the barrow, a thin layer of burnt topsoil (169) was spread over the top of the primary mound material (371). This reddened soil contained small amounts of burnt bone and was interpreted as material derived from a pyre which was subsequently redeposited on the mound surface rather than an *in situ* pyre site (Carter: Appendix 23). It was not possible to determine whether the burnt soil (169) was a remnant of the range of pyre activities that were focused on the south-east part of the mound



Fig. 5.26 When the capstone was removed the grave pit (379) was found to contain a pile of cremated bone positioned in the west side, as opposed to an inhumation which the shape of cut would appear to anticipate.



Fig. 5.27 Although the cremated bone was in a pile it seemed to have been tipped out of a container, as opposed to being deposited in a bag of some form.



Fig. 5.28 Sealing the central grave in Mound 5 was a tightly fitting flagstone (377).

(see Chapter 7). However, the reddened soil was not the only context to be sandwiched between the primary mound and subsequent enlargement; yellow glacial clay material (168) with a lens of grey subsoil (163) was also deposited (Fig. 5.22). Whilst running over the kerbing, the yellow clay (168) did not extend over the top of the mound (but could easily have been removed by later funerary activity and modern disturbance). Alternatively, this clay may have been deposited in discrete areas where subsoil had been spread to consolidate the surface for further funerary activities. At Mound 5, as is seen at other Linga Fiold barrows, secondary mound enhancement seems to have rapidly succeeded the construction of the primary mound, evidenced by a lack of weathering or turf development on its surface (Carter: Appendix 23).

After the secondary mound enhancement, Mound 5 continued to be employed as a site for mortuary activities, particularly further acts of cremation on the periphery of the barrow. The site of a very well-preserved funerary pyre was present at the south-east edge of the barrow and comprised two discernible layers (Figs 5.32 and 5.35). On the surface was an irregularly shaped spread of bright red soft ash (152), measuring c. 1.25 × 0.50m which contained substantial quantities of cremated bones (Fig. 5.35) Below this was an irregular metre square deposit of ashy grey soil (172), which was c. 3–10cm thick. Together these deposits represent the oxidised and unoxidised layers of a single pyre (see also, Mound 7 central pyre: Section 5.4.6). The pyre site was excavated in spits, and cremated bones were recorded individually (see Chapter 7). Just over a metre north of the pyre was a possibly associated small burial Cist (174), c. 0.5 m square, filled with black ashy soil (173) and cremated bone.

A second but far more complex sequence of pyre sites and spreads of burning was positioned less than a metre south of Pyre (152); nonetheless, both seemed to be discrete entities (Figs 5.32; 5.35 and 7.1). The sequence began with a lower pyre comprising a burnt pale grey clay spread (171), covered by a c. 5cm thick ash layer (156), incorporating charcoal, cremated bone and a thin basal layer, c. 0.03m thick of ash and fused cramp (158). Above this a further pyre was represented by a broad spread of clay and ash material (159), c. 0.05m thick which including charcoal, cremated bone and cramp (Fig. 7.1; Table 5.14). The sequence of cremation events in this area had generated an extensive spread of ash (160), particularly to the west and south, which incorporated several pottery sherds (SF 141–144, 147, Figs 5.33 and 5.34; Table 5.16). To the west of the superimposed pyres was a square box-like feature (165) with two stone uprights remaining, filled with burnt orange ash that was a result of *in situ* burning.

Around the barrow several additional features represented further funerary activity. In the north-west quadrant of the barrow was a square pit (162) with rounded corners

Table 5.13 Radiocarbon dates for Linga Fiold Mound 5.

Lab code	*Material sampled*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
GU-4884	Charcoal (*Alnus*)	375	Pyre debris over central burial (Phase 1)	3460±60	1940–1640
SUERC-8992 (GU-13711)	Cremated bone (skull)	154	Pit beyond kerb containing burnt material & pottery (phase 2)	3435±40	1880–1630
SUERC-8991 (GU-13710)	Cremated bone (skull)			3665±35	2140–1940
AA-23266	Charcoal (*Quercus*)			3035±45	1419–1139
GU-4886	Charcoal (*Corylus*)	175	pyre site under kerb (Phase 1-2)	3390±60	1880–1520
AA-23264	Charcoal (*Alnus*)	432	pit under edge of mound material (SW) (Phase 2)	3095±45	1449–1264

Table 5.14 Contextual information for Mound 5 features.

Feature	*Fill/layer [sample no]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
153	153 [82]	Pyre debris dump	0.6	observed		0.1
162	151 [81]	Pit	<0.1	1.5 SF 265: 4.3 *Corylus*		1.8
164	154 [84]	Pit	39.2	4.8 *Quercus*, 0.25 indet.	observed	15.1
	[89]		4.4	5.2 *Quercus*, 12.1 indet.		1.3
165	157 [130]	Pit (stone lined)	0.2 >4mm	negligible	36.5 >4mm	4.4
174	173 [176]	Cist	15	0.6		45.4
492	175 [172]	Pyre site/pyre debris dump	23.7	[172] (2.6) 5.9 *Corylus*, 0.3 *Betula*, 1.5 indet. 2.8 *Corylus*	28.4	37.4
373	374 [170]	Cist: poss (19th century excavation)		observed	1.7	156.9
375	375 [271] [272] × 4	Pyre debris dump (over 379)	272.1 = 44.7 272.2 = 111.6 272.3 = 110.1 272.4 = 125	[272] 0.1 *Corylus*, 15.85 *Alnus*, 0.55 cf. *Alnus*, 3.3 *Betula*, 11.02 indeterminate 2.2 Corylus, 0.9 Alnus, 0.4 cf. Alnus, 0.4 *Betula*, 4.3 indet. 14.4 *Corylus*, 19.8 *Alnus*		[272.1] 10.1 [272.2] 13.3 [272.3] 6.6 [272.4] 13
379	378 [277] [278] [279] [280] [281]	Pit (grave)	155 18.7 0.4			[277] 49 [278] 946.4 [279] 501.7 [280] 0.4
436	433 [273]	Cist	0.6	negligible	3.3	
437	432 [274]	Pit (scoop)		0.05 cf. *Corylus*, 3.15 *Alnus*, 0.4 cf. *Alnus*, 1.35 *Betula*	8.7	1.8
438	431 [276]	Pit		0.2		

Table 5.15 Cremated human remains from Mound 5.

Fill/layer	*Mound no.*	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
151	5	Pit 162	Pit	1.8		Subadult/adult	
152	5	152 172	Pyre site	280.8		Young/mature adult +??Immature.	??Female
153	5	153	Pyre debris deposit	0.1		?	
154	5	164	Pit	15.1		Subadult/adult	
156	5	=158	Pyre site	21.0		Subadult/adult	
158	5	=156	Pyre site	0.5		?	
157	5	165	Pyre site/debris deposit	4.4		?	
159	5	159	Pyre site	76.2		Subadult/adult	
160	5	160	Pyre site	19.7		Subadult/adult	
173	5	174	Cist	45.4	?1	Subadult/adult	
175	5	175	Pyre site/debris deposit	37.4		Subadult/adult	
373	5	374	19th century trench ?cist	156.9	?1	Adult	?
375	5	Over & =378	Pyre debris deposit	164.4		Adult (but a frag. Of bone conjoined with another in (378) below	??Male
378	5	379, under & =375	Pit	1497.3	1	Older mature/older adult	Male
432	5	437	Pit-scoop	1.8		Subadult/adult	



Fig. 5.29 South-west facing section showing pyre debris (375) piled up over the flagstone cover (377) to create a small mound.

and shallow sloping sides measuring north–south c. 0.78m by 0.89m east–west, c. 0.15m deep. This contained a black ashy fill (151) with infrequent pieces of cremated bone, almost certainly redeposited pyre material.

Slightly further to the north was a second shallow, flat-bottomed pit (164), measuring c. 0.41m north–south) by 0.45m, and 8cm deep. It was lined with medium stones and given its charcoal-rich black greasy fill (154) which incorporated cramp, cremated bone and pottery (SF 129, 133 and 138), (Figs 5.32 and 5.33; Table 5.16): it is tempting to interpret this feature as a pyre site. Three radiocarbon dates were obtained from the ashy fill (Table 5.13), two from cremated bone fragments (skull) which yielded dates of 2140–1940 cal BC (GU-13710) and 1880–1630 cal BC (GU-13711), and another from charcoal (*Quercus*) of 1419–1139 cal BC (AA-23266). The disparity of these dates from a single context is problematic and may relate to a number of factors including different cremation events, or perhaps mixed material within the context from various periods of activity, or cremated bone affected by association with fuel of a greater age (see Griffiths: Appendix 28).

Beyond the barrow to the south-west (Fig. 5.32), a round-bottomed oval pit (438) with a brown loam fill (431), measuring c. 0.40 × 0.30m and c. 7cm deep, was cut into the natural till. Finally, c. 2m north of the pit, in the south-west skirt of the mound, were the remains of east–west orientated Cist (436), measuring c. 0.70 × 0.50m and 0.25m deep. Being only preserved on the southern and western sides, no burial deposits were recovered and the cist was full of a grey–brown silty loam (435) that was covered by the final layer of mound material (045).

5.7.3 Mound 5: the final enlargement

Just before Mound 5 was enlarged for the final time, a sub-square pit (437) with rounded corners was dug into its south-west side (Fig. 5.32). The pit measured c. 0.55 × 0.45m, and 8cm deep, and contained a cremation deposit (432) consisting of black–grey ash and cremated bone.

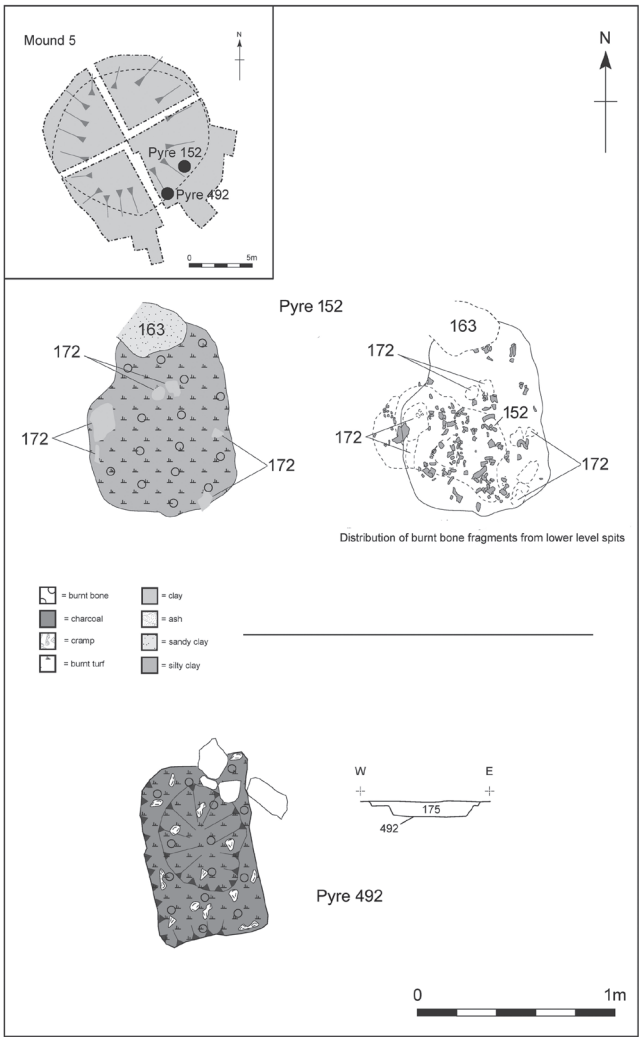


Fig. 5.30 Detailed plans of Mound 5 pyre sites (152) and (492).

Table 5.16 Details of pottery recovered from Mound 5.

Vessel	*Context*	*SF no.*	*Thickness (mm)*	*Description*
5.1	044	263	9	Body sherd. The fabric is sandy clay with c. 20% crushed rock frags, oxidised (red).
5.2	045	8		Body sherd (interior missing). The fabric is fine clay with c. 70% rock frags, oxidised (red).
5.3	160	141, 142, 143*, 144*, 147	6–7	4 thin-walled body sherds & a flat rim (from 143). The fabric is fine sandy clay with c. 80% well-crushed rock frags, reduced (grey).
5.4	154	129, 133, 138*	13	5 body sherds. The fabric is fine sandy clay with c. 80% angular rock frags, reduced (grey).
5.5	150	134		1 sherd, (see Appendix 12)

*illustrated

Table 5.17 Details of stone artefacts from Mound 5.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
155	126	Flaked stone bar	20.5	Tabular piece of grey micaceous sandstone, very abraded all over. Flaked to shape around edges. Tapering in outline with 1 end diagonally squared & the opposite end broken.
155	276	Flaked stone bar	28	Tabular piece of black micaceous sandstone. Abraded all over destroying flaking. Tapering in outline with both ends diagonally squared.
157	250	Pebble	3.5	Tiny sandstone pebble, cracked by heat. Ovoid in shape. No sign of use.
372	278*	Flaked stone bar: mattock	15	Broken across width. Tabular piece of black micaceous sandstone. Abraded all over. Tapering in outline with a broad curved end. Pecking over 1face. At the break the edges are smooth & rounded which suggests a form of hafting. Smoothed patches at the unbroken end on pecked face indicate use wear.

*illustrated



Fig. 5.31 Collapsed kerbing exposed in the south-east quadrant.

Charcoal (*Alnus*) from the cremation yielded a radiocarbon date of 1449–1264 cal BC (AA-23264), (Table 5.13). This cremation deposit, in being cut through the grey ashy spread (153) at the edge of the earlier mound and covered by (045), lies at the interface between the second phase of barrow enhancement and its final enlargement. This reveals the mound continued to receive cremation burials until its final enlargement.

Subsequently, the entire barrow was augmented by layers of redeposited glacial clay (Figs 5.22 and 5.32). First, a thick layer of red–orange clay (044) was laid over yellow clay (168), from which a sherd of pottery (SF 263) was recovered. Next a thinner covering of soft grey ashy clay (153) seems to have been restricted to certain areas of kerb and lower slopes of the barrow. Over the ashy clay (153) a thick deposit of turves and topsoil (045) marked the final act of enlarging Mound 5. The addition of this material certainly sealed and solidified the barrow without expanding its width greatly but undoubtedly increased the height by at least 0.40m and created a steeper profile. A pottery sherd (SF 8) was present in this final capping of the barrow.

As part of the final enlargement was the interment of a secondary central burial. When excavated, in addition to the disturbance caused by rabbits, cattle and ploughing, it quickly became apparent that Mound 5 had also been disturbed by previous interventions, probably by Rev. Clouston and the Orkney Natural History Society in 1838. These investigations had exposed a cremation burial with pyre debris in the very top of the mound, possibly within a cist as indicated by the broken pieces of flagstone on the summit. Clearly, the final enlargement of the barrow was to facilitate the secondary central burial.

5.8 Mound 6: Shetland connections

The northernmost barrow of the eastern linear group is Mound 6, situated c. 15m north of Mound 5 (Fig. 5.20). This is a large mound measuring c. 15m in diameter and in 1994 it stood to a height of 1.1m above the modern ground surface; as such it was second in size only to Mound 1. Unfortunately, this too may well have been among those investigated in 1838 as there were clear traces of disturbance at the centre of the mound. The 1994 excavation entailed removing turf from the north-west and south-east quadrants with the latter selected for complete excavation (Fig. 5.37). It is noteworthy that Mounds 5 and 6 were similarly large barrows within the Linga Fiold cemetery, and each covered primary burials of cremated older adult/mature probable males. Equally, both cremation deposits comprised the heaviest weights of cremated bone and therefore the highest proportion of 'fragmented' bodies. They also incorporated the largest amounts of charcoal, relating to a greater employment of wood, as opposed to turves or peat, as fuel for the pyre. Yet no burials could be more different in form and composition.

5.8.1 Mound 6: the urn burial and first barrow

As occurred at the adjacent mound to the south, the first activities at what was to become Mound 6 involved cutting a substantial area of rough grassland (Section 7.4.2; Bunting and Tipping: Appendix 20), to leave a small circular 'island' of turf. Subsequently, a cremation event occurred at its centre as evidenced by intense burning and a spread of ash across the ground surface. This was followed during the sixteenth century cal BC, by a large pit (384) being dug through the stable but burnt turf-line (382) to receive a large cremation urn. The pit was c. 0.75m deep, and its sides tapered from a width of c. 1.1m at the top to a c. 0.40m wide narrow bottom. Into the pit was lowered a large steatite (or soapstone) urn composed of two sections that had been manufactured in Shetland. When excavated (Fig. 5.38), the steatite urn was found to be of a sub-four-sided shape, its unusually large size due to its composite, two-piece construction (Fig. 5.39). The upper and lower sections were originally lashed together with cord, the carbonised traces of which remained in holes cut into the vessel. Both sections were of similar steatite being evenly grained and mid-grey in colour so were both probably derived from the same Shetland quarry. Interestingly, at the time of insertion both sections of the urn had carbonised accretions on their inner and outer surfaces indicating prior use, which raises the possibility that an intended singular funerary role for these parts may not have been anticipated when they were originally manufactured (Sharman: Appendix 13; Sharman 2009; Section 8.6). At this time, it was empty, and the remains of the cremated adult and pyre material had yet to be poured into the container.

After being placed in the pit and packed with the glacial clay (389), the steatite urn was filled to the brim with cremated bone and pyre debris (388). More pyre debris (386) comprising cremated bone and charcoal spilled across the surrounding clay packing almost providing a form of

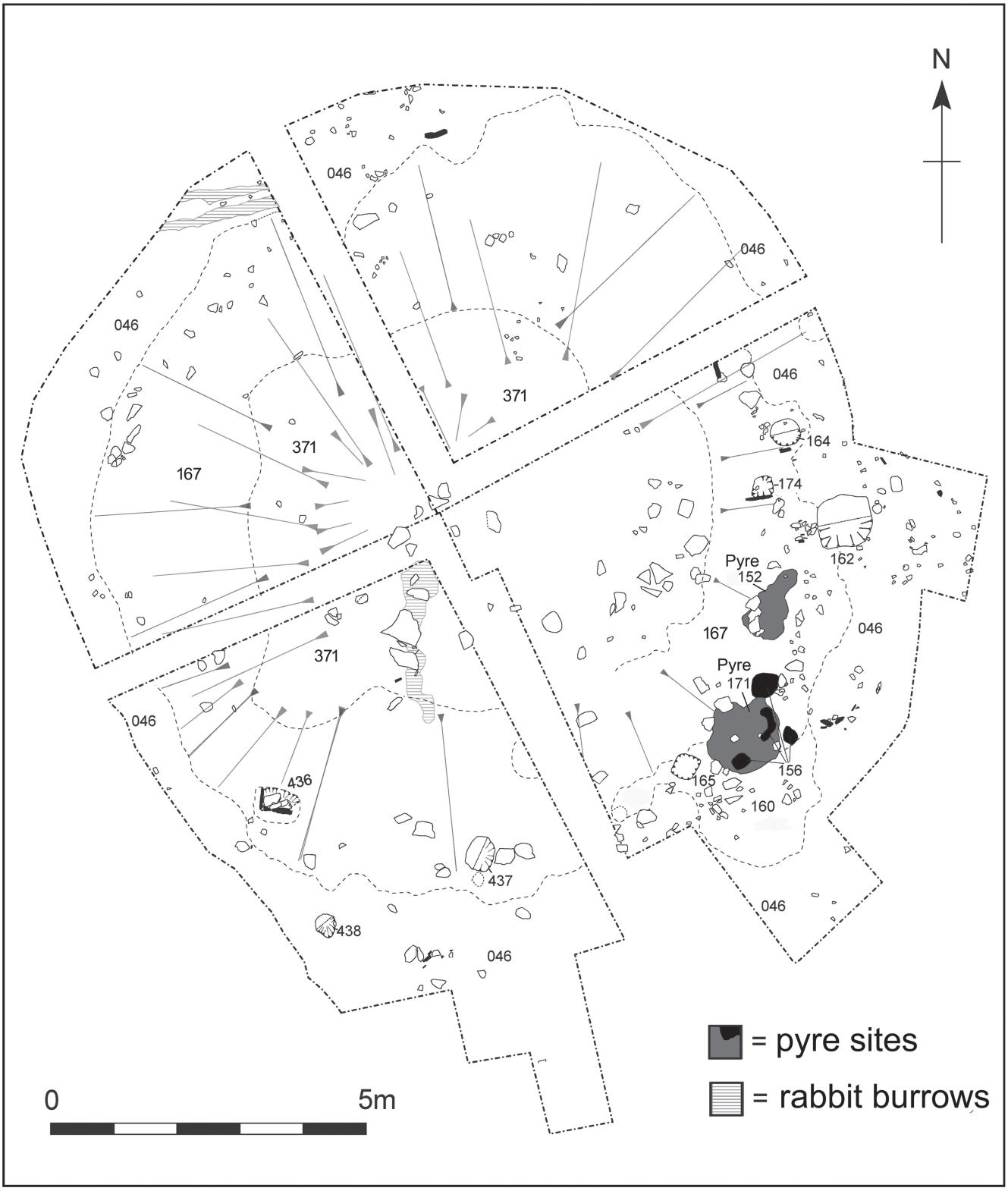


Fig. 5.32 Plan of Mound 5 showing secondary features.



Fig. 5.33 Mound 5: finds distribution.

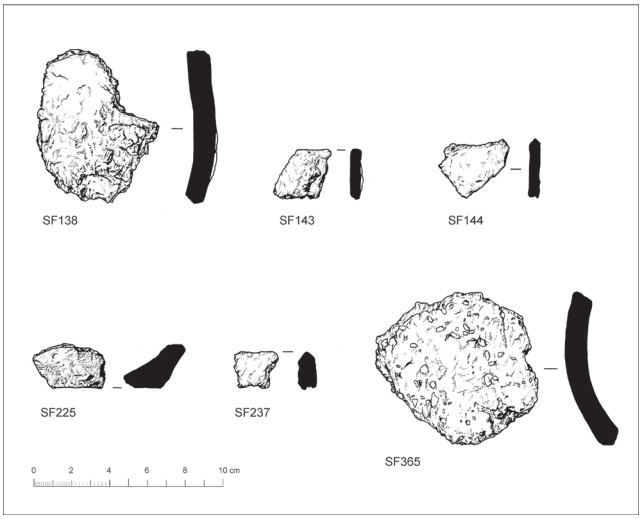


Fig. 5.34 Select pottery from Mounds 4, 5 and 6.

capping (Figs 5.40 and 5.41). Within the urn there was a substantial amount of cremated bone (1222.7g), which was identified as that of an older adult, possibly male (Table 5.22). This was accompanied by a large quantity of charcoal, all *Alnus* species revealing that the cremation pyre comprised a large component of wood as fuel, and at 83.5g, this was the most charcoal derived from any deposit at Linga Fiold (or recorded elsewhere from Orcadian Bronze Age burials). Cramp was also present but curiously only in small quantities, weighing a mere c. 10g. Two radiocarbon dates were obtained from the fill (388) of the urn: one from the charcoal (*Alnus*) 1738–1440 cal BC (GU-4881), and the other from cremated bone (skull) 1960–1740 cal BC (GU-13712). A date of 1910–1462 cal BC (GU-4880) was obtained from charcoal (*Alnus*) from the upper fill (386) (Tables 5.18 and 5.19).



Fig. 5.35 Pyre site (152) as uncovered (top) and excavated (bottom).

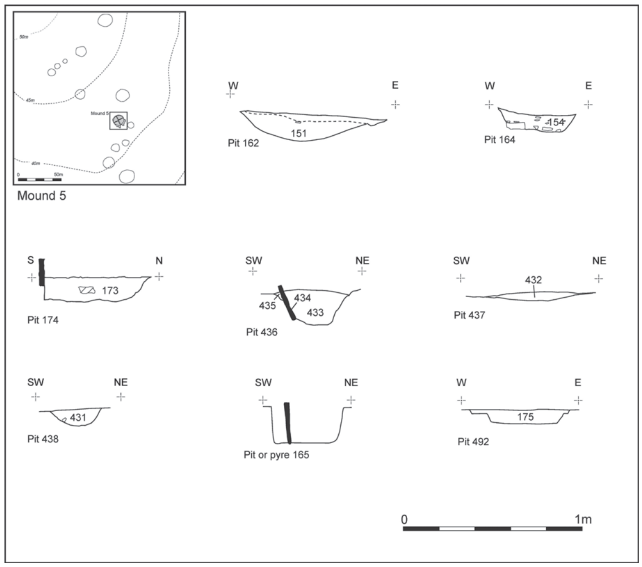


Fig. 5.36 Linga Fiold Mound 5 sections of features.

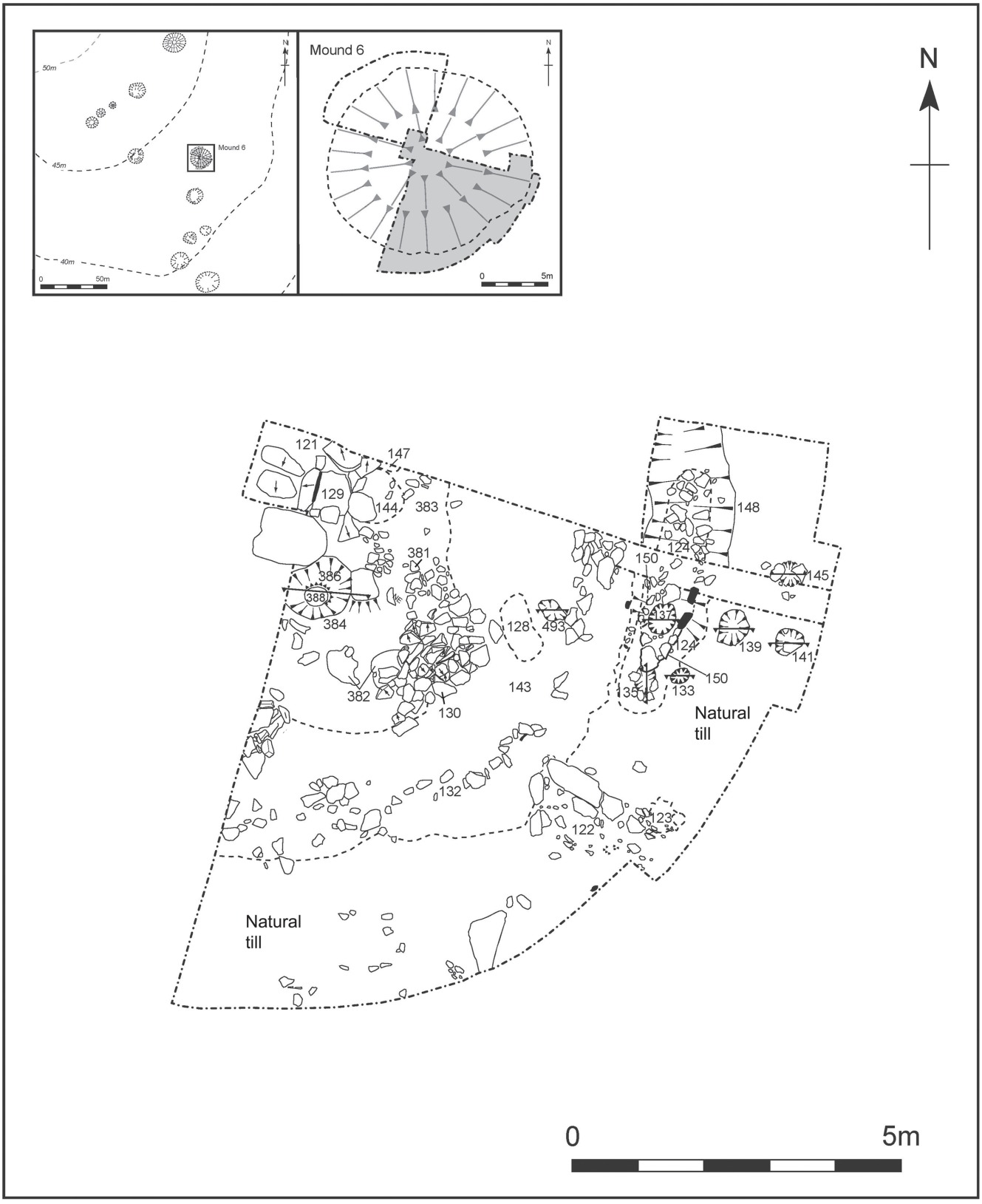


Fig. 5.37 Linga Fiold Mound 6 composite plan.



Fig. 5.38 Dale Meller excavates the steatite urn.

Partially covering the cap of pyre material (386), charcoal-flecked yellow glacial clay (383) spread out across the old turf-line (382) covering areas of *in situ* burning and a scatter of burnt pyre material. Elements of paving (381) were found within and upon the clay which showed signs of having been trampled (Fig. 5.43). The surface depression over the cut containing the steatite urn was levelled by the addition of a deposit of grey clay (385), which also contained flecks of pyre debris (Figs 5.41 and 5.42).

After the steatite urn burial and associated ash and clay deposits, the central activity area was surrounded by a masonry kerb (132), c. 8m in diameter, set in a matrix of grey ashy and burnt soil. Although being up to three courses in height, the kerb was formed from irregularly shaped and sized stones. Nor was the kerb faced either to the outside or inside. Whilst the kerbing enclosed the urn burial, the latter was a little off-centre lying slightly to the south-east. A pit (493) with a rounded profile and containing small amounts of cremated bone and pyre debris was located just within the enclosed area (Figs 5.44 and 5.45). The internal area was then covered as a single event with heaped turves (143) to form a primary mound standing at least c. 0.80m high (Fig. 5.42). At the outer edges of the turf primary mound, secondary mound material (083) was deposited, mainly laying outside the primary turf 'platform' on the stripped glacial clay. In places the buried turf was well preserved, and pollen and soils analysis revealed an open vegetated area with a well-developed turf-line existing prior to the urn burial and primary turf mound (Carter: Appendix 23).

An additional feature was located to the south-east of Mound 6 which was not related stratigraphically, which may possibly pre-date the barrow. This was a small area of large stone slabs (122) which may have been an irregular patch of paving, or a fragment of walling. The stones were associated with a thin brown spread (123), c. 0.20 × 0.30m containing several sherds of pottery (SF 200–3; Fig. 5.49; Table 5.21). Both stones (122) and (123) lay upon natural clay and were covered by topsoil. It is conceivable that this area of paving or walling relates to intermediate activity, as it is placed directly on the glacial till beyond the clay capping (131) of the first barrow. This overlies the primary mound material (143) which in turn sits on the old turf-line (382). In contrast, the secondary mound material (083) that expanded the barrow was dumped directly on to the surrounding stripped surface of glacial till.

5.8.2 Mound 6: cremations on top of the mound

There is incontrovertible evidence from the stratigraphy that there were hiatuses between the primary turf mound, secondary enhancement with redeposited glacial clay (131) and the final barrow enlargement by clay layers (083) and (084). At the time of excavation there was considerable discussion as to whether the primary turf mound formed an elevated platform as opposed to a round-topped barrow. It is certain that the building of the mound occurred in three major episodes: first, the urn burial and turf mound (143); second, its enlargement by redeposited glacial clay (131), and a final capping with clays (083) and (084) (Fig. 5.42). Between these structural episodes a range of funerary activities occurred including at least two cremation events in an elevated position on the summit of the turf barrow (Figs 5.42, 5.46 and 5.47).

Reminiscent of the great pyre on a knoll at Knowes of Trotty (Section 4.5.3), the extraordinary spectacle of cremating the dead on the flat summit of a barrow should be kept in mind when considering the pyre site that was assembled on the surface of the primary mound. It was positioned slightly north-east of centre (observed running into the south-facing section, see Fig. 5.42) and represented by a spread c. 1.0 × 0.7m of orange–black charred material (147), c. 2–3cm thick, containing many fragments of burnt bone. This deposit was overlain by a grey-black burnt clay layer (144), which also incorporated cremated bone and ash. The stratigraphy of this pyre site is complex and suggestive of a sequence of cremation events. It also raises the possibility of some of the primary mounds at Linga Fiold functioning as platforms. Certainly, on the south-east side of the mound, an area of laid stones (130) occurred in a discrete patch measuring c. 1.2 × 2.2m (Figs 5.46 and 5.48). This stonework comprised medium and large sandstone slabs and angular pieces set up to four stones high. Another, similar, area of laid stone was encountered on the break of slope disappearing into the east facing section. A mortuary function is probable, but whether these were badly damaged cist structures is far from clear. Nonetheless, this is further evidence to indicate the mound being more of a platform than a barrow at this stage.

Interestingly, the interpretation of a mound raised over earlier burials functioning as a platform as opposed to a 'barrow' has wider currency. For example, at Earl's Farm Down barrow cemetery in Wiltshire, when Patricia Christie



Fig. 5.39 The steatite urn.

excavated barrow Amesbury G71 she found the phase III turf mound was actually a platform (Christie 1967, 346) upon which a substantial central area of burning was considered by Barrett to have been a cremation pyre (Barrett 1988, 38; 1994, 127). The distinction between a mound and a platform in excavations of what are often truncated mounds is difficult to identify. However, at Hurn barrow 1 in Hampshire, once again a primary turf mound 'was not without interest' as it 'was the scene of some form of ceremony during which the ground over the burial was trampled' (C.M. Piggott 1943a, 254).

5.8.3 Mound 6: the final barrow and boat-shaped stone setting

Although there was no kerb as part of the final enlargement of Mound 6, there may well have been an enhancement of the earlier kerb (132). The top courses of kerbing, and its curious pyre-like matrix of grey ashy and burnt soil, had slumped back on to the original turf mound and a thick layer of clay mixed with loamy soil and small stones (131) ran on to the top of the kerb but not beyond its outer face (see Fig. 5.42: south-facing section). This clay was redeposited glacial till which formed a thick capping to the primary mound sealing and covering the funerary features on its surface.



Fig. 5.40 The pyre debris and cremated bone seemed to have been 'poured' into the urn and when filled spread across the surrounding backfilled clay (389), creating a thick capping of burnt material (386) over and around the urn.

The final enlargement of the barrow was achieved by depositing a substantial layer of clean orange-yellow glacial clay (083) over the entire mound. This not only covered clay layer (131) but flowed over the kerbing creating a typical rounded bowl barrow. A broken flint flake (SF 215) came from the interface between the clay capping of the primary mound (131) and the later clay (083) (Fig. 5.49; Table 5.24). It is probable that the mound was further enhanced by adding clay and loam layers (084) and (082), but these only survived as slumped material running around the perimeter of the mound (Fig. 5.42).

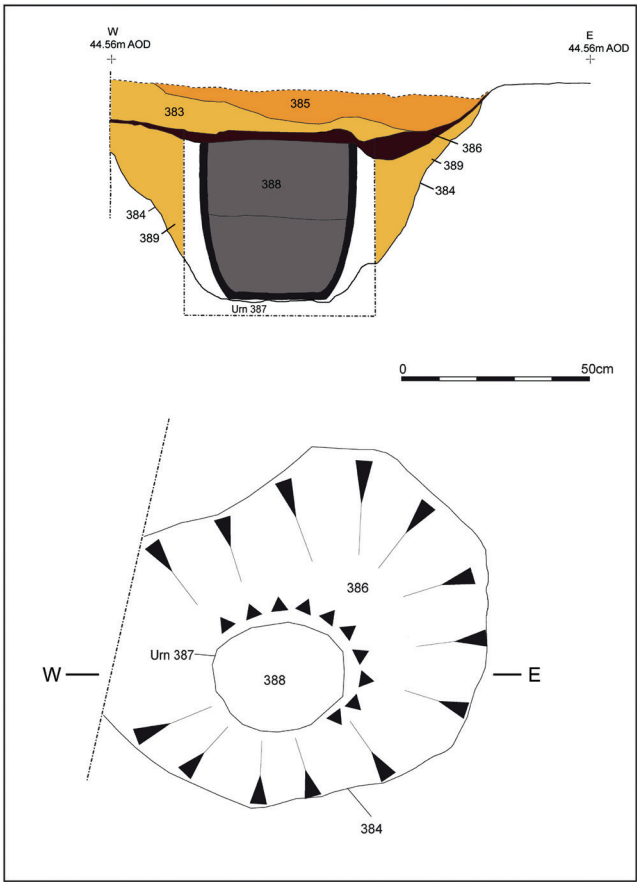


Fig. 5.41 Plan and section of Mound 6 central primary steatite urn burial.

Table 5.18 Radiocarbon dates from the central steatite urn burial in Linga Fiold Mound 6.

La.b code	*Material sampled*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
GU-4880	Charcoal (*Alnus*)	386	Top fill of central burial steatite urn fill (Phase 1)	3380±90	1910–1462
GU-4881	Charcoal (*Alnus*)	388	Fill of central burial steatite urn fill) (Phase 1)	3290±60	1738–1440
SUERC-8993 (GU-13712)	Cremated bone (skull)	388	Fill of central burial steatite urn fill) (Phase 1)	3525±40	1960–1740

Table 5.19 Contextual information of Mound 6 features.

Feature	*Fill/Layer [sample no]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
493	127 [75]	Pit		0.3		1.9
	[76]				0.2	1.9
	[77]		Negligible	0.1	0.1	3.8
129	121	Cist (19th century excavation)				32.5
133	134 [91]	Pit				
135	136 [133]	Pit – post-hole		observed		
137	138 [100]	Pit	1.7	0.3	23.7 >4mm	2.9
	[130]		0.3	negligible		15.1
	[132a]		0.1	0.1		1.2
	[132b]		0.5 >4mm	observed	9.2	5.7
	[132d]		0.8	2.7		19.8
139	140 [125]	Pit	4.1g	observed	12.7g >4mm	8.9
	[131]		5.4g	0.2	38.2g	6.6
141	142 [126]	Pit – poss post-hole		observed		
145	146 [161]	Pit		0.8		26.6
384	386 [381]	Pit –386 layer over urn 389 layer		0.3		16.8
	[382]	around urn within cut (384)	Negligible	0.5	2.5>4mm	23.7
	[384]			1.2		12.2
	[385]			2.8	17.1 >4mm	23.8
	389 [383]			[383] 0.1		0.1
387	388 [400]	Pit (contents of steatite urn	1.1	*Alnus* 5	0.7	24
	[401]	in spits)	1.2	(0.3)		34.9
	[402]		1.8	(0.8)	0.6	74.6
	[404]		1.7	cf *Alnus* 7.3	0.7	132.6
	[405]		2.2			323.9
	[406]		1.4	*Alnus* 8.8		322.1
	[407]		0.5	*Alnus* 62.3	1.7	254.7
	[408]		0.2	0.1	0.4	37.4
	[409-411]					18.5

This augmentation of Mound 6 involved not only enlargement but also a secondary burial over the primary turf mound in a large, badly damaged cist (129). The cist was orientated north-north-east–south-south-west, and built of quite massive stones almost directly above but slightly to the north of the central primary steatite urn burial (Figs 5.42 and 5.46). The disturbed cist had been excavated in the 1840s, and the large stone found in the top of the mound was probably the capstone which had been shifted to one side to gain access to the cist (Fig. 5.43). Surprisingly, given this unwelcome attention, not only were the remains of two cremated persons; a young infant and older adult, possibly female (Table 5.22) present within the disturbed fill (121), but also the partial remains of a young adult inhumation. This was the only inhumation burial to be recovered from the Linga Fiold barrow cemetery. Although not encountered commonly, there are other instances in Bronze Age Orkney of inhumations succeeding cremation as part of secondary refurbishments of barrows, for example, a flexed inhumation burial, aligned east - west and facing south, was inserted into a cist containing cremation burial within a barrow at Holland, St Ola (Neil 1981; see also Corrie 1929).

At about this time, a stone boat-shaped setting was built within an elongated pit running parallel to and partially cut into the east edge of the mound (Figs 5.50 and 5.51). This arrangement was covered by a low cairn (124) which in turn was partially covered by slumped final mound material (084) and (082), (Fig. 5.42). Alternatively, the possibility exists that the boat-shaped setting was constructed between the two final episodes of mound enhancement and the final mound material had been purposely deposited over it, as opposed to merely being eroded mound material.

In construction, the primary element of the boat-shaped setting was a long shallow cut (148) aligned north-north-east–south-south-west, arcing around the east side of the mound (Figs 5.50 and 5.51). The cut was at least 4.8m long (the northern end ran out of the trench), c. 1.4m wide and c. 0.40m deep in the centre, tapering towards either end. A thin layer of grey clay (149) was then deposited which acted as bedding for the large stone blocks (150) that were arranged to form the shape of the prow of a boat, c. 1.50m long and 0.70m wide (Fig. 5.52). However, the 'prow' also acted as the southern end of a longer boat-shaped setting c. 3.4m in length. Centrally positioned within the 'prow' was a pit (137) cut through the bedding clay (149), which contained pyre material, including cremated bone, cramp, charcoal and burnt soil (138). A probable post-hole (135) was also found at the southernmost end of the boat-shaped setting; it was packed at the top with large stone blocks, and the soil fill contained no burnt material. Finally, cairn material (124) was placed over the whole of the setting, which included a stone mattock (SF 231; Fig. 5.49; Table 5.23).

Although fairly common in the Viking period, second millennium cal BC stone boat-shaped settings have not been identified previously in an Orcadian context, although in the light of this find there is another possible example from Rousay. At the Geord of Nears near Trumland, Rousay, a barrow which was edged with upright slabs had a ruinous

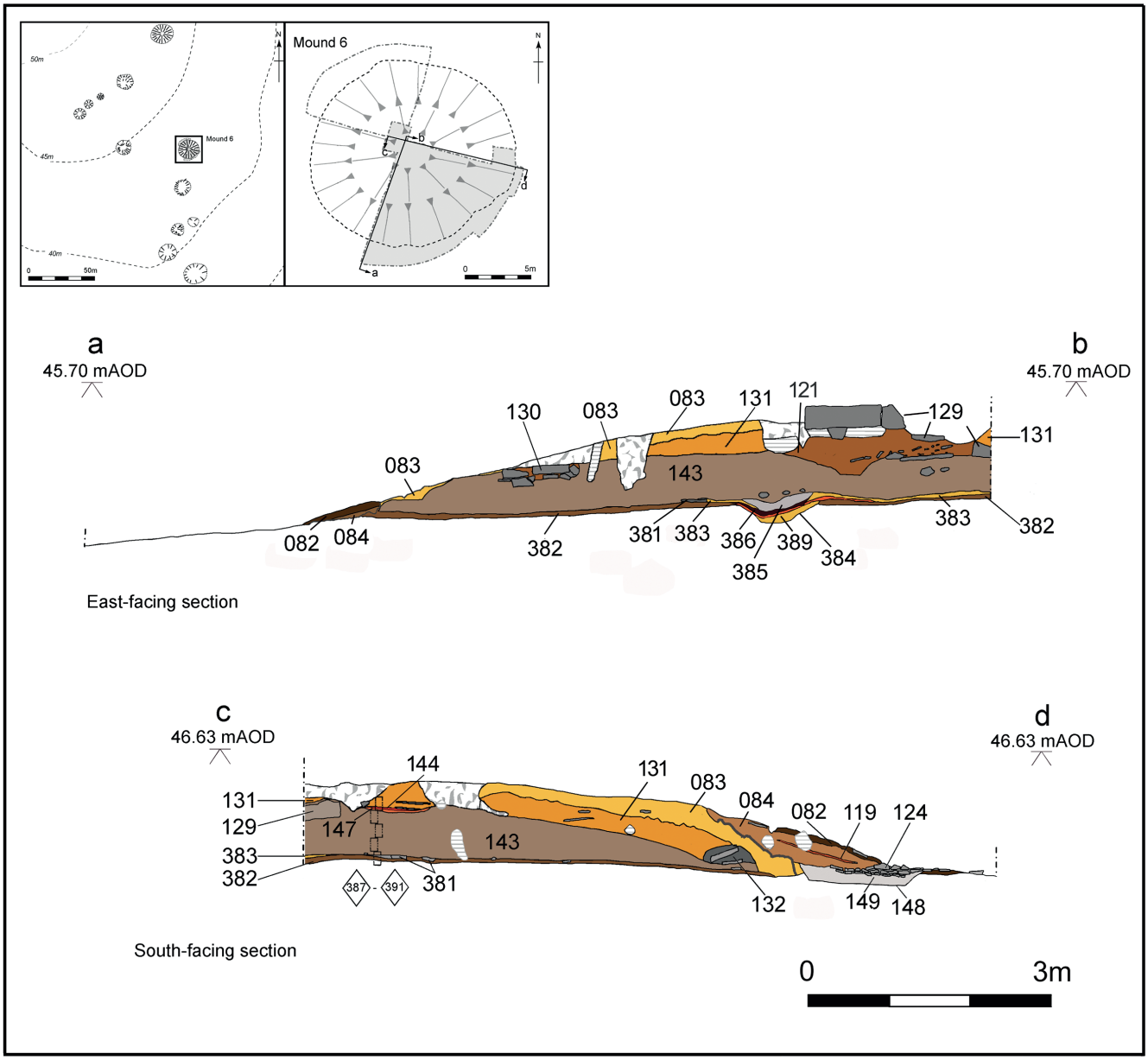


Fig. 5.42 Linga Fiold Mound 6 sections showing the primary barrow and secondary enlargement.



Fig. 5.43 View of Mound 6 from south-east showing pre-barrow turf-line (382), clay spread (383) and scattered paving (381). The large slabs at the centre on top of the section are components of destroyed cist (129).

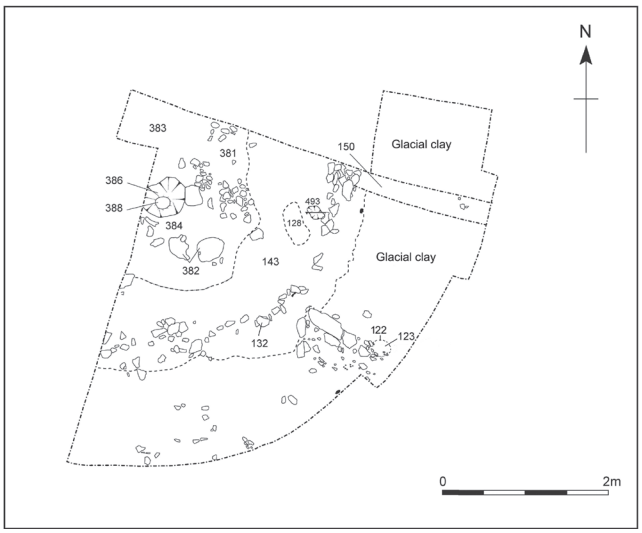


Fig. 5.44 Mound 6: primary barrow plan.

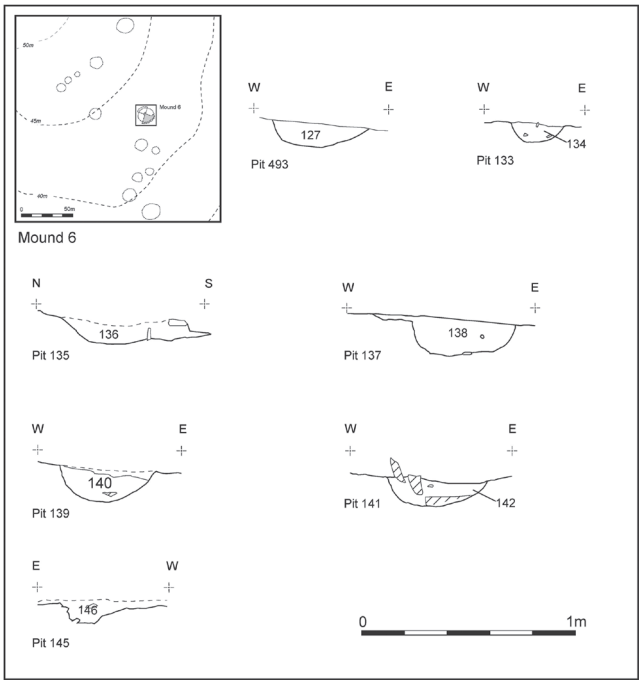


Fig. 5.45 Mound 6: sections of pits and cists.

boat-shaped setting in the centre, which was also defined by orthostats (Grant 1933). The central stone feature was c. 2.90m long and 1.68m wide and similarly aligned north-north-east–south-south-west. This example was flat sided with the north end prow-like whereas the south end was incomplete but could be seen to taper inwards. The partial remains of steatite vessels were found within the setting, along with cremated bone. A rather similarly shaped elongated feature is present within the barrow cemetery at Tarradale, Aberdeenshire. Here, dark 'stains' running internally along each side were revealed through excavation to be part of what was interpreted as a log coffin (Birch and Noble 2019, 133–7). At Seafield West, Inverness, a degraded inhumation had been interred in a boat-shaped wooden coffin dating to 1872–1533 cal BC (AA-29064) within in a ring ditch (Cressey and Sheridan 2003, 51–2). Indeed, many years ago Lesley Grinsell identified a number of log coffins as being 'boat-shaped and there can be little doubt that they were intended to represent boats….. and it is tempting to attribute their presence to a belief that the dead had to go across a stretch of water in order to get to the next world' (1941a, 91–2; see also Grinsell 1941b). Since then, Grinsell's observations appear justified with many log coffins appearing to be boat-shaped, such as burial F48 at West Ashby, Lincolnshire (Field 1985, 109). This led to the suggestion that these were wooden boats re-used for burial (see Watkins 1980, 280–5; Elgee and Elgee 1949). However, with reference to the central burial in the ring ditch at Bowthorpe, Norfolk, Andrew Lawson (1986) has argued the coffins were intended to be representational as opposed to the re-purposing of actual watercraft.

Whilst rare in northern Britain (see however, Duffy 2007, 86; MacGregor 2009), Bronze Age boat-shaped stone settings are of course numerous in Scandinavia and north Germany (Harding 2000) and can vary greatly in size from less than 10m to c. 45m. Writing of the boat-shaped burials in Sweden, Sigvallius describes stone monuments that vary greatly from very large boulder monuments exposed in the landscape to smaller examples buried under barrows which are 'little more than ship-formed stone cists' (Sigvallius 2005, 160; see also, Skoglund 2008). Perhaps the most important aspect of boat-shaped cist settings is that they are the materialisation in stone of vehicles of transportation from one domain to another (e.g. Bradley *et al.* 2010).

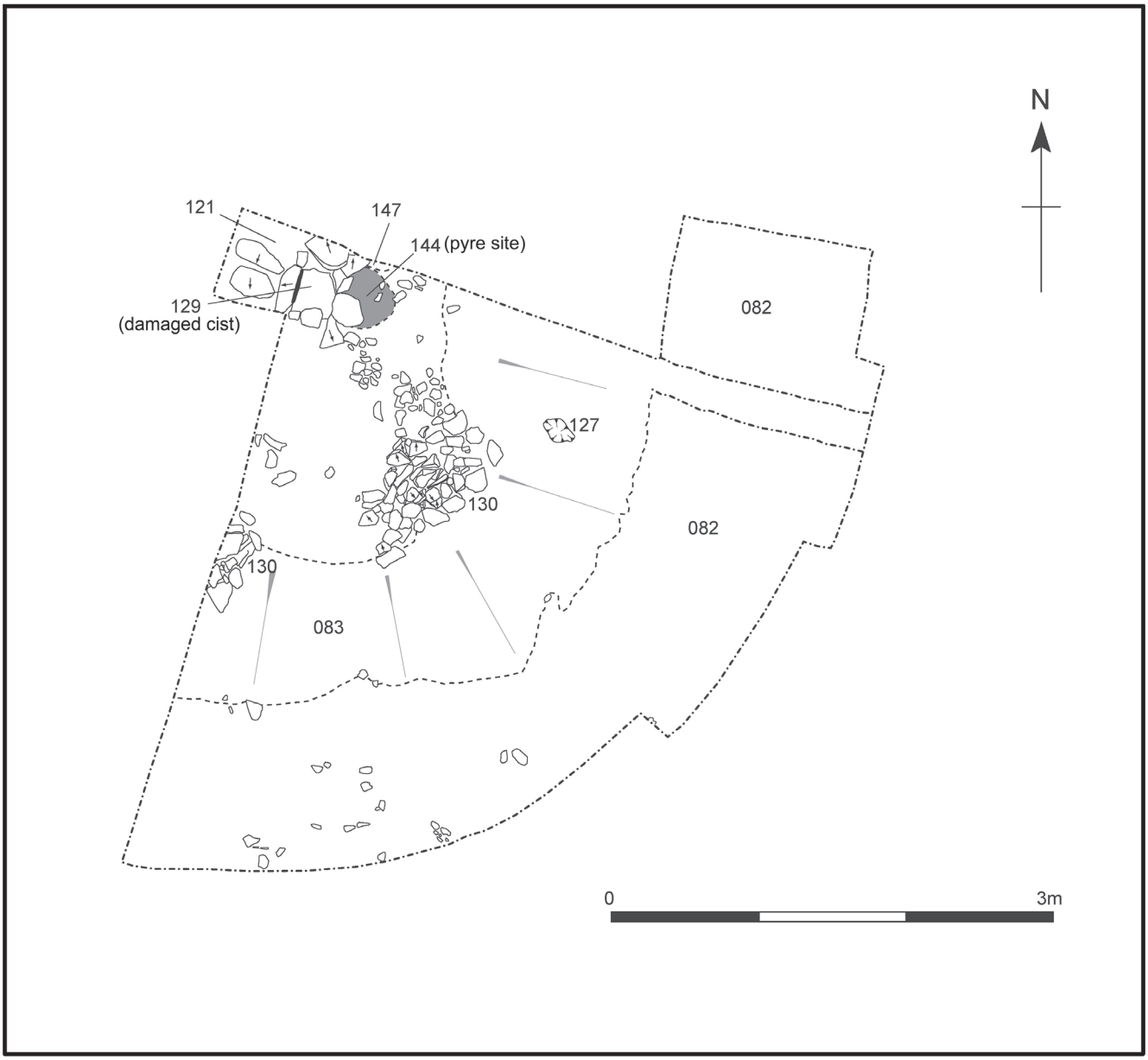


Fig. 5.46 Mound 6: secondary funerary activity on the primary turf mound.

All the other features found at the outer edge of Mound 6 lay in a group to the east of the boat-shaped setting (Fig. 5.37). These comprise four pits (133), (139), (141) and (145). Of these pits (133), (139) and (141) were cut into natural subsoil and covered by the cairn material that capped the boat-shaped setting. In contrast, pit (145), which contained pyre debris (146), including charcoal, cremated bone and large amounts of pottery (see Tables 5.19, 5.20 and 5.22; Fig. 5.49) was covered by topsoil. The pottery represented parts of four vessels, each tempered with crushed steatite (Table 5.21)

5.9 Mounds 7, 29 and Structure 1: focal points of the Linga Fiold barrow cemetery

Mound 7 is far from being a typical barrow, and although it gives all the appearances of being just another burial mound in the Linga Fiold cemetery, there are a number of attributes that make this barrow rather different. First, it occupies a pivotal location within the cemetery in being positioned centrally between the western and eastern linear sub-groupings of barrows, and consequently forms part of neither (Figs 5.1 and 5.53). Structurally, there are differences with the other barrows, especially at the centre of the mound

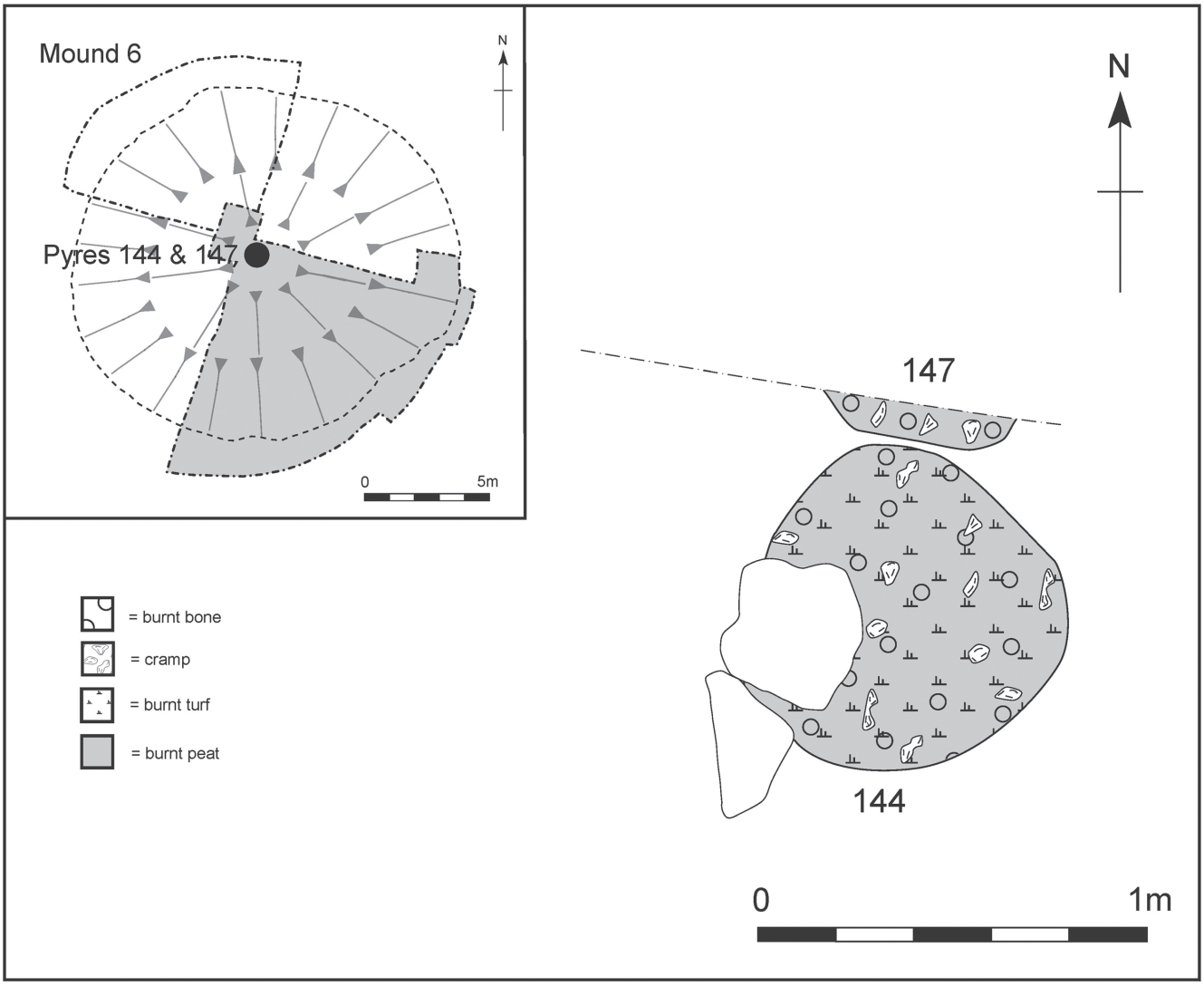


Fig. 5.47 Mound 6: detail of pyres (144) and (147).



Fig. 5.48 Mound 6: the laid stones (130) on the upper surface of the turf mound (143) may be remnants of a ruined cist structure.

where a cist would be expected. Instead, there is a low rectangular stone box with no capstone, adjacent to which are the remains of a pyre. Admittedly, this box does contain a cremation deposit of an older infant (Table 5.27), but there the similarity ends. Rather, it could be argued that this is actually a pyre site that was covered and contained within a modest barrow which subsequently became the focus of extensive funerary activity seemingly over a relatively short period of time (Section 5.13.4; Table 5.25; Griffiths: Appendix 28). This is not just the site of a single pyre that becomes covered and commemorated by a barrow but is a large number of pyres grouped together with the stone-built mortuary or death house (Figs 5.54, 5.57 and 5.58), all of which are positioned centrally within the cemetery.

Until excavation commenced there was no hint that Mound 7 stood just south of an earlier small barrow

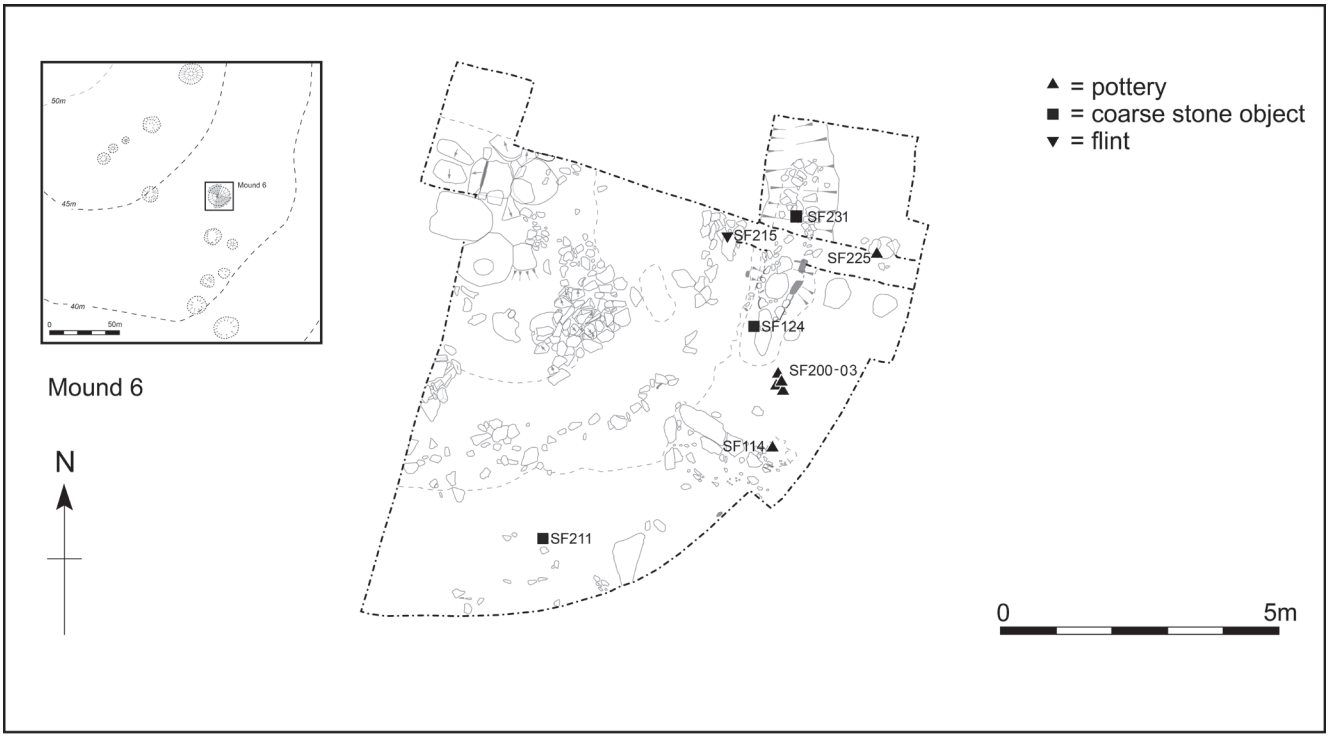


Fig. 5.49 Mound 6: finds distribution.

(Mound 29). This barrow has a very different trajectory in not being selected for further development or enhancement. This situation is informative in charting the seemingly variable and inconsistent development of barrows within the Linga Fiold cemetery. It also provides a slight hint that burials may have initially been placed beneath low and less prominent mounds. Under these circumstances as the cemetery evolved through time new barrows were introduced in conjunction with the selective enhancement of others. Conversely, others may have remained untouched and possibly neglected.

Initially, the results of the geophysical survey of Mound 7 seemed disappointing in that the definition seen in the other mounds was absent. However, closer scrutiny revealed this lack of clarity was due to the substantial area of high positive and low negative magnetic values at the eastern edge together with an area of more dispersed positive and negative value magnetic anomalies lying to the north and north-west (Fig. 5.4). As a result, the barrow was investigated in quadrants, with the north-east and south-east quadrants being fully excavated. As excavation progressed it soon became clear that the 'curious' peripheral magnetic anomalies represented a range of adjacent features, the early small Mound 29, an extended flat cemetery of cists and pits which surrounded parts of Mound 7 and the remains of Structure 1, an adjacent building to the north (Fig. 5.54).

5.9.1 Mound 29: a small primary barrow

Mound 29 was unexpectedly uncovered in a slit trench extending from the north-east of the main excavation area of Mound 7 (Fig. 5.55). The barrow was small in measuring c. 3.20m in diameter and c. 0.20m high, being of similar dimensions to Mound 27 (Section 5.12 below), one of the small barrows in the western alignment. Mound 29 was also built on the OLS (225) which in the excavated area could be seen to continue well beyond the mound. This indicates that when the barrow was built the surrounding turf in its immediate environs was intact and had not been removed, in contrast to the turf stripping occurring around some of the eastern barrows. However, there appears to be a strip surrounding Mound 7 where the turf was removed creating a 'halo' effect (Fig. 5.62: sections f–g and h–i). It appears that the building of the earlier Mound 29 did not entail widescale turf stripping as occurs with the later larger mounds. Nor was there the desire, on the part of the builders, to erect the barrow on a platform or 'island' of turf. This is all the more curious as the body of the barrow was composed of a substantial deposit of laid turves (273).

The primary burial of Mound 29 was in a shallow burial pit (452), c. 0.19m deep, with a rounded base that lay at the centre. The pit was filled with peat-rich ash and charcoal which appeared to be pyre debris (451). Within this material, 27.7g of cramp and a very small amount of burnt skull fragments (2.5g) of a subadult/adult were recovered

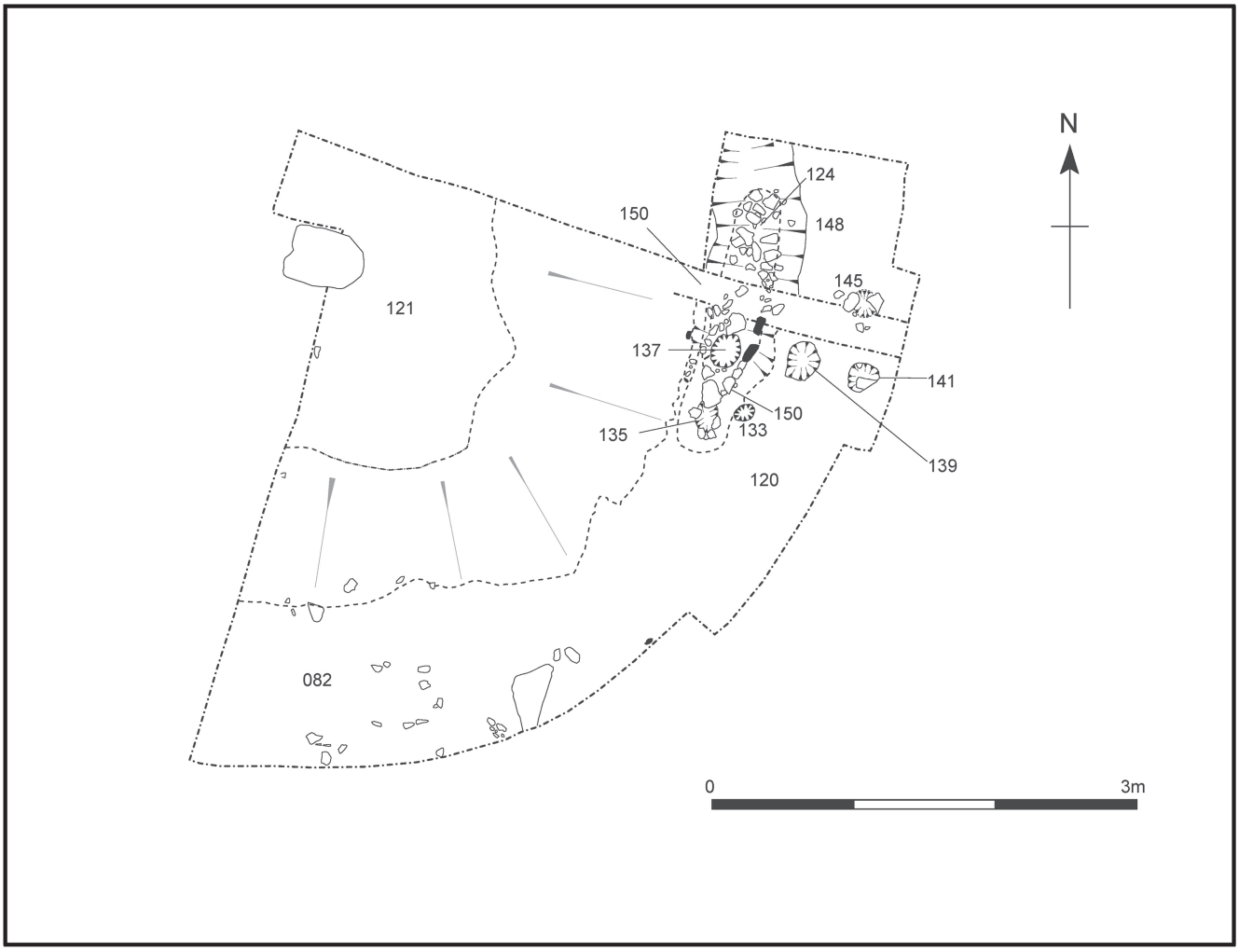


Fig. 5.50 Final phase of activities at Mound 6.

(Table 5.27). This material also spread beyond the top of the pit across the surrounding area to a rough diameter of c. 0.80m. There were some indications (enhanced magnetic susceptibility readings and some reddened soil) that the pit and spread may have been the actual site of burning and potentially represented an unusual *in situ* pyre with associated burnt material. A scoop to the north of the pit is probably the depression of a displaced capstone which is likely to have been further dislodged and removed by more recent cultivation.

Although Mound 29 seems to have been levelled as part of the later changes to Mound 7, particularly laying the clay platform, enough survived to enable its reconstruction (Fig. 5.55). After the pyre debris containing cramp and cremated bone had been deposited in the central pit it was covered by a capstone. Over this a small mound of orange-brown clay (453) was deposited, which provided the immediate core of the barrow. Over the clay core a more substantial deposit of laid turves (273) formed the main body of the mound (Fig. 5.56). Subsequently, this too was covered by a layer of organic material (274), which almost certainly represents the final capping of the barrow. During excavation a spread of displaced stone flags and blocks was discovered partially surrounding the truncated barrow that almost certainly are remnants of a kerb, which had been robbed and truncated during the platform construction. Alternatively, they could have provided a stone capping as occurs at the Seven Knowes of Gitterpitten (Section 6.3), and Quoyscottie (Fig. 6.61; Hedges 1977).

Mound 29 was possibly already severely truncated when it was further levelled during the construction of the clay platform (196/227/456), which flowed over it. This is a curious situation since the weathered and eroded form of the barrow, and the displacement of the capstone and stone kerbing, indicate that it may not have been a particularly prominent or remembered burial monument during the later development of the cemetery (as represented by the enhancement of Mound 7). Certainly, the clay platform

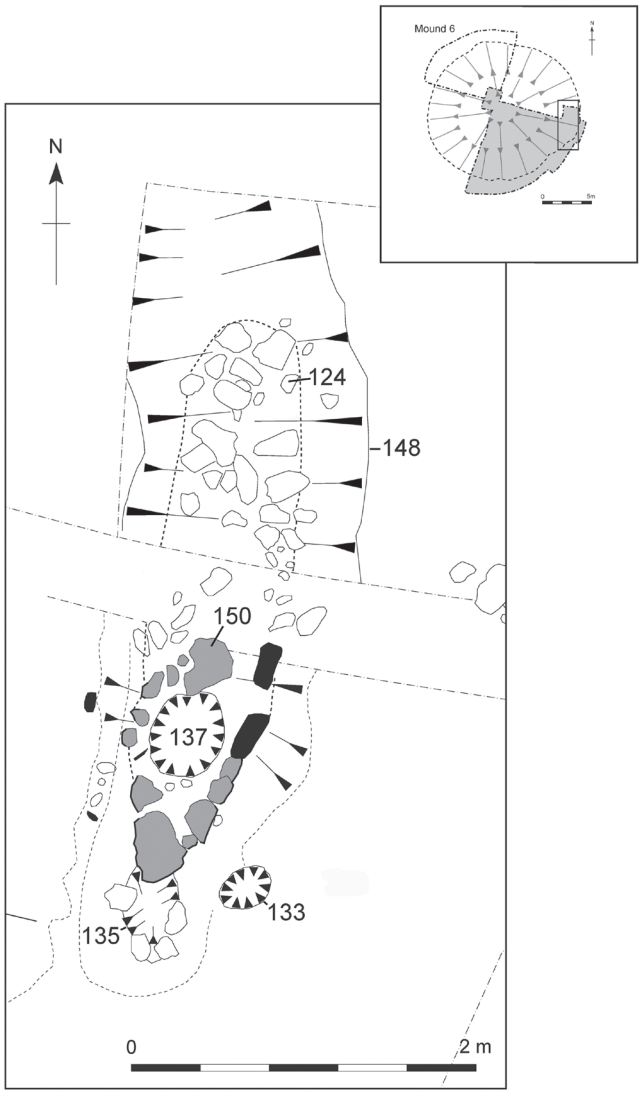


Fig. 5.51 Mound 6: Plan detail of boat-shaped stone setting (124) and cremation pit (137).



Fig. 5.52 Mound 6: The stone 'prow' (150) lay at the southern end of the elongated stone setting.

erased most traces of it and Mound 7 became the focus of attention including enlargement and numerous satellite cremation burials.

5.9.2 Before Mound 7: the stone box, pyre and stone circle

Situated south of Mound 29, the primary, pre-Mound 7 elements were first, an unusual low-sided stone box (346), not really a cist but containing a cremated burial deposit. Second, was an adjacent pyre (347). These features were surrounded by a ring of low standing stones as represented by three substantial standing monoliths (350a, b, d), a fourth monolith (350c) had toppled, and a socket was present at its northern base (Fig. 5.59). To the west, another likely fallen fifth stone (350e) was set into the buried soil (225), (Figs 5.57 and 5.58). These distinctive 'blocky' monoliths were revealed in the excavated south-east and south-west quadrants and probably continued within the unexcavated areas of the barrow, although in the north-east quadrant which was excavated the monoliths were replaced by coursed (probably) later kerbing.

If conceived as part of the pre-barrow architecture, the partial stone circle appears to be a form of wrapping encircling the pyre site and could equally be described as a 'peristalith'. On a much smaller scale, one of the cremation pits (F27) at Knowes of Quoyscottie was surrounded by four monoliths (Hedges 1977, 134; pl. 6d). However, elsewhere in Scotland, particularly in north-eastern and eastern areas, there is a similar trend of erecting stone circles around pyre sites. A number of the small stone circles in Perthshire, also employing 'chunky' monoliths, appear to be erected around pyre sites, including Acharn Falls (Gillies 1925), Fowlis Wester (Young 1943), Monzie (Young and Mitchell 1939) and Tigh-na-ruaich (Coles 1908; Richards and Cummings 2024, 156). Elsewhere in Britain rings of monoliths are occasionally present within Bronze Age burial mounds, for example at the Deverel Barrow, Dorset, where large blocky stones surrounded the burial in a semicircle (Woodward 2000, 43). However, far more common are rings of wooden posts encircling central burials beneath Bronze Age barrows.

In these examples, the pyre and burial provide the focus for various forms of enclosing architecture, yet as we will see below, the actual central 'burial' on the pre-Mound 7 surface is atypical in being in a low stone box (346) containing a cremation deposit but without a capstone. Indeed, the adjacent pyre site could equally be argued to be the focal point of the surrounding monoliths. If the large recumbent stone (350e) to the west is included (see Fig. 5.57) the ring of stones runs beyond the confines of the later mound. Under these circumstances the subsequent barrow is placed in an off-set position to the stone circle.

When first uncovered, the primary burial features and deposits beneath Mound 7 seemed to portray a fascinating but straightforward sequence of cremation and burial.

Table 5.20 Details of pit group east of Mound 6.

Feature	*Diameter (m)*	*Depth (m)*	*Fill*	*Fill description*	*Burnt bone*	*Small finds*
Pit 133	0.25	0.09	134	Grey–black burnt soil – pyre material (sorted), burnt clay frags	no	no
Pit 139	0.50	0.16	140	Grey–black burnt soil – pyre material, cramp	yes	no
Pit/post-hole 141	0.41	0.13	142	Mid-brown loam, small amounts of charcoal	no	no
Pit 145 (oval)	0.36 × 0.23	0.11	146	Black–brown silty loam, charcoal	yes	4 vessels: SFs 223, 224–30, 232, 236–40, 242–44, 329

Table 5.21 Details of pottery recovered from Mound 6, note the large quantity from Pit (145).

Vessel	*Context*	*SF no*	*Diameter (mm)*	*Thickness (mm)*	*Description*
6.1	146	114, 223, 225*, 226, 228, 230, 236, 238, 240, 242, 243, 244	220	11	12 body sherds, 2 plain rim sherds & 2 basal sherds from a flat-based vessel with angled walls. The fabric is sandy clay with c. 80% angular rock frags, reduced (grey) with an oxidised exterior surface (brown). The exterior has been smoothed. There are signs of fire-cracking. The interior surface is sooted.
6.2	146	114, 201, 237*		13	3 plain rim sherds & 4 body sherds. The fabric is fine sandy clay with c. 80% angular rock frags, reduced (grey). The exterior surface is smoothed & sooted & there is a residue in the interior.
6.3	146	329		14	2 body sherds & some frags. The fabric is sandy clay with c. 30% steatite frags, oxidised (brown). The exterior surface is sooted.
6.4	146	243		9	Small frag. The fabric is fine sandy clay with c. 80% angular rock frags, oxidised (grey). The interior surface is sooted.
6.5	123	200, 201, 202, 203			Body sherds from a vessel in fine sandy clay fabric with c. 80% angular rock frags, reduced (grey). Similar/same vessel as 6.1.
6.6	146	229			1 sherd (see Appendix 12)
6.7	146	239			1 sherd (see Appendix 12)

*illustrated

Table 5.22 Cremated human remains from Mound 6.

Fill/layer	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
121	129 associated with 144/7	19th century excavated cist	86.1	3	1) young adult (inh. burial) 2) young infant 3) older subadult/adult	 3) ??female
144	144=147	Pyre site	72.8	2	1) older infant 2) adult	
147			1.1		?	
127	127	Pit	6.7		? Immature	
138	137	Pit	29.4	?1	Adult	
140	139	Pit	14.8		Subadult/adult	
146	145	Pit	26.6	?1	Adult	?Female
389	384 above urn	Over urn	0.1		?	
386			71.2		Adult	?
189	388	Urn in pit	18.5		Older/mature adult	?
387			1204.2	1	Older mature/older adult	?Male

Table 5.23 Details of stone artefacts from Mound 6.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
32	227	Flaked stone bar	27.5	Tabular piece of grey micaceous sandstone. Lightly abraded. Flaked all over. Tapering in outline with a squared butt & an asymmetrically curved end. A single notch has been formed on either side towards the squared end; these are smoothed & indicate hafting. Small areas of smoothing at opposite end on 1 face indicate use wear.
83	211	Flaked stone bar	23.2	Tabular piece of grey micaceous sandstone. Abraded on 1 face. Parallel-sided with 1 end diagonally squared & opposite end broken. Poss. patches of smoothing towards shaped end on 1 face indicate use wear.
119	124	Flaked stone bar	34.5	Tabular piece of grey micaceous sandstone with remnant cobble cortex on 1 face. Abraded with damaged edges. Tapering in outline with 1 asymmetrically curved end & broader end diagonally curved. Towards the centre of 1 side the edge has been rounded indicating hafting.
121	233	Flaked stone bar	23	Tabular piece of grey micaceous sandstone. Abraded, particularly on 1 face & around edges. Sides converge & the ends are fragmented.
121	234	Flake	29.5	Large sandstone 'flake'. Probably removed through heating or weathering. Unworked.
124	231	Probable Flaked stone bar (abraded)	22	Piece of laminated black micaceous sandstone. Very abraded & fragmentary. Sides converge & both ends are curved.

Table 5.24 Worked flint from Mound 6.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
131	215	Flake	2.4	Flint, flake, inner, broken, distal missing

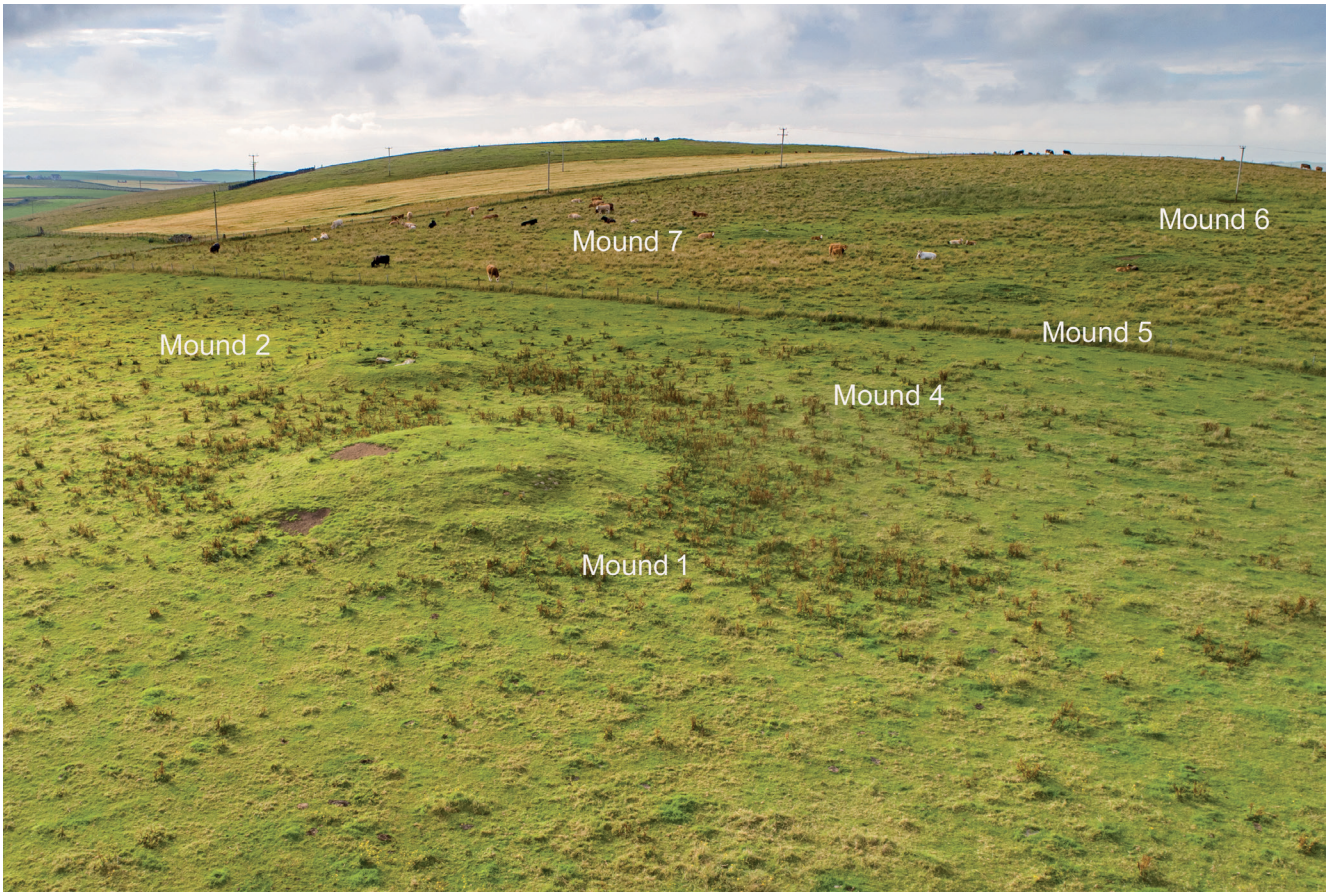


Fig. 5.53 View of Linga Fiold southern barrows showing position of Mound 7 (Steven McKell).

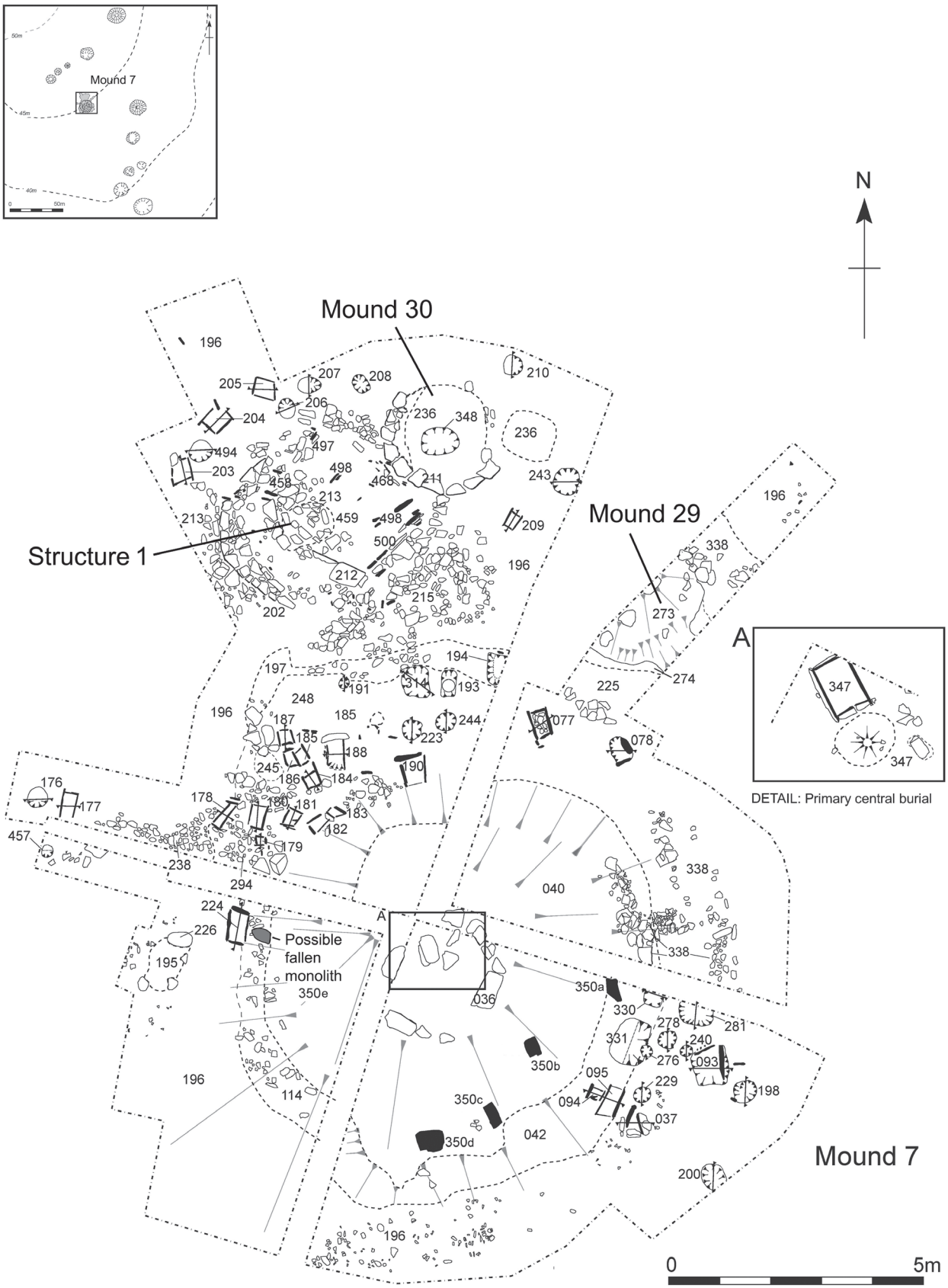


Fig. 5.54 Composite plan of Mound 7 and associated features.

Table 5.25 Radiocarbon dates from Linga Fiold Mound 7 and associated features.

Lab. code	*Material sampled*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
AA-23265	Charcoal (*Corylus*)	454	Fill of central cist 346 (Phase 1)	3135±45	1516–1314
SUERC-8995 (GU-13714)	Cremated bone (femur shaft)			3430±40	1880–1630
SUERC-8994 (GU-13713)	Cremated bone (skull)			3400±35	1780–1610
GU-4878	Charcoal (*Alnus*)	455	Central pyre (Phase 1)	3210±50	1620–1410
GU-4877	Charcoal (*Salix*)	328	Fill of 224: cist under edge of mound (Phase 2)	3190±60	1620–1324
GU-4887	Charcoal (*Corylus*)	250	Fill of cist 095, cut into edge of mound (Phase 5)	3030±100	1520–1000
GU-4879	Charcoal (*Corylus*)	335	Fill of cist 204, NW of mortuary structure (Phase 5)	3210±80	1680–1317
GU-4876	Charcoal (*Corylus*)	296	Fill of pit 244, N of mound (Phase 4?)	3190±90	1620–1270

However, as is so often the case, all was not as it seemed. First, the large but shallow stone box was built from four upright slabs (346) orientated north-west–south-east and set into the old ground surface (225). Although measuring c. 1.10m north–south by c. 0.75m east–west, it only stood c. 0.30m above the ground surface (Fig. 5.60). This is very shallow for a cist being more akin to stone hearths present in Neolithic and Bronze Age Orcadian houses (see also cist/hearth (224); Section 5.4.6.3 below).

The ashy fill (454) of the stone box contained 309.2g of cremated bone of an infant, and small quantities of the range of pyre debris apart from cramp (7.7g burnt turf, 20.9g burnt clay, 0.4g charcoal *Corylus*) (Table 5.26). This deposit (545) produced radiocarbon dates of 1880–1630 cal BC (SUERC-8995) and 1780–1610 cal BC (SUERC-8994) from cremated bone and a date of 1516–1314 cal BC (AA-23265) from charcoal (*Corylus*) (Table 5.25).

The adjacent pyre comprised a pile of dense black burnt material (455) within which a charred alder (*Alnus*) log survived and at the top were pieces of cremated bone. This was covered by a second layer comprising a thin orange/red spread of burnt clay (347) upon which the majority of cremated bone fragments were found. Interestingly, some of the bone was not entirely cremated with pieces of long-bone being 'black/dark blue in colour' with some being merely charred (see Chapter 7; McKinley: Appendix 1). Cremated bone from the pyre was identified as those from an older/mature adult, possibly female, and weighed 295.7g. Pyre debris comprised the aforementioned *Alnus* (107.4g) but no other charcoal species, cramp 7.7g, burnt turf 94.8g and burnt clay 169.8g. A radiocarbon date of 1620–1410 cal BC (GU-4878) was derived from (*Alnus)* charcoal (Table 5.25). As will be discussed in the final section, this is a relatively late date in the evolution of the cemetery and provides some support for the identification of Mound 29 as an earlier barrow. It also indicates that when Mound 7 was erected it followed a lengthy period of funerary activities including the early use of Structure 1 and several pyres (Section 5.13.4; Griffiths: Appendix 28).

The low stone box (346) stood directly north of the pyre, so close that the intense heat had scorched the end upright (see Figs 5.60 and 5.61). Although the pyre and cremation of the older/mature adult, possibly female, occurred next to the stone box, contrary to expectations, the cremated remains present in the box were those of an older infant (McKinley: Appendix 1). These were mixed within a c. 0.10m-high pile of ashy pyre material (454) including charcoal and burnt peat, which was clearly derived from an earlier cremation event. Therefore, the mound covered the remains of two different funerary events: the low stone box containing the remains of an infant, and the cremation pyre upon which an adult had been cremated. Given that the pyre was the final event to take place before the mound was raised (see below), the box must have already contained the infant cremation deposit, as together with the adjacent pyre it was covered before the latter had cooled. The other implication of this occurrence is that the majority of the cremated remains of the adult on the pyre were collected and taken elsewhere for burial.

5.9.3 Peripheral pyres and burials: the cist or hearth (224) and pyres (195), (245), (311) and (459)

One of the main features of Mound 7 that differentiated it from the other barrows investigated in the cemetery was the number of primary pyres either sealed beneath the barrow and the clay platform (196) (Fig. 5.57). Just beyond the mound to the west was a second pairing of a pyre (195) with a low-standing stone box (224), the latter containing a thick ash deposit (see below). Stratigraphically, these features were early in being on the OLS (225/6) but sealed beneath the external clay platform (196) associated with

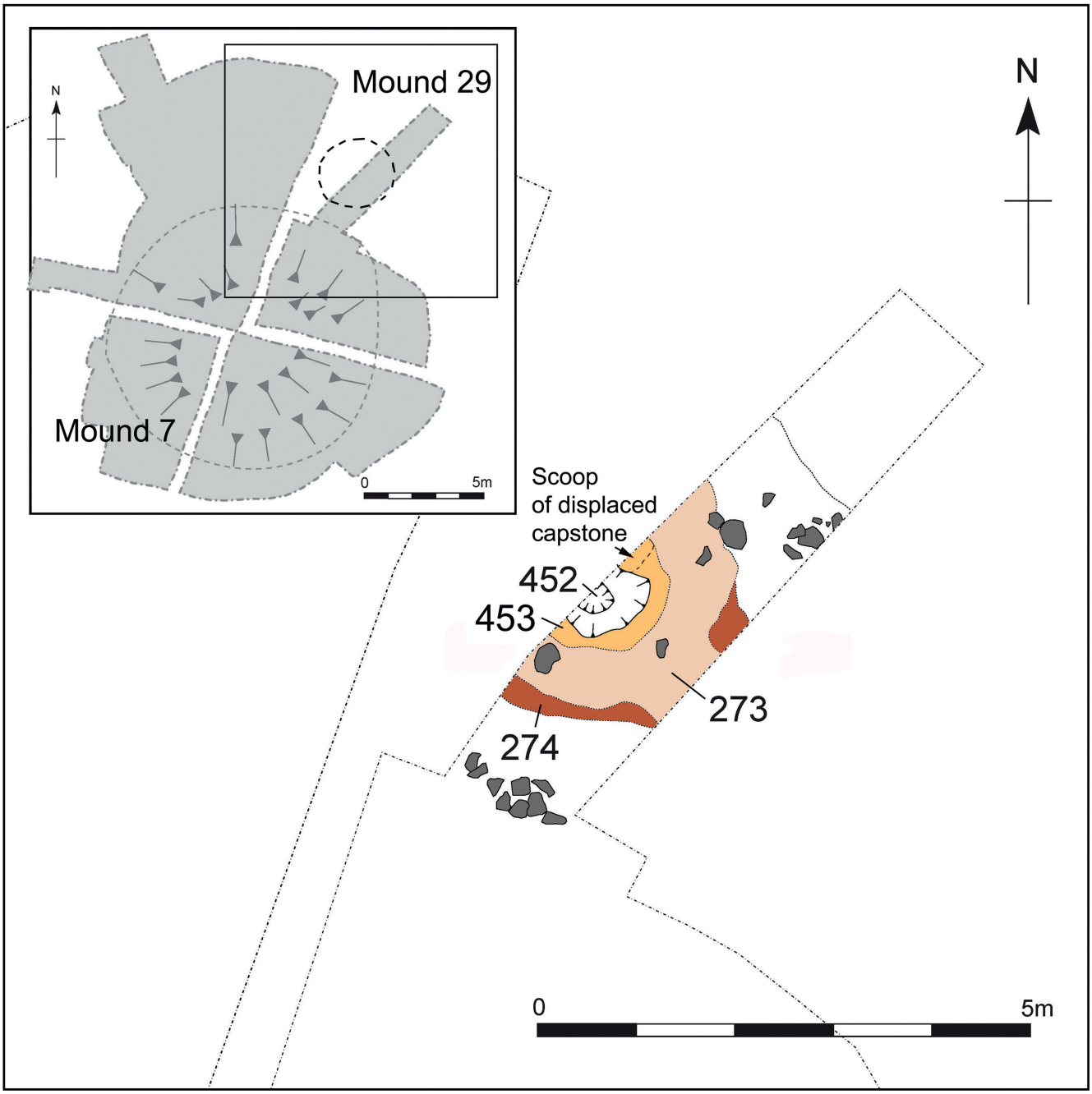


Fig. 5.55 Plan of small Mound 29 in which the barrow make-up is revealed in a 'sliced through' aspect.

the secondary barrow augmentation (Figs 5.57 and 5.66). As with the central stone box (346), stone box (224) was defined by four unusually low upright slabs but was smaller in measuring c. 0.70 × c. 0.40m, and oriented north-north-east–south-south-west (Fig. 5.64). The tops of the uprights also displayed scorching from the adjacent pyre, and after removal of the covering clay platform material, a thick layer c. 0.14m of black ash with charcoal (328) was exposed (Fig. 5.64), which produced a radiocarbon date from *Salix* (willow) charcoal of 1620–1324 cal BC (GU-4877) (Table 5.25). However, given that the stone box contained charcoal and burnt turf in some quantity, but negligible burnt bone (0.2g), and no cramp, an attribution of 'cist' to this feature would be similarly misplaced. As with the central stone box, it displays far greater resemblance to a hearth. A similar box was situated immediately outside the kerb of a barrow excavated by Craw at Trumland, Rousay, who notes that 'from the peculiarity of the structure, position,



Fig. 5.56 View of denuded Mound 29 from north-east. Note the remains of the mound material (273) showing in the section.



Fig. 5.57 Mound 7: plan of primary features including cist (346), pyre (347), encircling monoliths and peripheral pyres, cists and pits.

and contents, it may have been used not for burial but for the reception of the products of a fire' (Craw 1934, 70). Another similar feature is present at Linga Fiold Mound 8 (see Fig. 5.82).

The adjacent pyre (195) was also sealed beneath the clay platform (196) taking the appearance of a surface spread of black charcoal-rich ashy material (321) covered by a discrete grey clay layer (322) bounded intermittently by stone slabs (Figs 5.65 and 5.66). Overall, the pyre assumed a rounded rectangular shape, c. 0.90m north–south and c.0.50m east–west, and contained 121.6g of cremated bone from a subadult/adult, possibly female (Tables 5.26 and 5.27). The cremated bone was mainly situated in the central western area of the pyre, being considered by McKinley to be a consequence of raking through the cremated remains before or after collection (McKinley: Appendix 1). Cramp and burnt turf were also present in the pyre material (321).

Another probable pyre site (245) was present in the north-west quadrant, lying in close proximity to Cists (185), (186) and (187) (Fig. 5.57), but pre-dating them as the pyre was sealed by the clay platform (196). This pyre site was relatively small and consisted of a spread of burnt stones (315) overlain by a patch of cremated bone, ash and charcoal (245), c. 6cm deep and measuring c. 0.63 × c. 0.65m (Fig. 5.67).

A further pyre site (459) was located c. 5m north-north-west of Mound 7 (Fig. 5.57). This too was sealed beneath the western wall and interior of Structure 1 (see Section 5.9.4.1; Fig. 5.71). The spread of red ashy material covered an area of c. 0.8 × 0.75m and contained much charcoal, burnt turf and c. 3.6g of cremated bone of a subadult/adult. To the south-east, sealed beneath the very edge of the mound, was another pyre site within a shallow rectangular pit (331) oriented north–south. The pit, measuring c. 0.70 × 0.60m, had rounded corners, vertical sides and a flat base. The fill (324) was a black ashy deposit containing cremated bone of a subadult/adult and few small angular stones.

Also beneath the clay platform, just over 5m north of Mound 7 and situated to the east of the small kerb cairn Mound 30, was a circular pit (243) containing the burial of a cremated adult (Fig. 5.57). The pit was c. 0.53m in diameter and its burnt fill (344) contained 170.5g of cremated bone, 90.2g of cramp, 180.9g of burnt turf and 5g of charcoal (Tables 5.26 and 5.27). Two body sherds (SF 249) of rock-tempered pottery with a sooty interior surface were also present (Fig. 5.63; Table 5.31; MacSween: Appendix 11).

A second circular pit (244) also containing a cremated adult burial was located just north of Mound 7, which also pre-dated the clay platform (Fig. 5.57). The pit contained a blackish–brown ash fill (296) which included charcoal and 210.9g of cremated bone. A radiocarbon date of 1680–1270 cal BC (GU-4876) was obtained from charcoal (*Corylus*) (Table 5.25), and a sherd of pottery (from Sample 195) was included in the fill (Table 5.31).

5.9.4 Building Mound 7

Immediately after the final cremation in the centre of the stone circle, both the low stone box (346) and pyre (347) were sealed by a thick layer of brown silty clay (326), the base of which fused with hot pyre ash (347). This central deposit was then covered by a more substantial dump of loose topsoil (460). Together, these deposits created the



Fig. 5.58 Aerial view of excavated Mound 7 with the partial circle of monoliths or 'peristalith' clearly visible in the top excavated quadrant. Structure 1 is in the foreground.



Fig. 5.59 Collapsed monolith (350c) and its excavated socket to the north.

core of Mound 7 (Fig. 5.62: section d–e) (Carter: Appendix 23, tables 2 and 3). The bulk of the barrow was then formed by depositing a large amount of yellow glacial clay (040) which probably occurred as a single event. Concurrently, around the barrow a stone kerb (338) was constructed (Fig. 5.54). Intriguingly, the kerbing was most distinct in an arc curving to the north from the ring of monoliths (350a–e). At a later time the ring of monoliths conjoined with the kerb, as was observed as it disappeared into the baulk (Fig. 5.58). The remnant kerbing was set amongst a mottled grey clay layer (339) which skirted the mound and directly relates to the clay mound material (040). Thus, it appears that the kerb is part of the main mound construction.

Over 200 pottery sherds were found among the displaced kerbstones at the edge of mound to the south-west (SF 103 and 108), which were all small and fragmented (MacSween: Appendix 11). Interestingly, the majority of pottery sherds from the cemetery as a whole derive from the edges of the mounds, frequently in a condition suggestive of deliberate *in situ* breakage of vessels on the kerb (Fig. 5.63).



Fig. 5.60 The primary stone box (346) was quite shallow and resembled a high hearth. Note the scorch marks on the bottom right of the upright beneath the end of the scale.

In common with Mounds 5 and 6, Mound 7 was created through the inversion of the natural stratigraphy; topsoil and turf were laid down first before being covered in glacial clay.

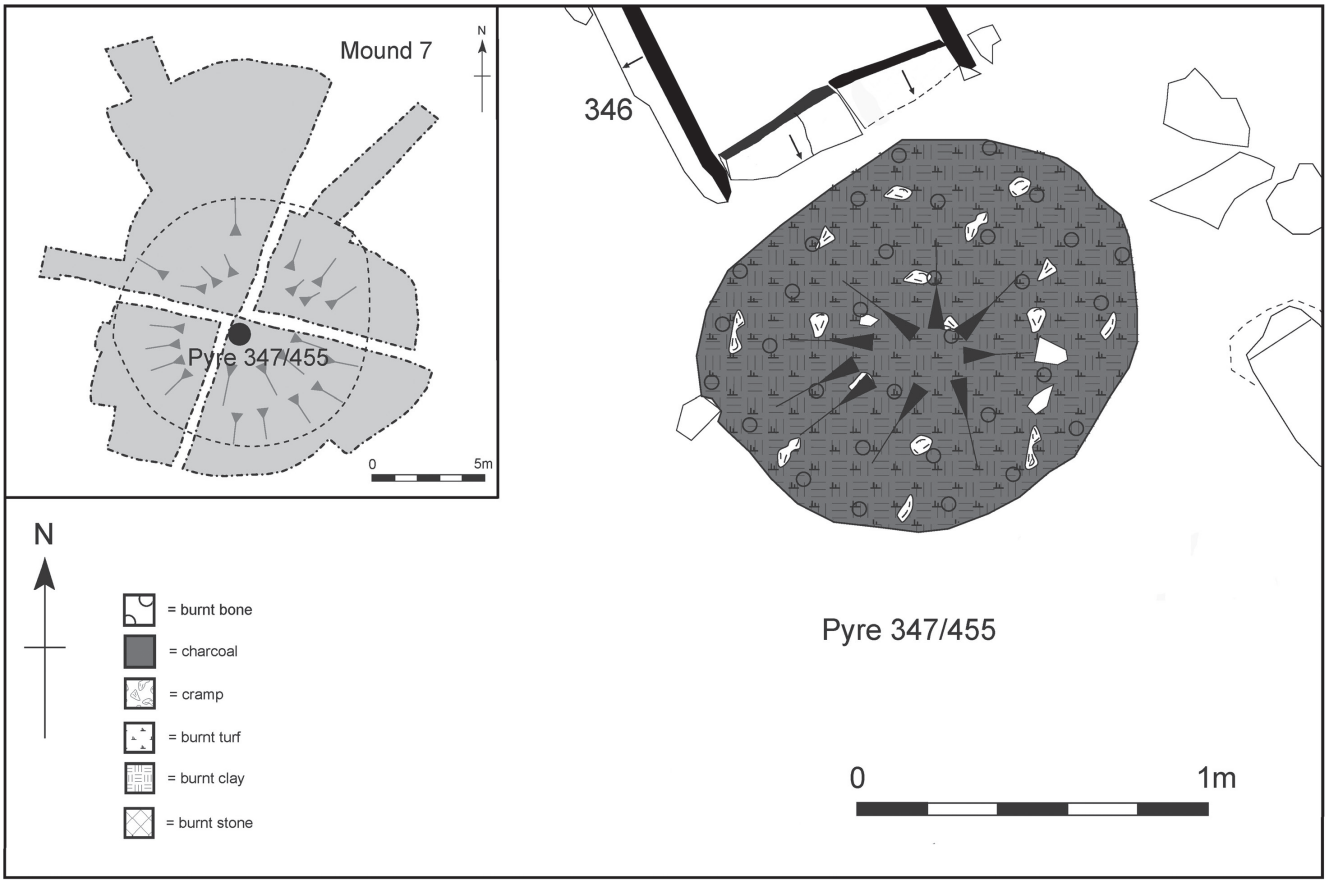


Fig. 5.61 Detailed plan of pyre (347) and cist (346).

Table 5.26 Contextual information of Mound 7 features.

Feature	*Fill/layer [sample]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
37	217 [83]	Cist		[83]<0.1		
	218 [85]		[85] Trace	0.9 cf *Alnus*	[85] 21.4	
	[86][94]		[86] 0.4	0.9 *Alnus, Betula*	[86] 44	[86] 1.4
	[103]		[103] 0.1			[103] 0.6
77	79 [35]	Cist	[35] 0.8	Observed		
	[39]		[39] 478			[39] 307
	91 [38]				32.3	22.4
	97		c. 500			(97) 359.8
	98 [44]		10.2	Observed		1
	102 [43]		1.3	Observed	173	
78	85 [36]	Pit	1.3	Negligble	negligble	
93	96 [101]	Cist		1.1 *Alnus*		2.7
	[102]			8.65		
	[104]		0.1	2.1		
	[105]			0.2	1.2	
94	242 [106]	Cist – post-hole		Observed		
	[107]		5.3	Observed		

(Continued)

Table 5.26 Contextual information of Mound 7 features (Continued)

Feature	*Fill/layer [sample]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
95	250 [109]	Cist –	10.6	2	3.3	7.6
	[110]	stones inserted into	17.7 >2mm	0.7	22.8	
	[110]	top of pit		2.5		
176	345 [253]	Pit		1.1	Observed	
	[285]			Observed	Observed	
177	343 [251]	Cist	32	Observed		30.4
	[252]		189			128.3
178	318	Cist				
179	280	Cist – poss post-hole				
	284					
180	286 [123]	Cist – stones inserted	2.2 >4mm	Observed		2.4 *(2.5)*
	[124]	into top of pit	0.3	Observed	40	0.3
181	293 [190]	Cist	22.9	1.5	9.5	[190] 22.9
	[191]		17.5	1	9.7	[191] 9
182	241	Cist				
183	272	Cist – cist stones in		Observed		
	279 [115]	top of pit				
184	297	Cist				
	299 [193]		0.3			
	300					
185	305	Cist				
	306 [204]			Observed	Observed	
186	301	Cist – stones inserted				
	303 [202]	into top of pit		Observed		64.7
187	311	Cist				
	312 [208]			0.6		
	313 [209]		0.1	<0.1		
	[210]		0.1	0.2		
188	249 [108]	Cist	0.1	Observed	3.6	17.8
	[112]				7.1	16.2
						(total 33.2)
190	288 [199]	Cist		Observed		10.1
	291 [200]		500	Observed	8.5	47
	307 [205]		Observed	Observed	80.6	6
	309 [206]					
	310 [207]		22.9	0.3		3.1
191	304 [201]	Pit	0.2	0.1		
193	221 [93]	Cist (+ urn)	8.6		207.5	8.1 *(3.6)*
	[438]		1.2		24.9	56.1 *(0.9)*
195	321	Pyre site	Observed	Observed	Observed	121.6
198	199 [79]	Pit		Observed	18	
200	201 [78]	Pit			17.3	
203	323 [235]	Cist	7.5			2.6
	327 [236]		52.1	0.5 unid.	19.6	224.9
204	335 [234]	Cist		10.5 cf *Corylus*		1.4
	[241]				116.4	
	[242]		<0.1			
	[243]				90.8	

(Continued)

Table 5.26 Contextual information of Mound 7 features (Continued)

Feature	*Fill/layer [sample]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
205	336 [237]	Cist – stones set in top of pit		0.6	0.6	[237] 6.9
	[238]			0.9		[238] 5.2
	[239]			2.9		[239] 0.7
206	334 [233]	Pit		2.4	Observed	
207	337 [240]	Pit	Yes	0.05 unid.	5.9	15.4
	[244]					1.3
208	341 [247]	Cist – stones set in top of pit				
209	317	Cist				
	319					
	320 [220]		2.2	Observed	73.6	
210	342 [248]	Pit		Observed	35	55.4
223	298 [194]	Pit	57.8	Observed	2.7	282
	[196]		55	1.1 *corylus*	0.7	235
224	328 [229]	Cist		10 *salix*	33.5	0.1
	[230]					0.1
	[231]					
229	228 [96]	Pit	0.2	0.1		
240	271 [111]	Pit	1.4	0.1	11.8	0.3
243	344 [249]	Pit	42.4	0.2	180.9	83.1
	[250]		12.1	0.3	Observed	26.2
	[254]		41.7		Observed	48.1
	[255]		32			13.1
244	296 [192]	Pit		7.95		39.9
	[195]			1.1		171
276	275 [113]	Pit	Trace			4.7
	[120]		1.5			9.1
278	277 [116]	Pit	1.1	Observed	24.9	Trace 0.01
	[121]		0.2	Observed	44.6	
314	316	Pit				
330	329 [232]	Pit	19.2	Observed	1	2.4
331	324 [227]	Pyre site	1.1	Observed	3.6	37.2
	[228]				3.0	
346	454 [308]	Cist		0.4 cf *Corylus*	7.7	140.4
	[309]					168.8
348	349 [256]	Pit		Trace	Trace	
452	451 [257]	Pyre debris	27.7	Observed		2.5
457	457	Pit				
494	340 [245]	Pit		Observed	Observed	

The yellow–white glacial clay created a bright, less permeable and hard capping material to these barrows. Nor should it be forgotten that the initial topsoil and subsoil mound raised over the central stone box and pyre was quite a small barrow measuring not more than c. 6m in diameter, markedly smaller than either Mound 5 or 6, for instance, being closer to the size of the earlier Mound 29.

5.9.5 Enhancing Mound 7: the clay platform, Structure 1, kerb cairn Mound 30 and the satellite cremation burials

At a later date Mound 7 and its environs became transformed. First, the barrow was covered by an additional capping of yellow glacial clay (042), which flowed over

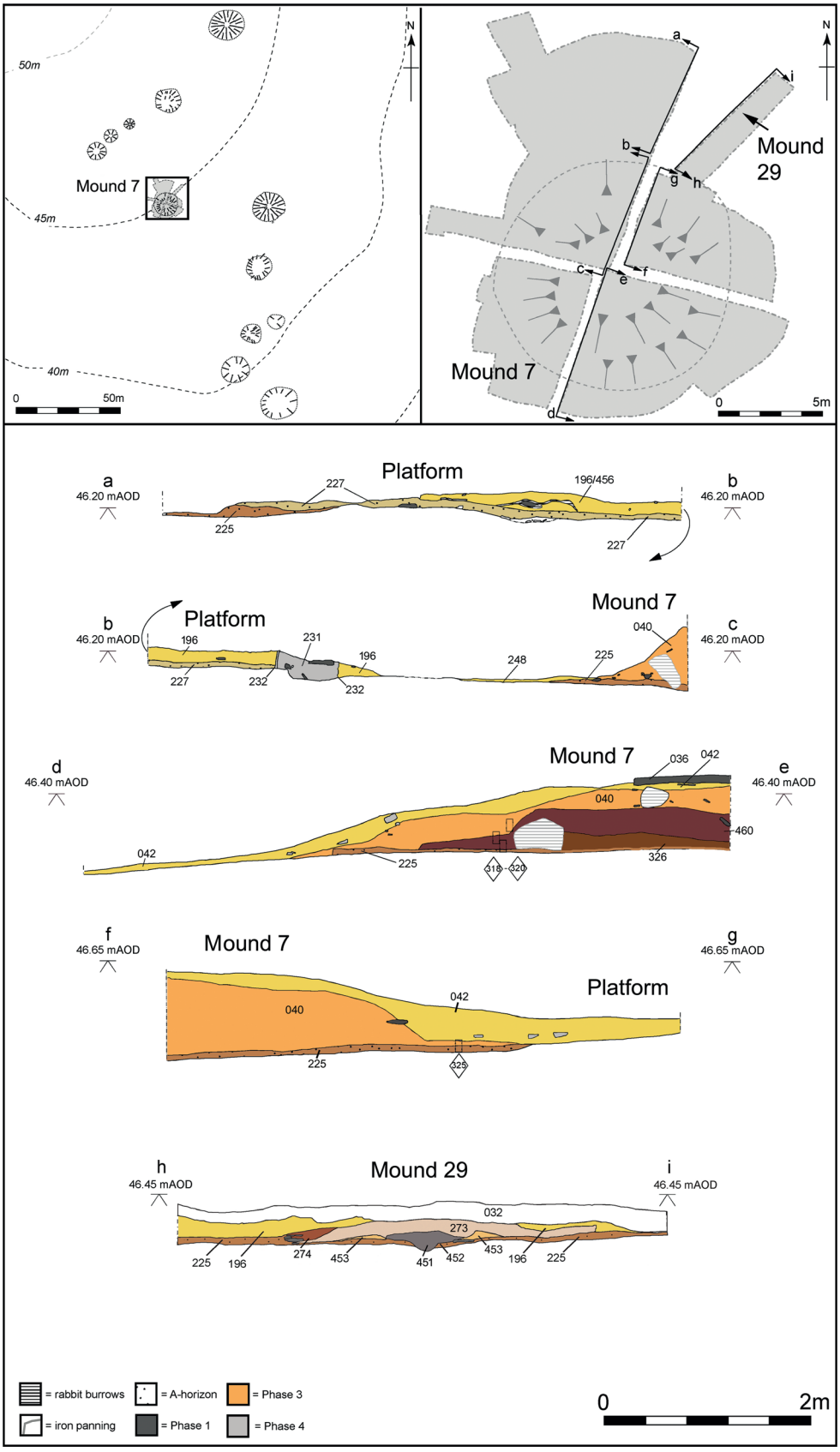


Fig. 5.62 Section drawings through Mound 7.

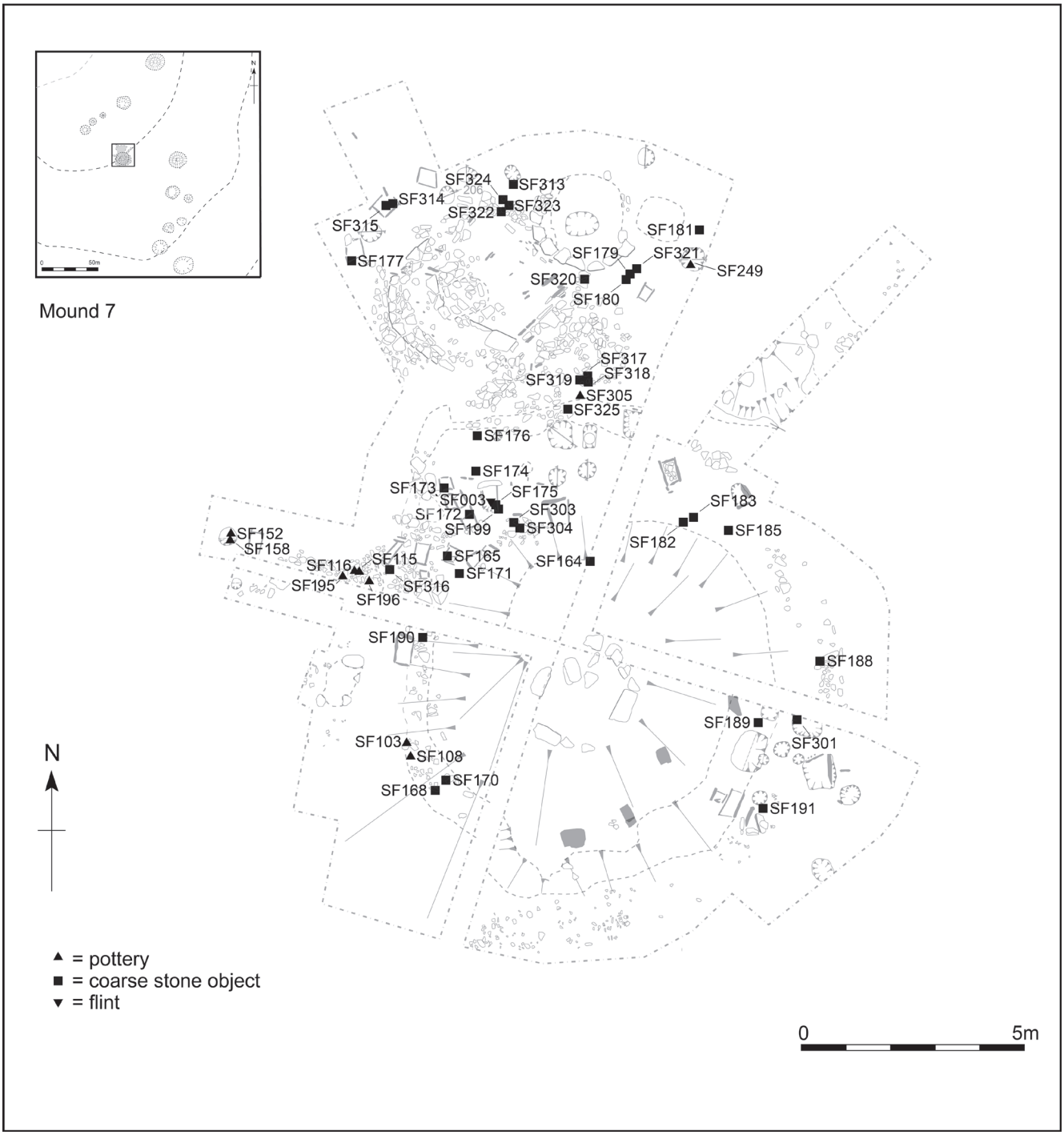


Fig. 5.63 Mound 7: finds distribution.

the kerb and continued beyond the mound, particularly to the north and west in the form of a clay platform (196/456). Lenses of clay such as (227) seem to have been deposited in places to maintain a level surface (Fig. 5.62, sections a–b and b–c). Pottery sherds SF 115 and 116 (Table 5.31; Figs 5.63 and 5.68) were found within mound capping (042) on the west side of the barrow, at a point where the capping and platform merged and were indistinguishable from one another.

This addition of further clay to enlarge Mound 7 did not only constitute refurbishment including an external clay platform but also enabled an additional burial to be interred



Fig. 5.64 Rectangular stone box (224) with the covering clay platform material (196) removed revealing thick ash layer (328): note the similarity with stone box (346) sealed beneath the centre of Mound 7.



Fig. 5.65 Adjacent to the baulk, cist (224) can be seen to be covered by the yellow clay of platform (196). In the foreground the burnt upper layer of pyre (195) has been revealed.



Fig. 5.66 Pyre (195) with upper burnt layer (321) exposed: note fragments of cremated bone.



Fig. 5.67 Pyre site in north-west quadrant with ash layer (245) partially excavated. The surrounding small cists are later.

high up in the centre of the barrow. The burial is indicated by an elongated stone setting (036) that is probably the remains of a cist arrangement set within the final clay capping (042), (Fig. 5.69). The stone setting had an external diameter of c. 2.4m, being three courses thick in places and faced on the interior (Figs 5.54 and 5.69). Four large sandstone cobbles (SF 113), none of which showed any sign of wear (Table 5.32), were found in topsoil (032) directly above the stone setting, as well as fragments of two mattocks (flaked stone bars SF 156 and 163; Table 5.32).

Second, an extensive clay spread, or platform was constructed that extended up to at least c. 10m from the mound in a crescent form from the west, through north to the east (Fig. 5.70). It was formed by two main clay layers; a c. 0.08m-thick basal spread of stones and grey–yellow clay (456) provided a foundation layer, above which was a thinner, c. 0.03m, surface spread of finer orange–yellow clay (196). Unfortunately, plough damage was particularly acute in the area immediately to the north of Mound 7,

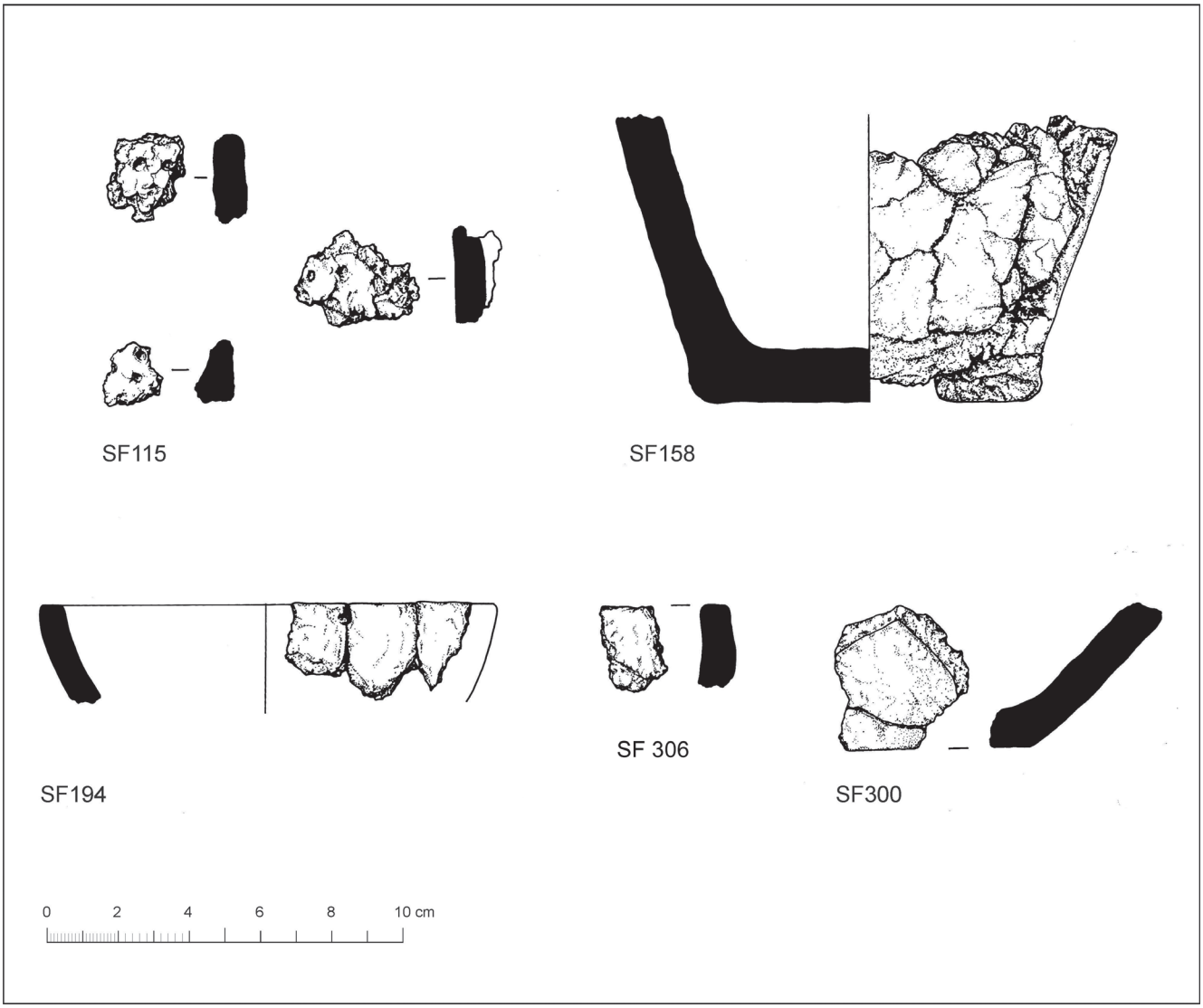


Fig. 5.68 Select pottery from Mound 7.



Fig. 5.69 The stone setting (036) on top of Mound 7 probably relates to a secondary burial elevated in the centre of the mound.

leaving cist burials including (193) badly damaged, and removing the clay platform in this area (recorded in section b–c, Fig. 5.62).

It is likely that both platform layers represent a single constructional event, as opposed to two phases, as the surface of the lower layer (456) did not appear trampled and it was clearly a levelling and make-up deposit which was covered by the cleaner purer clay. As noted above, the laying of the clay platform was simultaneous with the secondary clay capping of the mound (042). This reconstruction not only consolidated the surface, but also sealed or closed off the physical remains of preceding events. Once deposited the clay platform provided a fresh surface into which a large number of new burials were inserted.

At the edge of the mound, mixed in with the final clay capping and displaced stones of collapsed kerbing, was a

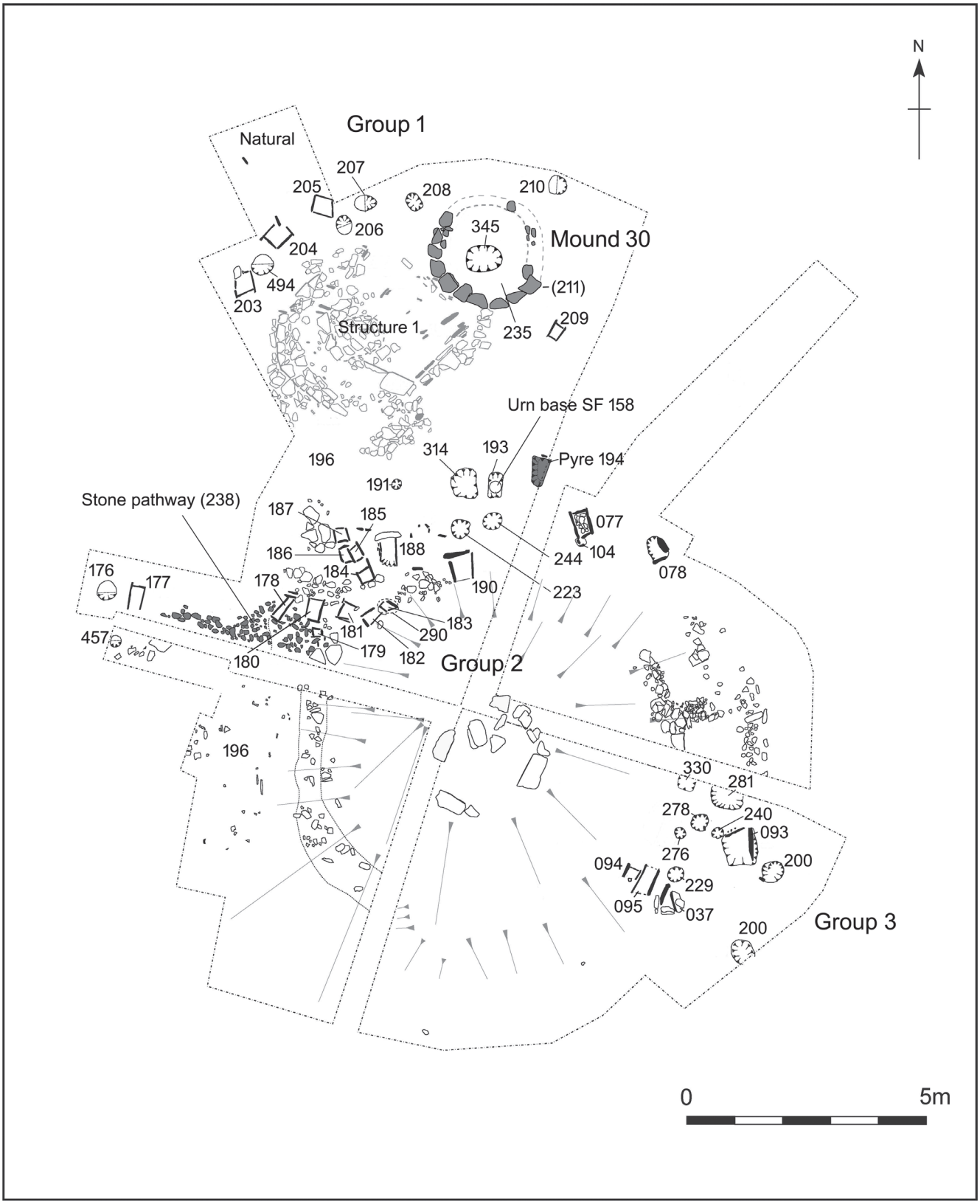


Fig. 5.70 Plan of the enhanced Mound 7, including the clay platform (196), kerb cairn Mound 30, Structure 1 and three groupings of satellite burials.

substantial number of stone tools, mainly flaked stone bars (Table 5.32). Several other coarse stone tools derived from the upper surface of the clay platform. These comprised three cobble tools (SF 320, 322, 323), a possible cobble tool (SF 324), stone mattock (SF 321), possible miniature stone mattock (SF 317) and a disc fragment (SF 325) (Fig. 5.63; Table 5.32). Another stone mattock came from the topsoil directly above the platform (SF 154). Interestingly, the cobble tools SF 322, 323 and 324 (Fig. 5.63; Table 5.32), were found standing on end bedded in the clay platform, in a very tight cluster (see Loth Road, Sanday for similar arrangement of cobble tools; Sharman 2007). This group of was situated immediately to the north of Structure 1.

Fortunately, the clay platform (196) provided a clear stratigraphic relationship between Mound 7 and some features particularly to the north-west, as it covered Mound 29 and was subsequently overlain by later reconstructions of Structure 1 (which in turn was proceeded by kerb cairn Mound 30). Many cists and pits were also cut into the clay platform relating to a very different form of funerary activity (Figs 5.70 and 5.73).

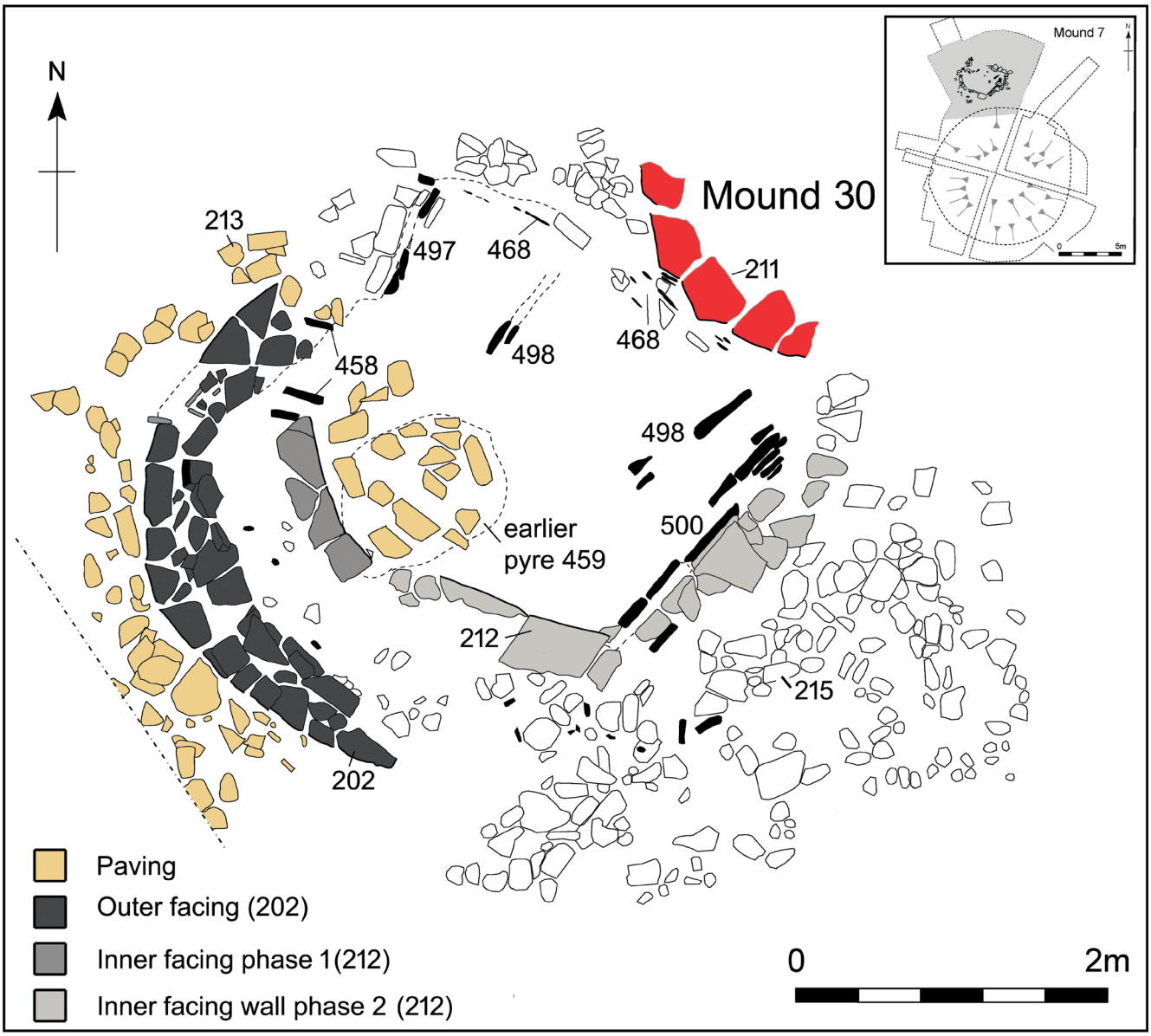


Fig. 5.71 Detailed plan of Structure 1 and western edge of later small Mound 30 kerbing (211). Different shades of grey depict possible different phases of reconstruction.

5.9.5.1 Structure 1: a death house

To the north-west of Mound 7 another unexpected discovery was made. Here, directly below the topsoil, the partial remains of a sub-circular or D-shaped stone building (Structure 1) were revealed (Figs 5.58, 5.70 and 5.71). It had been damaged in the eastern area by the construction of the kerb cairn (Mound 30) causing a section of outer walling to be removed. Overall, this building appeared to have a lengthy history of reconstruction and a possible shift in location further north. The disturbed and displaced masonry (215) to the south-east of the later building was early in the sequence being built directly on the natural till (Fig. 5.71). In various architectural configurations this building continued through to relatively late in the history of the site as demonstrated by elements being built on the clay platform (196) and, in the western area, by sealing a primary pyre site (459) (see Section 5.9.3; Fig. 5.71). Judging from these stratigraphically different architectural components it seems that Structure 1 had an extensive history of use, with episodes of refurbishment and rebuilding, running from early in the life of the cemetery through until kerb cairn Mound 30 was constructed. This effectively destroyed the extant eastern side of the building, with just a series of slots and packing stones remaining of internally projecting orthostats (Fig. 5.70). Despite the denuded condition of Structure 1, the remaining architecture clearly exhibited a plan which is reminiscent of the unusual 'D-shaped' building constructed during the latest phase of activity at Stonehall Farm, Firth (Fig. 5.96; Richards *et al.* 2016b, 135–46). This similarity will be explored further at the end of the chapter (Section 5.13.3).

The outer wall face of Structure 1 was also missing in the south-east, but up to two courses of masonry of the internal wall remained *in situ*. This section of walling was perfectly straight and faced with a series of stone orthostats (500). In contrast, the surviving sections of the western wall were curved, being constructed in the normal manner with double-skin, inner (212) and outer (202) faced masonry, typical of Orcadian Neolithic and Bronze Age houses. The outer-facing wall (202) seemed to represent a unitary construction, while the inner wall face (212) appeared to combine at least two phases of construction and probably more (Fig. 5.71).

Such reconstruction involved changing the point of access because, at some time in the history of Structure 1, a possible entrance was positioned in the north-west as defined by the small parallel upright stones (458) placed c. 0.40m apart (Fig. 5.71). This entrance clearly relates to the northern section of the internal walling (212). However, at first sight no indication of a corresponding gap through the outer wall-face (202) is present so it seems probable that the entrance associated with the inner wall was subsequently overlain and blocked by the outer wall and another point of access created. Alternatively, the reverse would apply if the outer wall had been reconstructed. In short, in being built over time the outer wall of this building exhibits a degree of longevity which may well extend back to an early period of activity at the cemetery.

Related to this doorway, remnants of paving (213) ran from the interior out through the entrance and around the western exterior of Structure 1. Rammed clay formed the internal floor and in places its upper surface was indistinguishable from the clay platform (196). The south-eastern area of the building was flattened with internal stone benches which, although ruinous, employed smaller slabs to support larger elevated horizontal flagstones. Although only a single example of a large flagstone remained *in situ*, the badly disturbed and ruinous masonry lying to the rear (south-east) suggested that the circuit of the outer wall originally ran at some distance back. This would have provided room for a depth of elevated flagstone benching, similar to that present on the flattened side of Structure 1 at Stonehall Farm (Richards *et al.* 2016b, 135–46).

Displaced fragments of stonework to the north-east of Structure 1 (damaged by the building of kerb cairn Mound 30) show scant traces of walling, but a series of internally projecting linear slots with packing stones (497 and 498) once held flagstone orthostats. When standing, these orthostats formed two box-like compartments, each c. 0.8m deep and backed by lateral uprights set in the long slot (468). As no slots were present running laterally across their front, this arrangement would have appeared stall-like and open to the interior. The northern recess was c. 0.6m wide and the southern c. 1.3m. A narrow gap of c. 0.4m existed between the southern orthostat and the south-east faced wall.



Fig. 5.72 View of small kerb cairn Mound 30 from the east. The truncated clay barrow material (235) can be seen within the kerb stones (211) as a slightly elevated interior.

Table 5.27 Cremated human remains from Mound 7.

Fill/layer	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
097	077	Cist	359.8	1	Adult	?Female
098			1.0	1	Adult	
091			22.4		Infant	
079			307		Adult	
245	245	Pyre site	0.4		?	
249	188	Cist	33.2	?1	Subadult/adult	
250	095	Cist	7.6		?	
271	240	Pit	0.3	?1	?Immature	
275	276	Pit	10.9	2	1) young infant 2) older subadult/adult	
277	287	Pit	<0.1		?	
282	281	Pyre site	8.5		Subadult/adult	
286	180	Cist	2.4		Subadult/adult	
288			10.1		Subadult/adult	
291	190	Cist	47.0	2 ?+	1) subadult/adult ??2) immature	
307			6.0		?Immature	
310			3.1		?	
293	181	Cist	31.2	?1	Adult	
296	244	Pit	210.9	1	Adult	?
298	223	Pit	499.8	2	1) older infant 2) subadult/adult	?
321	195	Pyre site	121.6		Subadult/adult	??Female
323	203	Cist	2.6	1	Subadult/adult	Female
327			224.9	?	Young/mature adult	
324	331	Pyre site	37.2	?	Subadult/adult	
328	224	Cist	0.2	?	?	
329	330	Pyre debris deposit	2.4	?	?	
335	204	Cist	1.4		Subadult/adult	
336	205	Cist	8.3	?1	Subadult/adult	
337	207	Pit	15.4	?1	Subadult/adult	
341	208	Cist	frags	?		
342	210	Pit	55.4	?1	Adult	??Female
343	177	Cist	153.2	?1	Subadult/adult	
344	243	Pit	170.5	1	Adult	?
347/455	347/455	Pyre site	282.9	?	Older mature/older adult	??Female
451	452	Poss pyre site and/or debris in Mound 29 central pit	2.5	?	Subadult/adult	
454	346	Stone box	292.3	1	Older infant	
459	459	Pyre site	3.6	?	Subadult/adult	

In a number of ways this curious building strongly resembles Structure 1 at Stonehall Farm (Richards *et al.* 2016b). It has a similar D-shape architecture, upright stones face part of the internal wall and the entrance is far less well constructed than in contemporary dwellings. However, there was no indication of a central feature, either hearth or cist indicating Structure 1 to have performed a role associated with mortuary practices but not actual burial. A possible stone mattock (SF 407) came from amongst these stones (Table 5.32).

5.9.5.2 The kerb cairn: Mound 30

A partial circuit of well-preserved kerbing of truncated kerb cairn Mound 30 was discovered to the north of Mound 7, overlying both the clay platform (196), and the north-east portion of Structure 1. The kerb cairn was quite small with a diameter of c. 2.80m, and the kerb stones had been built on the clay platform (196). It was clear that the small kerb cairn Mound 30 post-dated Structure 1 as the kerbing (211) of the former breached the eastern wall of the latter (Figs 5.70 and 5.71). In the western circuit, the kerbing (211) survived up to two courses being faced on the exterior, whereas in the east, a large part of the kerb and cairn material had been entirely removed through plough damage (Fig. 5.72). Although heavily eroded, c. 0.07m of a truncated clay mound (235) remained within the area defined by the kerb stones. At the centre, a substantial pit (348), c. 0.87m in diameter and c. 0.17m deep, had been cut into natural glacial clay. The fill of this pit (349) was a greasy light-grey silty clay containing only traces of charcoal and burnt turf with no cremated bone. During excavation it was felt that there was little difference between the fill of the pit (349) and the silty clay (235) mound material (Fig. 5.72). This is curious as if correct, the central pit had been dug and filled with the same material forming the mound, but with no cremation burial.

5.9.5.3 The satellite cremation burials

The laying of clay platform (196) around Mound 7 marked a disjunction in the history of funerary activity that shifted the emphasis away from the barrow to its immediate environs with the construction of kerb cairn Mound 30



Fig. 5.73 View from the south of Group 2 cists and pits. To the rear Structure 1 is under excavation.

and a substantial number of cist and pit cremation burials (see Figs 5.70 and 5.73). These burials respect Structure 1 which may still have been functioning as part of the mortuary process. Interestingly, apart from the mortuary structure, a very similar sequence occurs at Knowe 1, Quoyscottie barrow cemetery, where a cremation pyre, adjacent to a cist (with no cremation deposit) is sealed beneath a clay mound (Fig. 6.61). At a later date a substantial cremation cemetery grew up on and outside the north-eastern skirt of the barrow (Hedges 1977, 131–2). However, the Mound 7 cemetery grew more dispersed than that seen at Quoyscottie with a group of cremation deposits present to the south-east of the barrow and a second larger grouping to the north-west.

At a broad level three roughly discrete groupings of cist and pits are identifiable. First, there is a series of cists and pits (Group 1) to the north-west of Structure 1 and kerb cairn Mound 30. The clay platform (196) was almost entirely eroded in this area, so in some cases no direct stratigraphic relationship remained, but it is assumed that they represent a coherent group of secondary burial features. Further south, the cists and pits of Group 2 are clearly cut through either the clay platform or related barrow capping material, being grouped mainly between Structure 1 and Mound 7 (Figs 5.70 and 5.73).

Leading into the Group 2 cist cemetery from the west was a paved pathway (238) composed of small and medium flagstones set within a brown loamy matrix (294) (Fig. 5.70).

Table 5.28 Details of Group 1 cists and pits cut into natural till to the north of Structure 1 and kerb cairn Mound 30.

Feature	*Context*	*Size (m)*	*Description*	*Fill no.*	*Description*	*Cremation deposits*	*Finds*
Cist (NW of Structure 1)	203	c. 0.40 × c. 0.30	3 upright slabs, orientated NNW–SSE	323	Black–brown soil with charcoal	Subadult/ adult	
				327	Black charcoal rich soil c. 0.15m deep	Young/mature adult: female	
Cist (NW of Structure 1)	204	c. 0.53 × 0.30	4 degraded slabs, orientated NE–SW	335	Black charcoal-rich soil, pyre debris. Charcoal from (335) produced a radiocarbon date of 1680–1317 cal BC (GU-4879)	Subadult/ adult	A small egg-shaped pebble (SF 314) lay next to SF 315, a narrow finger-like pebble.
Cist (NNW of Structure 1)	205	c. 0.42 × 0.32	3 upright shattered slabs, orientated N–S	336	Black, charcoal-rich soil, pyre material	Subadult/ adult	
Pit (N of Structure 1)	206	c. 0.40 diam.	Circular pit	334	Orange–black burnt soil with charcoal, pyre debris		
Pit (NE of kerb cairn)	207	c. 0.46 × 0.40	Irregular oval pit	337	Red–brown–black ashy fill, pyre debris c. 0.17m deep	Subadult/ adult	
Pit & damaged cist (N of Structure 1)	208	c. 0.37 × 0.20	2 'rotten' stone slabs orientated NNW–SSE standing in a pit	341	Black ashy fill	Frags	A possible stone mattock (SF 313)
Cist (SE of kerb cairn)	209	c. 0.44 × 0.24	4 stone slabs, NE–SW oriented.	317	Grey–brown silty clay		
				319	Grey–orange silty clay		
				320	Grey–black soil with charcoal & cramp, pyre debris		
Pit (NE of kerb cairn	210	c. 0.45 diam.	Circular pit	342	Black–brown loamy fill, with charcoal frags c. 0.13m deep	Adult; female?	
Pit (NW of Structure 1)	494	c. 0.55 diam. × 0.1m deep	Circular pit	340	Black–brown soil with cramp, pyre debris		

Table 5.29 Details of Group 2 cists and pits cut into the clay platform (196) to the north and north-west of Mound 7.

Feature	*Context no.*	*Size (m)*	*Description*	*Fill No.*	*Description*	*Cremation deposits*	*Finds*
Cist (NE of mound 7)	077	c. 0.6 × c. 0.4	4 upright slabs orientated NNW–SSE, stone floor	079 091 097 098 102	Charcoal rich pyre deposits with lower undisturbed burnt turf cremation deposit	Infant Adult, female?	
Cist/pit (NE of mound 7)	078	c. 0.5 × 0.45	The pit contained an upright stone at its SE end & a large blocky stone on its NE: probable cist	85	Grey–brown loam fill		
Pit	176	c. 0.44 × 0.40 × c. 06 deep	Irregular shallow pit	354	Charcoal & burnt turf loam fill		Sherds of 2 vessels SFs 152 & 153
Cist	177	c. 0.50 × 0.30	3 upright slabs, orientated NNE–SSW	343	Charcoal rich fill, c. 015m deep	Subadult/ adult	
Cist (NW of Mound 7)	178	c. 0.50 × 0.15	4 upright slabs in an earlier pit, NE–SW oriented, only 2 of which extended down to the depth of the cut	318	c. 0.16m deep deposit of orange–grey clay		Single sherd of pottery, SF 308
Small cist or post-hole (NW of Mound 7)	179	c. 0.20 × 0.16	2 upright slabs at the N & S ends	284	Grey clay		
Cist (NW of Mound 7)	180	c. 0.52 × 0.40	4 upright slabs, N–S oriented	286	c. 0.12m deep charcoal-rich fill; deposit of pyre debris which had been placed in the underlying pit.	Subadult/ adult	
Cist (NW of Mound 7)	181	c. 0.42 × 0.30	3 upright slabs, NE–SW oriented,	293	Black, charcoal-rich ashy soil	Adult	
Cist (NW of Mound 7)	182	c. 0.28 × 0.40	4 upright slabs, NE–SW oriented, & was cut into the edge of the mound (040).	241	c. 0.16m deep layer of stones & compacted clay		
Cist (NW of Mound 7)	183	c. 0.24 × 0.16	4 upright slabs, NW–SE oriented, overlying a pit (290) cut into natural. A thin layer of stones (287) formed a cist cover.	272	Upper fill – c. 0.07m deep layer of orange–grey silty clay		2 sherds of pot, SF 300 (Fig. 5.68)
Pit	290	c. 0.26 diam., c. 0.14 deep		279 283	Upper fill: c. 0.07m orange, grey clay Lower fill: 0.14m deep under the slabs of the cist	Subadult/ adult	
Cist (NW of Mound 7)	184	c. 0.24 × 0.21	4 upright slabs, NW–SE oriented	297 299 300	Upper fill: orange–grey clay Mid fill: fine black soil Bottom: grey clay layer		

(Continued)

Table 5.29 Details of Group 2 cists and pits cut into the clay platform (196) to the north and north-west of Mound 7. (Continued)

Feature	*Context no.*	*Size (m)*	*Description*	*Fill No.*	*Description*	*Cremation deposits*	*Finds*
Cist (NW of Mound 7)	185	c. 0.22 × 0.26	4 upright slabs but used the NE slab of (185) as its fourth upright. NW–SE oriented & set in a pit (308) with rounded corners, which cut (248) & natural.	305	Upper fill: orange, grey–brown clay		
				306	Lower fill: black ashy soil		
Cist (NW of Mound 7)	186	c. 0.34 × 0.24	3 slabs, with the NE upright of cist (185) as its fourth. NW–SE oriented. The cist box was set into a pit cutting (248) & natural, & the main fill (303) lay partially under the cist slabs.	303	Greasy black ashy soil.	Frags	
Cist (NW of Mound 7)	187	c. 0.25 × 0.23	NNW–SSE oriented, with an inner lining of stones (313).	312	Loose greasy black soil		
Cist (NW of Mound 7)	188	c. 0.32 × 0.28	3 shattered uprights, NNW–SSE oriented	249	Black ashy charcoal-rich soil	Subadult/ adult	
Cist (N of Mound 7)	190	c. 0.68 × 0.37	3 uprights NW–SE orientated	288	Upper layer of orange–yellow soil	Subadult/ adult	
				291	Black charcoal rich soil layer	Adult & immature individual	
				307	Red–brown soil with charcoal	Immature individual	
				309	Red–brown soil with charcoal	Frags	
				310	Basal layer of grey clay		
Pit (N of Mound 7)	191	c. 0.20 diam., c. 0.12 deep	Circular pit	304	Dk brown soil with burnt material		
Cist (N of Mound 7)	193	c. 0.45 × 0.37	Cut into layer (248). Most of the stones had been shattered or removed by ploughing, but the cut remained	221	Basal part of a complete urn which held 8.1g burnt bone	Subadult/ adult	Base of urn burnt to high temps, SFs 158, 162.
Cist (N of Mound 7)	194		2 uprights to N and E	231	Pyre debris dump, including burnt stones, c. 0.15m deep	Subadult/ adult	Burnt pumice
Pit (N of Mound 7)	223	c. 0.47 × 0.40	Oval shaped pit NW–SE oriented, capped with a stone slab (192).	298	Brown loamy soil c. 0.13 deep with no burnt material apart from cremated bone	Subadult/ adult & older infant	
Pit (N of Mound 7)	244	c. 0.20 in diam., c. 0.11 deep		296	Brown soil with charcoal	Adult	

(Continued)

Table 5.29 Details of Group 2 cists and pits cut into the clay platform (196) to the north and north-west of Mound 7. (Continued)

Feature	*Context no.*	*Size (m)*	*Description*	*Fill No.*	*Description*	*Cremation deposits*	*Finds*
Pit (N of Mound 7)	314	c. 0.47 × 0.40	Irregular shaped pit NW–SE oriented, capped with a stone slab (192).	316	c. 0.09 deep ashy soil		
Pit	457	c. 0.84 diam., c. 0.18 deep	Cut into (225) OLS	501	Black burnt (*in situ*) material in base covered by red burnt soil with stones		

Table 5.30 Details of Group 3 cists and pits cut into the clay platform (196) to the south-east of Mound 7.

Feature	*Context no.*	*Size*	*Description*	*Fill no.*	*Description*	*Cremation deposits*	*Finds*
Cist	037	c. 0.60 × 0.40	3 displaced slabs, NE–SW orientated	219	Yellow basal clay		
Cist	093	c. 0.70 × 0.35	3 shallow uprights, N–S orientated	096 240	Grey-brown ashy soil, charcoal & cramp, pyre debris	Subadult/ adult	Ard point with squared end (SF 197)
Cist/post-hole	094	c. 0.22 × 0.24	3 uprights, NE–SW orientated, part of (095). Likely post-hole.	042	Yellow clay (mound material)		
				237	Orange–brown silty clay		
Cist	095	c. 0.73 × 0.30	2 uprights, NE–SW orientated, part of (094).	242	Grey–yellow silty clay with charcoal		
				250	Black, charcoal-rich soil: pyre debris (dated to 1520–1000 cal BC (GU-4887)	Frags	
				237	Orange–brown silty clay		Stone mattock (SF 198)
Pit	198	c. 0.40 diam. × c. 0.18 deep	Circular pit	199	Black, charcoal-rich ashy fill: pyre debris		
Pit	200	c. 0.35 × 0.30 × 0.09 deep	Sub-rectangular pit	201	Black, charcoal-rich ashy fill: pyre debris		
Pit	229	c. 0.40 × 0.35 × 0.09 deep	Sub-circular pit	228	Black ashy fill		
Pit	240	c. 0.30 × 0.28 × 0.11 deep	Sub-circular pit	271	Charcoal rich soil, pyre debris/burial?	Immature	
Pit	276	c. 0.28 × c. 0.08 deep	Circular pit	275	Black, charcoal-rich ashy fill: pyre debris	Subadult/ adult Young infant	
Pit	278	c. 0.37 × c. 0.12 deep	Circular pit	277	Black, charcoal-rich ashy fill, cramp: pyre debris	Fragments	

(Continued)

Table 5.30 Details of Group 3 cists and pits cut into the clay platform (196) to the south-east of Mound 7. (Continued)

Feature	*Context no.*	*Size*	*Description*	*Fill no.*	*Description*	*Cremation deposits*	*Finds*
Pit	281	Partially in baulk: c. 0.58 × 0.45 × c. 0.13 deep	Sub-rectangular pit	282	Black, charcoal-rich ashy fill: pyre debris/ pyre site?	Subadult/ adult	Stone mattock (SF 301)
Pit	330	Partially in baulk: c. 0.25 wide × c. 0.08 deep	Sub-rectangular pit	329	Black, charcoal-rich ashy fill: pyre debris	Frags	Stone mattock (SF 309)



Fig. 5.74 Cist (185) to the right, is clearly later than cist (186) to the left.

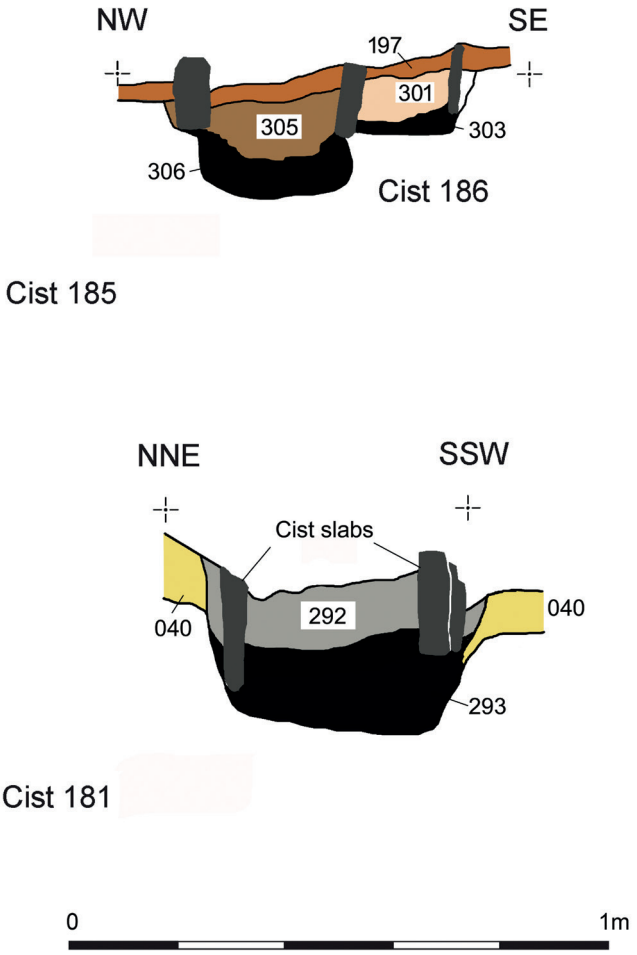


Fig. 5.75 Sections through cists (185) and (186) (top), and cist (181) (bottom).

The path was c. 4.0m long with variable width. Stratigraphically, it was associated with the cremation cemetery as the flagstones were laid on the clay platform (196). Sherds of pottery (SFs 115, 116, 152, 158, 194; Figs 5.63 and 5.68) and a possible stone mattock (SF 316) were found among the paving stones. At the point where the pathway appeared to originate (at the western most extent of the excavation trench) there was a small group of two pits, (176) and (457) and a cist (177) (Table 5.29; Fig. 5.70).

The cremation cists and pits seemed to lie on a north-west–south-east axis either side of Mound 7. These features were either cut through the final clay capping (042) of Mound 7 or the vestiges of the clay platform (196). Taken together, the three groups incorporate numerous small cists and pits. Consequently, their descriptions are presented in tabular form (Tables 5.28–5.30). However, there are some characteristics of these burial features that can be drawn out in more detail.

All the small cremation-related cists and pits to the north-west and south-east of Mound 7 listed in Tables 5.28–5.30 relate to a time after the clay platform (196) was constructed. As in the north-western area (Group 1), where the platform was eroded, enough remained to establish that these were all contemporaneous. Nonetheless, through time a degree of change occurred within the different cemetery components. For instance, although cremation-related deposition continued in each area, the flagstone pathway leading into the Group 2 cemetery from the west appears to fall out of use when it became partially covered by the later clay platform

resurfacing (197) and (239), which also contained pottery sherds SF 195 and 196 (Fig. 5.63; Table 5.31).

Although the pathway was covered by clay, continued funerary activity can be recognised both stratigraphically and in the sequential construction of different cists and pits. Refurbishment in the form of a resurfacing episode of the clay platform to the north-west of Mound 7 (Group 2: Table 5.29), with a layer of orange–grey clay (197) sealed a number of the cremation cists and pits. It appears that these thin secondary clay platform surfaces were not as extensive as the original platform, being restricted to the area to the immediate north-west of the mound. Because plough damage had affected the peripheral area it was not possible to ascertain the original extent of (197).

In terms of sequential construction and deposition, a good example of this practice is the relationship between the two small cists (185) and (186) (Figs 5.70, 5.74 and 5.75). Given their close proximity, it may be expected that this is an expression of an equally close social relationship existing between cremations deposited within the two cists. Yet, in neither case, despite having black ashy fills, was a sizable cremation deposit present (Table 5.29). Instead, only tiny fragments of cremated bone were detected in the fill (303) of cist (186) during wet sieving, and no bone at all was found in the fill of the later cist (185). This observation of either little or no cremated bone within many cists is the point of departure for examining another curious feature concerning their construction. During excavation, it was noticed that the small cists were typically constructed in pits. This situation may not be seen as exceptional or surprising for the obvious reason that the four uprights had to be placed in a cut of some form. What is remarkable, however, is that in numerous examples the cremation deposit and burnt material had been placed in the pit *before the cist slabs were inserted*.



Fig. 5.76 The small 'cist' (179) was interpreted as a possible post-hole marking larger cist (180).

This occurrence is present in each of the cemetery areas, for instance, in Cist (205) in the far north-west (Group 1; Table 5.28), in Cist (188) in the group north-west of Mound 7 (Group 2; Table 5.29), and in Cist (093) in the south-east area (Group 3; Table 5.30). A more detailed picture of this incidence is present in the sequence of construction of Cist (181), (Fig. 5.75 bottom). This cist measured c. 0.30 × 0.42m, and was defined by three substantial slabs, north-east–south-west oriented. The stones were set in a construction pit that was cut through the edge of the barrow (040) into the underlying glacial till. The primary ashy fill (293), containing cremated bone was found on excavation to extend beneath the upright cist stones. Therefore, the cremation had been deposited in the pit *before* the cist was built (Fig. 5.75 bottom). Subsequently, the cist was filled with a hard-packed grey clay layer (292).

This sequence is intriguing as, before excavation of the numerous small cists around Mound 7, their assumed function was as containers of cremation deposits. Another example is the small cist (186), mentioned above which consisted of three slabs being set into a pit cutting (248), and once again the primary ashy fill (303) underlay the cist slabs (Fig. 5.75 top). If the small cists were not constructed to contain cremations, did they hold perishable or organic material which was related to the cremation deposit or the cremated person?

Similar occurrences have been observed much further afield, for example, at a Bronze Age cremation cemetery at Zionshill Copse, Hampshire. Here a pit (Pit 8) contained burnt soil and charcoal, probably pyre debris, that had 'been deposited before the urn and cremated bone were placed in the pit' (Entwistle 2001, 9). The deposition of either cremated material and/or pyre debris into a freshly excavated pit as a foundation deposit before the insertion of a container (urn or small cist) is interesting and, in the Linga Fiold example, problematises the role of the small cists.

During the excavations it was considered if the very small cists were actually post-holes for timber marker posts as a similar square arrangement of small upright stones is a common mode of post support and packing in Late Neolithic houses, for example in House 2 at Barnhouse (Richards 2005, fig. 5.10; 132–46). The association of a very small cist or post-hole with a larger cist may well exemplify a form of composite marker for the burial. A good illustration of such a relationship is the small 'cist' (179), measuring only 0.20 × 0.16m, which was constructed as part of the larger cist (180) (Fig. 5.76). Another likely post-hole is the small arrangement of stone uprights (094) adjacent to Cist (095), with both sharing the same basal deposit (237). This suggests the feature was dug and then sub-divided into two with the larger cist containing pyre material and a cremation that was dated to 1520–1000 cal BC (GU-4887; see Tables 5.25 and 5.30).

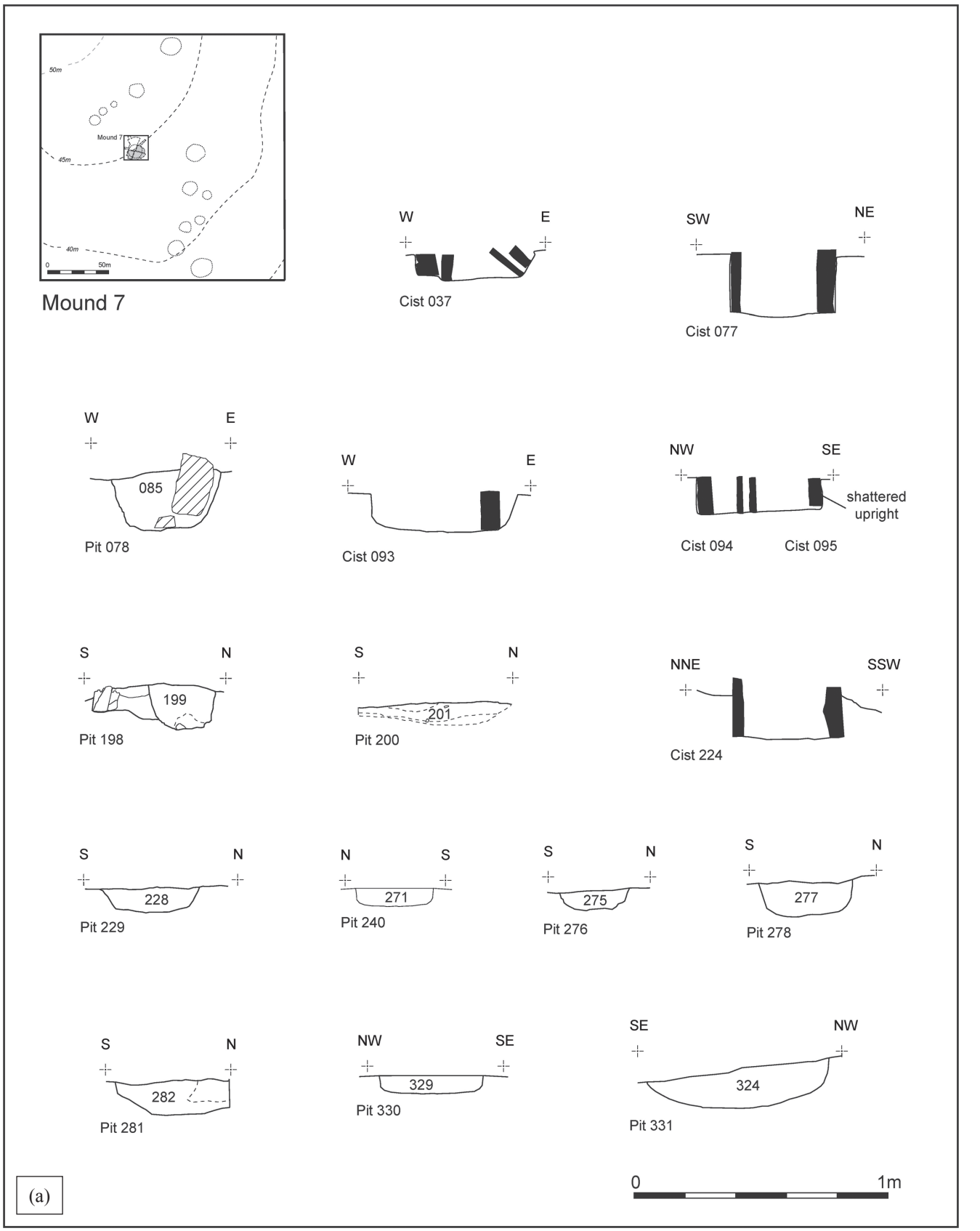


Fig. 5.77 Profiles and sections through Mound 7 cists and pits.

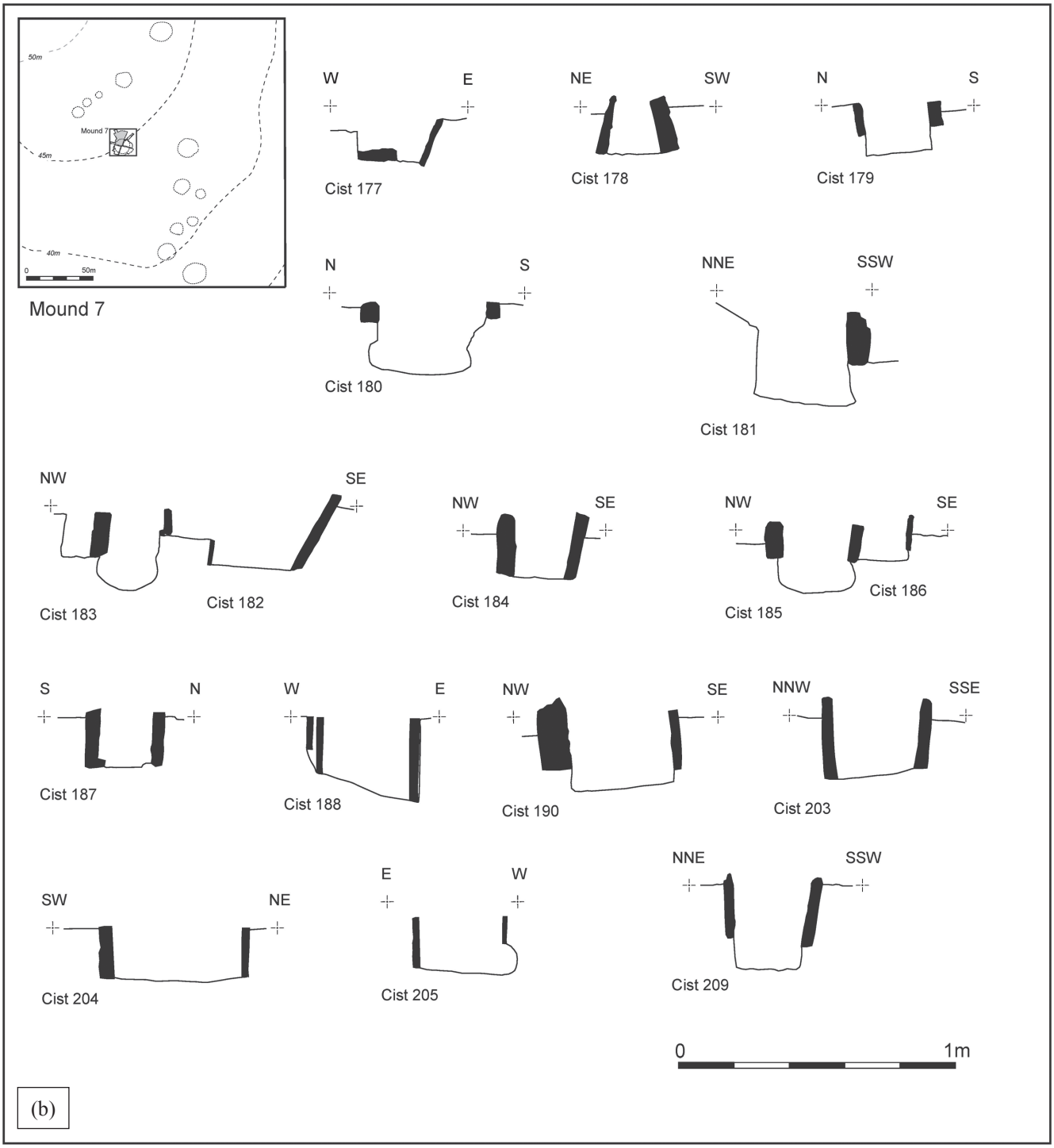


Fig. 5.77 Profiles and sections through Mound 7 cists and pits. (Continued)

Surprisingly, out of all the cists and pits excavated around Mound 7, there was only one clear example of a cremation buried in an urn. Directly north of Mound 7, a cist (193) had been cut into clay layer (248) which corresponds to the secondary platform (196). Most of the stones had been shattered or removed by ploughing, but the declivity remained and contained the basal part of a complete urn (SF 158, 162) in which remained 8.1g of cremated bone (Tables 5.26; 5.29; Figs 5.63 and 5.68). The urn was almost certainly inserted as a complete vessel, and interestingly had previously been subjected to a very high temperature which may have occurred on the cremation pyre itself (Table 5.31).

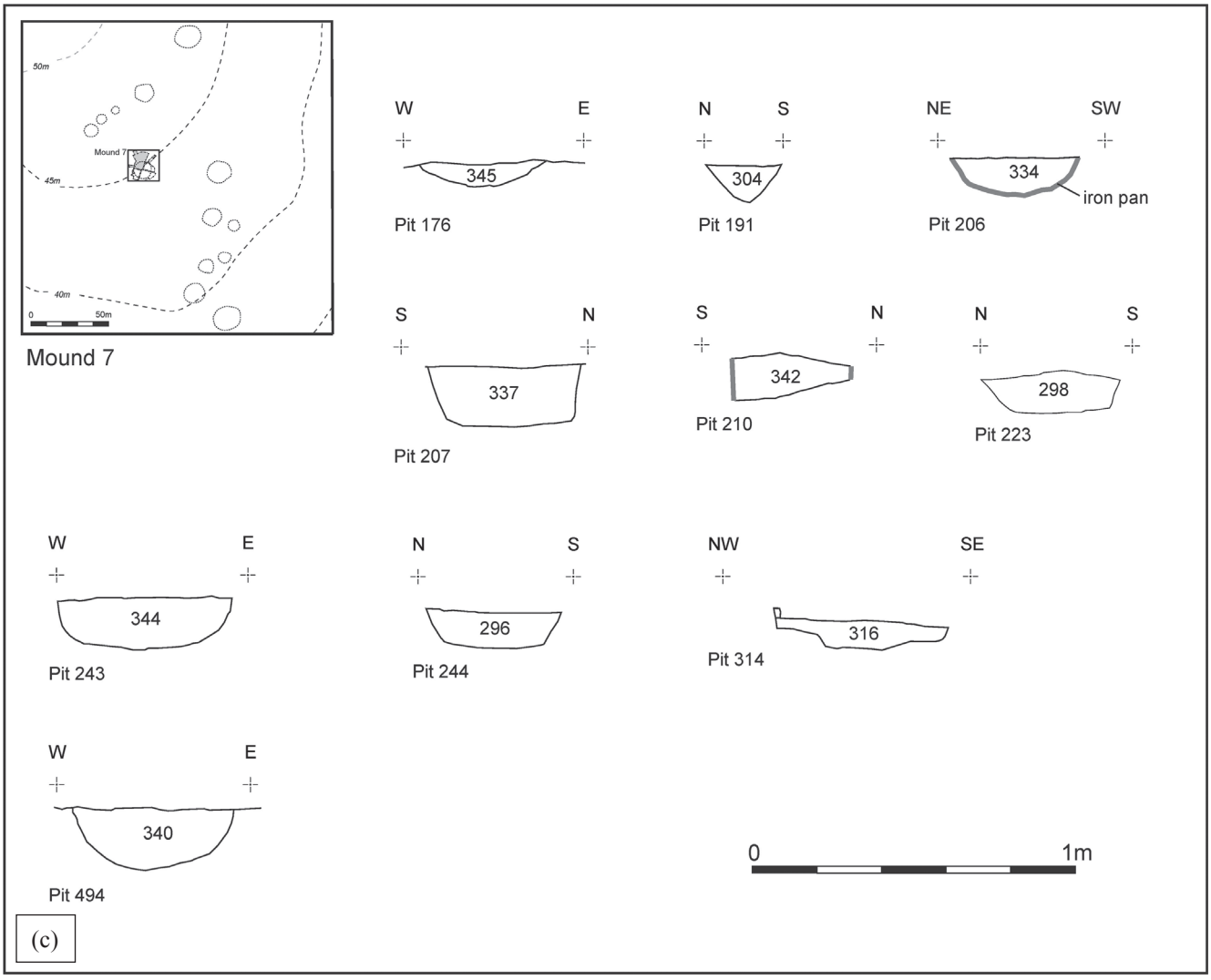


Fig. 5.77 Profiles and sections through Mound 7 cists and pits. (Continued)

Apart from the numerous deposits in small cists and pits, cremation pyres continued to be set around Mound 7. To the north of the barrow a very shallow sub-rectangular 'scoop', defined by two small upright slabs (194) was cut into the surface of clay platform (196) (Fig. 5.70). It was not possible to establish the overall size of the cut as it ran into the section, but in the exposed portion a substantial c. 0.15m-deep deposit of burnt material (231) was excavated, including fragments of cremated bone of a subadult/adult. The appearance of this feature together with the very high magnetic susceptibility readings (>570 χm) indicated that substantial burning had occurred *in situ* and was the likely remains of a small pyre.

Also present were larger cists such as (077) which lay south-east of the pyre described above (Table 5.29; Figs 5.70 and 5.77a). This cist measured c. 0.60 × 0.40m and was oriented north-north-west–south-south-east and was typically formed by four upright stone slabs and contained several fills. The stone uprights were set in slots cut into the clay platform. The basal fill (102) was highly compact and contained much burnt turf (173g) and a small amount of cramp (1.3g). A large amount of burnt bone (359.8g) and cramp (500g) was recovered from a discrete part of the central fill (097) which was probably interred in a bag, given its clear distinction from an adjacent deposit (098), which was a grey clay free of inclusions containing only 1g of burnt bone and 10.2g of cramp. Two mixed clay layers, (091) and (079), interspersed by a layer of flat, irregular stones (086), overlay the cremation, with (079) being the topmost layer (and containing 307g of cremated bone); the bone from (091) was that of an infant. In contrast, the cremation in the central fill (097) was that of an adult, possibly female, and from (098) a subadult/adult, which provides clear evidence of the burial of parts of at least two individuals within the same cist. The presence of at least two people could be taken

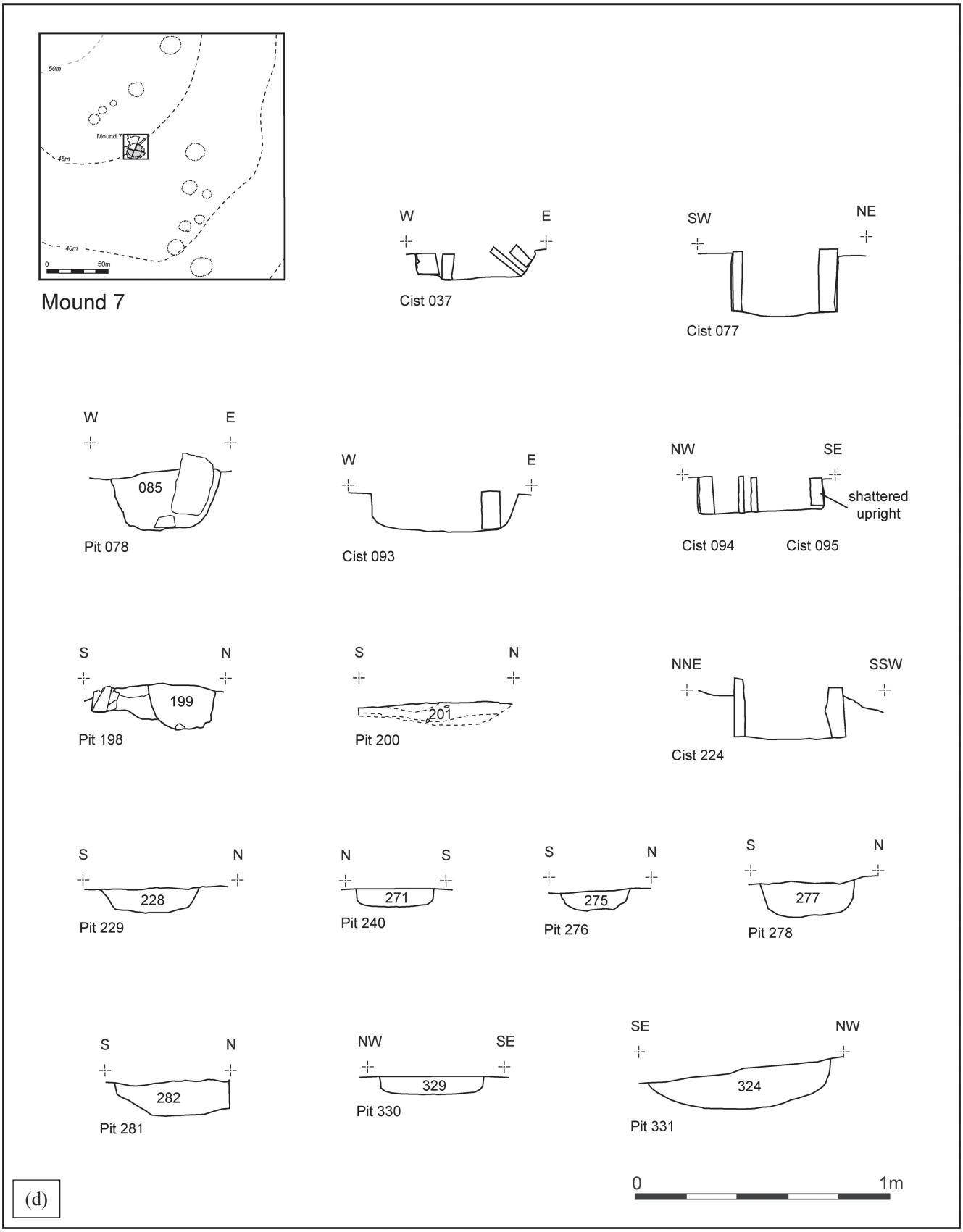


Fig. 5.77 Profiles and sections through Mound 7 cists and pits. (Continued)

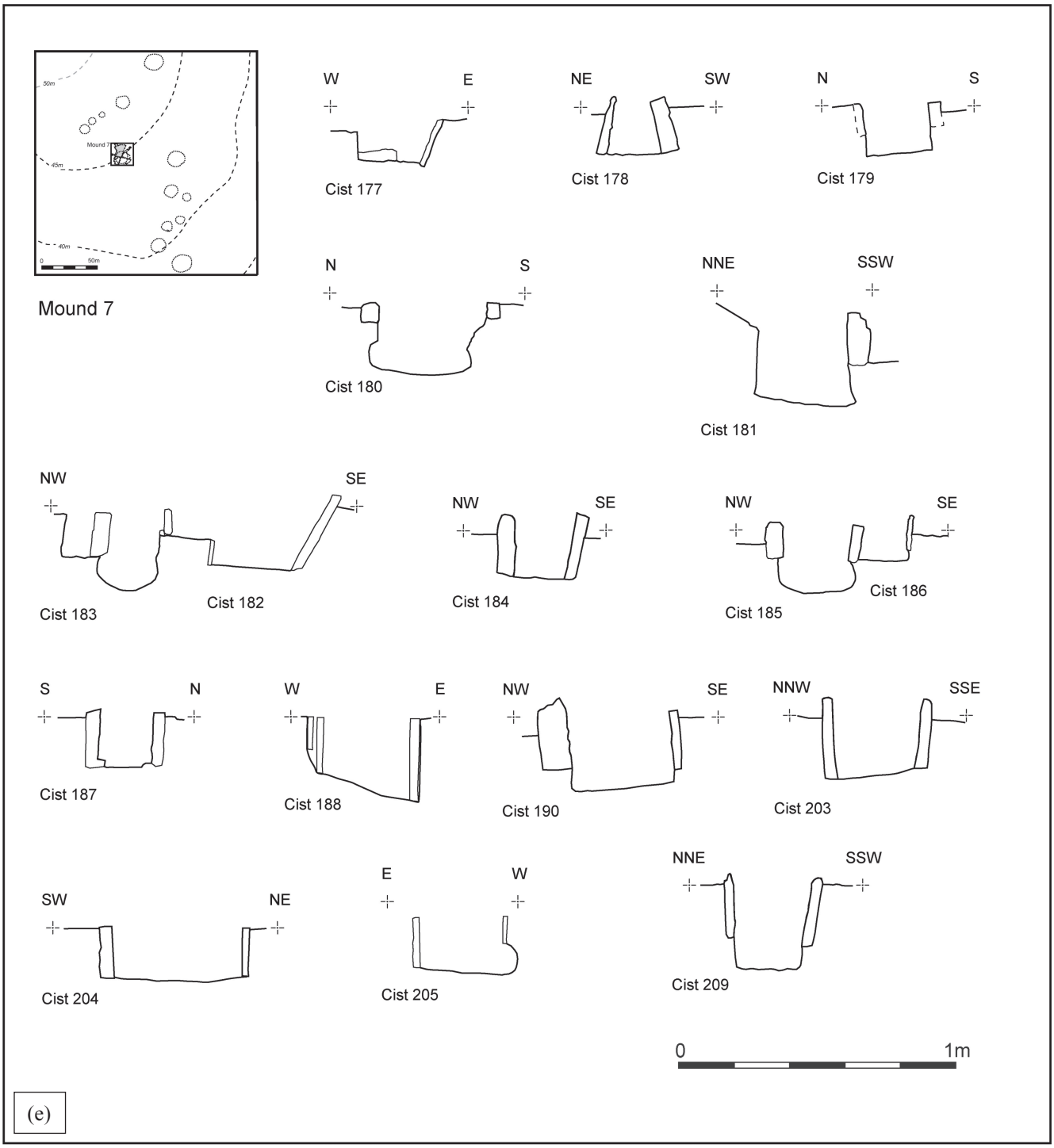


Fig. 5.77 Profiles and sections through Mound 7 cists and pits. (Continued)

to reflect a joint cremation on the same pyre, however, the bones of the infant were restricted to the upper fills so it appears that the bones came from separate cremation events or had been carefully sorted. Two small vertical slabs (104) were possibly the remains of packing for a post-hole erected to mark the burial cist.

5.10 Mound 8: putting the dead on a pedestal

When examined in 1994, Mound 8 stood as a prominent barrow with comparatively steep sides, measuring c. 7.0m in diameter and c. 0.4m high. Geophysical survey revealed no peripheral activity and provided a magnetic signature

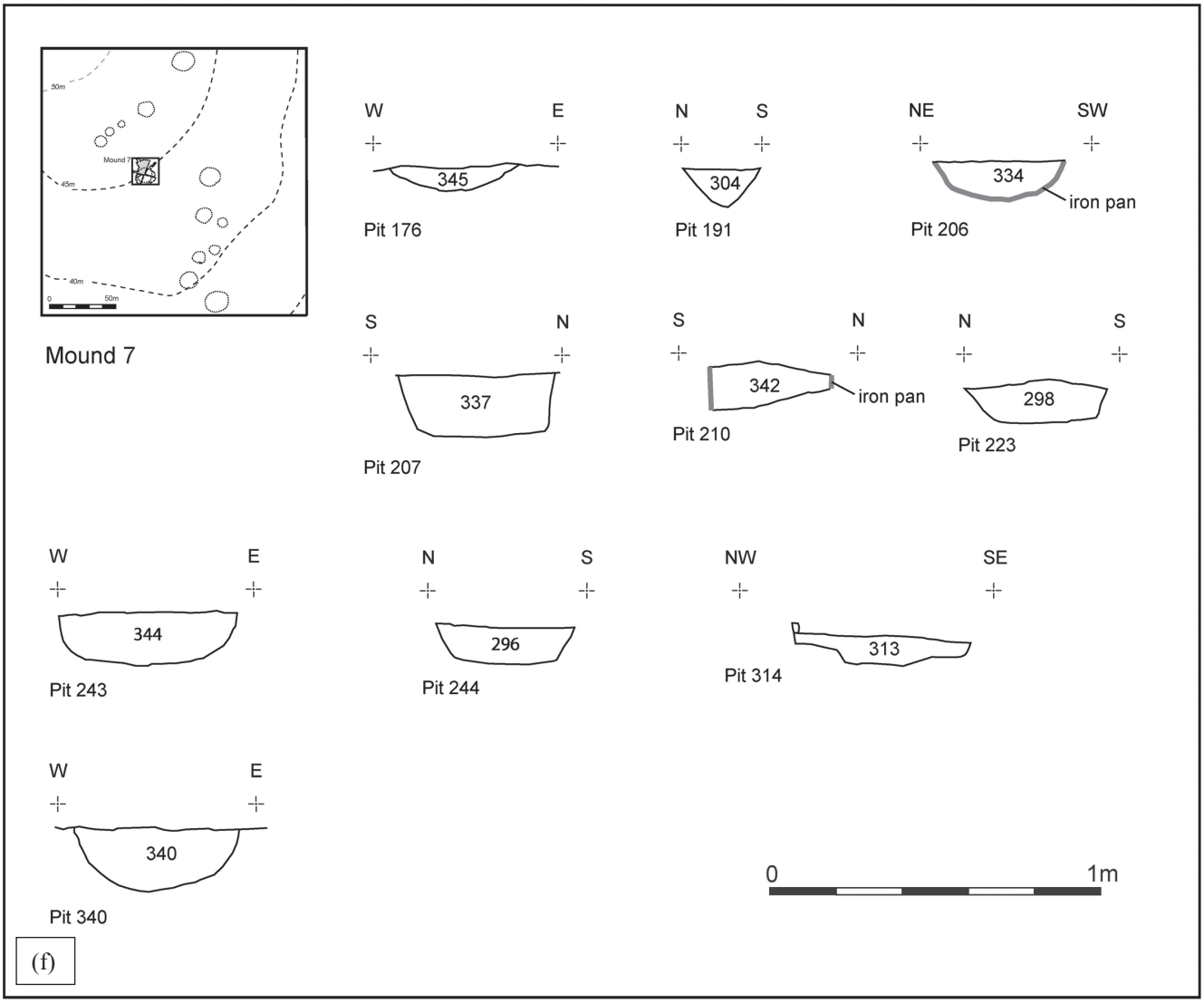


Fig. 5.77 Profiles and sections through Mound 7 cists and pits. (Continued)

extremely similar to Mound 5 (Fig. 5.4). In the face of severe cattle erosion and rabbit damage, the southern half of this mound was excavated in its entirety to assess the damage and examine both mound structure and burial evidence. In contrast to the scale and complexity of Mound 7, Mound 8 appears to be quite a simple barrow, although it was enlarged at a later date. When viewed in conjunction with Mounds 9, 26, 27 and 28, this barrow forms part of the linear arrangement in the western area of the Linga Fiold cemetery, which was a further reason for investigation.

In contrast to the barrows forming the eastern alignment (Mounds 1–6) that incorporated a substantial turf and topsoil component in their construction, Mound 8 was formed of glacial clay. One possibility for this absence is that turf and topsoil would not have been available if it had already been taken for earlier barrow building. Significantly, Carter also makes the point that, as the cemetery developed, persistent topsoil stripping would lead 'to the exposure of large areas of subsoil' and mounds formed by glacial clay 'should be relatively late additions to the cemetery and mounds dominated by topsoil should be early features' (Carter: Appendix 23, 5). While this line of reasoning seems quite reasonable, it is unsustainable given that Mound 8 was erected on a turf-line indicating that turf was present in this area of the cemetery. Finally, in the context of turf removal and use it is worth noting that from the more recent LiDAR data plot (Fig. 5.5), a possible third line of barrows, virtually ploughed out, is present c. 80m to the north-west on a similar south-west–north-east alignment.



Fig. 5.78 A large horizontal slab was laid down to provide a base or pedestal for the central cist (066) in Mound 8.



Fig. 5.79 Cist (066) was built as a free-standing structure supported by angled slabs on top of a large horizontal flagstone (top). This architecture makes the cist appear to be standing on a stone pedestal (bottom).

5.10.1 Before Mound 8 was built

As noted above, a turf-line was sealed beneath Mound 8 and comprised an upper silty clay soil (109), c. 0.08m thick, in which were incorporated small amounts of pyre debris and which contained patches of green clay. Below this soil was a thin layer of grey clay (117) directly overlying glacial till. Beyond the area of the central cist there was a patchy thin red-brown layer (118), which was probably caused by *in situ* burning as is present beneath other barrows at Linga Fiold. Taken together, the pyre material in the buried soil and areas of *in situ* burning on its surface provide strong evidence for the presence of cremation events occurring at this location. After the pyres, the initial structural activity at this site was the erection of an upstanding slab-built cist. In many ways this replicated the architecture of the central cists in Mounds 1, 2, 3, 4 and 9 (Figs 5.16, 5.17 and 5.86), but with one distinctive difference, as the entire structure was erected on a large flagstone measuring c. 0.8 × 1.2m, placed upon the old land surface (Fig. 5.78).

Upon this flagstone the four uprights of a cist (066) were assembled. Because of the inherent instability of this arrangement the four cist stones were supported and held in place by leaning a large slab at an angle against each side (Fig. 5.79 top). Similarly supported upstanding central cists in Early Bronze Age Orcadian round barrows are fairly common beyond Linga Fiold, for example at Varme Dale, Mound 1 (Fig. 6.28), Knowes of Quoyscottie (Hedges 1977), Queenafjold (Ritchie and Ritchie 1974) and Bu Farm, Westray, Cairns 1 and 2 (Barber *et al.* 1996), among others. In these examples, the free-standing cist is either supported by heaped up earth or clay, or angled slabs which create 'a carefully designed superstructure' which 'had the function of protecting it from collapsing' (Hedges 1977, 135). However, only in a handful of instances is the entire edifice erected on a basal slab, as opposed to the cist uprights being partially set in dug slots.

Once standing, the Mound 8 cist (066) measured c. 0.35m wide by 0.41m long and c. 0.50m in height and was orientated east–west. The sides of the cist were sealed by a c. 2cm-thick pink clay (073) lining the base and green–grey clay (076) luting inside the corner joints. The resulting cist structure can be considered in two ways, neither of which is mutually exclusive. First, the basal stone could be seen as a pedestal; a form of funerary installation both elevating and displaying the cist (Fig. 5.79 bottom). Second, the basal slab provides a stone platform preventing the contained cremated remains from being in direct contact with the ground surface. This is a feature of cist architecture more broadly mentioned in Chapter 3, where the cist either has an inserted flagstone base or, in some instances, specially selected material is employed to provide a basal layer.

After completion, cremated bone together with pyre debris was placed in the cist. The bulk of this material was

*Table 5.31 Details of pottery recovered from Mound 7 *illustrated, † sherds from two vessels bagged as SF 306.*

Vessel	*Context*	*SF no*	*Thickness (mm)*	*Description*
7.1	114	103, 108	12–19	Large number of small sherds from a large, thick-walled urn, most of which are body sherds although there are some poss. basal sherds. The pottery is too abraded to be certain that the sherds derived from 1 vessel. The fabric is sandy clay with c. 80% rock frags, reduced (grey) with oxidised surfaces (brown). The exterior surface is smoothed, probably with a wet hand slip. Both surfaces are sooted.
7.2	238	194*	8	Small sherds from a flat-rimmed vessel of 140mm diameter. The exterior surface is smoothed. The fabric is fine sandy clay with c. 80% crushed rock frags, reduced (grey) with oxidised surfaces (red). Both surfaces are sooted.
7.3	248	306*, 307	Variable	Large number of small sherds from a flat-rimmed vessel of variable thickness. The fabric is fine sandy clay with c. 70% crushed rock frags, reduced (grey). Both surfaces are sooted.
7.4	176	152 (part), 153	10	4 body sherds & a flat rim sherd. The fabric is fine sandy clay with c. 70% crushed rock frags, reduced (grey). The interior surface is sooted.
7.5	176	152 (part)	12	Body sherd. The fabric is fine steatitic clay with c. 80% steatite frags, reduced (grey).
7.6	239	195, 196	9	2 small body sherds & frags, & 2 flat rim sherds. The fabric is fine sandy clay with c. 70% crushed rock frags, reduced (grey) with an oxidised interior (red).
7.7	248	306**	10	2 body sherds & small frags. The fabric is steatitic clay with c. 70% steatite frags, reduced (grey). The interior surface is sooted.
7.8	344	Sample 249	9	2 body sherds. The fabric is sandy clay with c. 80% crushed rock frags, reduced (grey). The interior surface is sooted.
7.9	330	Sample 253	7	2 body sherds & crumbs. The fabric is sandy clay with c. 80% crushed rock frags, reduced (grey).
7.10	318	308	12	Body sherd. The fabric is sandy clay with c. 70% crushed rock frags, reduced (grey
7.11	272	300*	11	Body sherd & basal sherd from a flat-based vessel with angled walls. The exterior surface, including the base, is smoothed with a wet-hand finish. The fabric is fine sandy clay with c. 80% well-crushed rock frags, reduced (grey).
7.12	042	115*, 116	9–11	5 decorated sherds from the body of a vessel. The exterior surface is slipped & decorated with closely-spaced dots (4–7mm apart) about 3mm in diameter. The decoration was carried out in the leather-hard stage. The fabric is fine sandy clay with c. 80% crushed rock frags, reduced (grey) with an oxidised exterior surface (brown). The pottery has been subjected to very high temperature & the elements of the fabric have almost fused. There is fire-cracking on the exterior & stones & earth have been fused onto 1 sherd. The interior surface is sooted.
7.13	193	158*	14	Partially reconstructed base. The exterior surface is smoothed. The fabric is sandy clay with c. 70% crushed rock frags, oxidised (brown). The fabric seems to have been subjected to very high temperatures & the elements of the fabric are almost fused. There is fire-cracking on the exterior surface.
7.14	296	Sample 195	9	Body sherd. The fabric is fine sandy clay with c. 10% rock frags, fired hard & is oxidised (red).

*illustrated, ** sherds from two vessels bagged as SF 306

Table 5.32 Details of stone artefacts recovered from Mound 7.

Context	*SF no.*	*Type*	*Length (cm)*	*Description*
032 – topsoil above Mound 30	Grouped as SF113	Cobble	8.1	Flat, circular cobble, broken. Burnt/abraded. No sign of use wear.
032 – topsoil above Mound 30	113	Cobble	22	Large, irregular-shaped cobble of black micaceous sandstone. Abraded. No sign of use wear.
032 – topsoil above Mound 30	113	Cobble	24	Sub-rectangular cobble of sandstone. Abraded. No sign of use wear.
32 – topsoil above Mound 30	113	Cobble	5.6	Frag. of a black micaceous sandstone cobble. Abraded. No sign of use wear.
032	156	Flaked stone bar	5.2	Tip surviving. Black micaceous sandstone. Abraded. Curved end.
032	163	Flaked stone bar	16	Broken across width. Tabular sandstone, very abraded & sides destroyed. Tapering in outline with curved end.
042	164*	Cobble tool	11.5	Elongated finger-like pebble of grey micaceous siltstone. Small facet on broad end. Small facet on narrow end with striations & 'gloss' on 1 face here from rubbing. This creates a slightly angled end. The whole of this face has a low 'gloss' over it from rubbing (Fig. 5.88).
042	165	Cobble	8.7	Flat oval cobble of grey micaceous sandstone. 1 face is particularly smooth from use (?).
042	166	Cobble tool	20	Elongated oval cobble of grey sandstone. Both ends & one side have been battered & pecked. 1 face poss. slightly worn & smoothed.
042	167	Pebble	6.4	Ovoid pebble of grey micaceous sandstone. Unworn. Natural agencies have created small pits around the circumference.
042	168*	Flaked stone bar	27	Flaked stone bar. Made on weathered block of grey micaceous sandstone, remnant cortex down edge & on 1 face. Flaked all over rest of piece. Parallel-sides with 1 curved end & other squared using natural block shape. The bar is curved in long section. On 1 face right at tip there are patches of smoothing from use wear (Fig. 5.88).
042	169	Slab	17	Sandstone slab abraded all over. The sides are flat & the faces are rough. Probably unworn.
042	170	Flaked stone bar	21	Tabular piece of grey micaceous sandstone with remnant cortex on at least 1 face. Abraded all over. Flaked from edges. Parallel-sided with 1 curved & 1 broken end. Midway on 1 face there are patches of pecking with heavy flaking on 1 side & patch of 'polish' on opposite side indicative of hafting. Smoothed patches on 1 face at curved end indicate use wear.
042	171	Flaked stone bar	21	Tabular piece of grey micaceous sandstone. Very abraded all-over destroying edges. Tapering in plan with asymmetrically curved ends. Extensive pecking still visible over 1 face.
042	172	Flaked stone bar	20	Tabular piece of grey micaceous sandstone. Abraded on 1 face. Flaked over whole piece. Sides converge, broad end curved & narrower end damaged.
042	174	Flaked stone bar	10.7	Tip surviving. Piece of laminated black micaceous sandstone. Very abraded destroying edges.
042	175	Flaked stone bar	12.2	Mini-flaked stone bar. Piece of laminated grey micaceous sandstone. Very abraded all over. Parallel-sided with 1 curved & 1 broken end.
042	176	Flaked stone bar	12.5	Piece of tabular black micaceous sandstone. Abraded on 1 face & around edges. Tapering in outline with both ends curved.

(Continued)

Table 5.32 Details of stone artefacts recovered from Mound 7. (Continued)

Context	*SF no.*	*Type*	*Length (cm)*	*Description*
042	178	Cobble	16	Frag. from a cobble of grey micaceous sandstone. Abraded & plough-damaged. No sign of use wear.
042	179	Flaked stone bar	18	Tabular piece of grey micaceous sandstone. Abraded on 1 face & around edges. Parallel-sided with 1 curved & 1 broken end.
042	180	Flaked stone bar	12.5	Piece of tabular black micaceous sandstone. Abraded particularly on 1 face & very fragmentary. Tapering in outline with 1 curved & 1 broken end.
042	181	Flaked stone bar	11.5	Tip surviving. Tabular piece of black micaceous sandstone. Abraded, particularly on 1 face. The 'tip' is pointed.
42	182	Flaked stone bar	8.9	Tip surviving. Tabular piece of black micaceous sandstone with remnant cortex on 1 face. Abraded on opposite face. The 'tip' is asymmetrically curved & there is some pecking down 1 side.
042	183*	Flaked stone bar	13.3	Tabular piece of black micaceous sandstone. Abraded on 1 face. Parallel-sided with on end asymmetrically curved & the opposite end broken. Flaked around edges. At curved end on unabraded face there are patches of smoothing indicative of use wear (Fig. 5.88).
042	184	Slab	10.4	Broken widthways. Abraded all over. The sides are flat & the faces are rough. No sign of use wear.
042	185	Stone disc frag. (?)	20	Piece of laminated black micaceous sandstone. Abrasion on 1 face & destroying edges. Broken. The unbroken edge has an angular outline. It is uncertain whether this piece is natural originally shaped as a stone disc – see SFs 186 & 187
042	186	Stone disc frag. (?)	9.4	Frag. of laminated black micaceous sandstone. Abrasion has destroyed edges – see SFs 185 & 187.
042	187	Stone disc frag. (?)	11.8	Piece of laminated black micaceous sandstone. Abrasion has destroyed edges – see SF 's 185 and 186.
042	188*	Flaked stone bar	38.5	Tabular piece of grey micaceous sandstone. Abraded on 1 face. Flaked around edges. Tapering in outline with a broad asymmetrically curved end & a damaged narrower end (Fig. 5.88).
042	189	Flaked stone bar	17	Piece of laminated grey micaceous sandstone. Abraded on 1 face & around edges. Flaked around edges. Tapering in outline with 1 pointed & 1 broken end.
042	190*	Flaked stone bar	15	Tabular piece of black micaceous sandstone. Relatively unabraded. Broken across width. Flaked around edges. Tapering in outline with a squared end. On either side at the break the edges are smoothed & rounded indicating hafting (Fig. 5.88).
042	191	Flaked stone bar	18.5	Tabular piece of grey micaceous sandstone. Abraded over whole piece. Broken across width. Flaked around edges. Tapering in outline with a curved end.
093	197	Ard point (unused?)	5.5	Tabular piece of grey micaceous sandstone. Abraded all over. This piece resembles an ard point as it has a thick cross-section with a squared butt & a pointed end. There is also a lot of pecking, especially down the sides to shape the piece. There was no evidence for the characteristic use wear on this piece.
196	317	Flaked stone bar	10.3	Mini-flaked stone bar. Tabular piece of black micaceous sandstone. Very abraded all over. Tapering in outline with 1 curved & 1 broken end.
196	318	Frag.	10.7	Piece of laminated black micaceous sandstone. Sub-rectangular in shape. Abrasion has destroyed edges.

(Continued)

Table 5.32 Details of stone artefacts recovered from Mound 7. (Continued)

Context	*SF no.*	*Type*	*Length (cm)*	*Description*
196	320	Cobble tool	10.5	Flat sub-circular cobble of grey micaceous sandstone. Abraded on 1 face. On 1 face there are traces of smoothing around the perimeter as if from having been used to rub on a flat surface.
196	321	Flaked stone bar	16.5	Tabular piece of grey micaceous sandstone. Abraded around edge & on 1 face. Tapering in outline with 1 curved & 1 broken end.
196	322	Cobble tool	26	Large elongated oval cobble of grey sandstone. Surface slightly abraded. Both ends appear to have a spread of pecking over them. 1 face may possibly have been smoothed.
196	323	Cobble tool	20	Elongated oval cobble of grey sandstone. Very abraded with onionskin peeling on 1 face. Poss. areas of pecking on either end.
196	324	Cobble tool	18	Ovoid cobble of grey micaceous sandstone. Abraded. Possible smoothed & flattened area on 1 face.
196	325	Stone disc		Frag. of laminated black micaceous sandstone. Abraded on edges & 1 face. Bifacially flaked to a curved outline around unbroken edge.
196	154	Flaked stone bar	16.5	Flaked stone bar. Tabular piece of black micaceous sandstone. Broken across width. Flaked around edge. Tapering in outline with an asymmetrically curved end.
208	313	Flaked stone bar	15.5	Tabular piece of black micaceous sandstone. Very abraded.
215	407	Flaked stone bar	16.5	Tabular piece of black micaceous sandstone. Abraded all over. Tapering in outline with curved ends.
217	155	Cobble	14.5	Cobble of grey micaceous sandstone. Broken widthways. No clear sign of use wear.
237	198	Flaked stone bar	14.7	Tabular piece of grey micaceous sandstone with remnant cortex on 1 face. Abraded all over, particularly on 1 face. Tapering in outline with 1 asymmetrically curved & 1 broken end. There are areas of pecking over both faces & a notch on 1 side towards broken end most probably indicates hafting. There are patches of smoothing on the unabraded face towards the curved end.
248	303	Flaked stone bar	37.5	Tabular piece of grey micaceous sandstone. Very abraded with breakage at bedding planes. Tapering in outline with both ends asymmetrically curved.
248	304	Flaked stone bar	28.5	Tabular piece of grey micaceous sandstone. Edges destroyed by abrasion. Flaked all over. Tapering in outline with both ends broad & curved.
282	301	Flaked stone bar	13.5	Tabular piece of black micaceous sandstone. Abraded on 1 face. Parallel-sided with 1 curved & 1 broken end. There is an extensive pecked area on 1 face & at curved end of this face there are patches of smoothing indicating use wear.
294	316	Flaked stone bar	23.5	Tabular piece of laminated black micaceous sandstone. Very abraded around edges & fragmentary. Tapering in outline with curved ends.
325	309	Flaked stone bar	18	Tabular piece of black micaceous sandstone with remnant cortex on both faces. Abraded all over. Broken widthways. Flaked around edges. Parallel-sided with an asymmetrically curved end. Heavier flaking on 1 side towards broken end & with edge rounding here & on opposing side indicate probable hafting. Some smoothing down sides on 1 face indicates use wear.
335	314*	Pebble	5.2	Small egg-shaped pebble of grey micaceous sandstone. Very smooth cortex (Fig. 5.88).
335	315*	Finger stone	4.9	Narrow finger-like pebble of black micaceous siltstone (Fig. 5.88).

* illustrated

Table 5.33 Cremated human remains from the central cist (066) and peripheral cist (110) in Mound 8.

Fill/layer	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
069	066	cist	1039.3	1	Older adult	?Female
073			18.4		Adult	?
111	110	cist	0.4		?	?

Table 5.34 Radiocarbon dates derived from cremated bone and charcoal in Linga Fiold Mound 8 cist fill (069).

Lab code	*Material sampled*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
SUERC-8999 (GU-13715)	Cremated bone (proximal humerus articular surface)	069	Deposit in central cist (Phase 1)	3450±35	1890–1680
SUERC-9000 (GU-13716)	Cremated bone (femur shaft)	069	Deposit in central cist (Phase 1)	3360±35	1750–1600

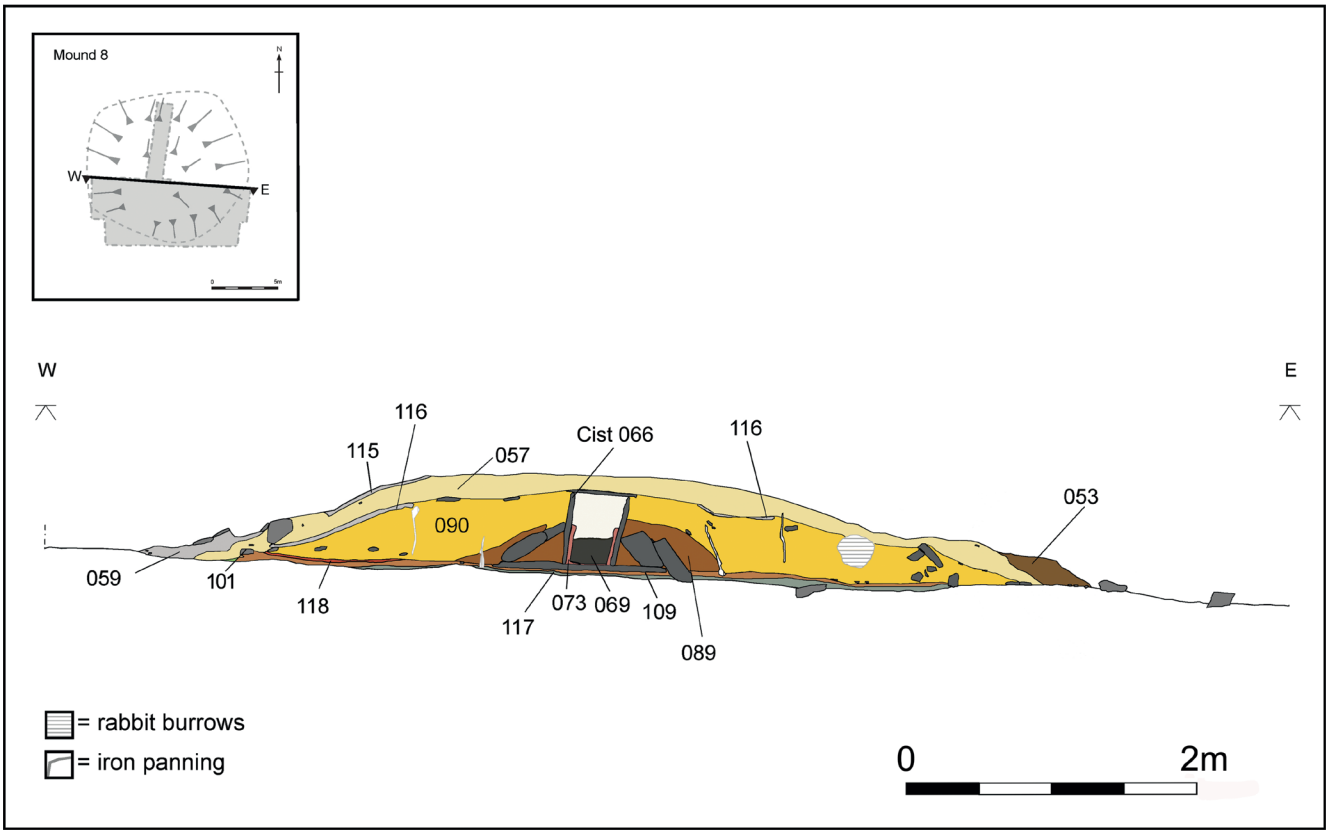


Fig. 5.80 South facing section through Mound 8.

a black ashy deposit (069) filling the interior up to c. 0.38m. As the fill was excavated (in seven spits), it soon became clear that the cremated bone and pyre debris were not spread evenly throughout the fill, with the bone concentrated at the base of the cist (bottom three spits). Moreover, there were also indications that the cremated bone had been tipped in from the north-west corner and 'trickled' down into the lower middle south-west part of the cist. The largest amount of cramp was at the bottom of the fill whereas the burnt turf was spread more evenly. The cremated bone represented two people, an adult and an older adult (possibly female) (Table 5.33; Chapter 7).

Eleven pollen samples were taken from the central cist (066) beneath Mound 8 (six from lining (073), four from luting clay (076) and one from the ashy fill (069)), but only four (three lining, one luting) were polleniferous. The three



Fig. 5.81 The capstone of cist (066) was so close to the surface of the truncated barrow that it had been broken by cattle trampling.

lining samples had relatively low pollen concentrations compared to samples from the other cists. Visual inspection suggested that the luting contained more Asteraceae pollen types and Poaceae than the lining samples, and significantly less *Plantago lanceolata* and *Plantago major/media* (Bunting and Tipping: Appendix 20).

After the cremated remains were deposited, the cist was covered by a large capstone, which on excavation was discovered so close to the present surface of the truncated barrow that it had been broken through in one small place by cattle trampling (Fig. 5.81). After the capstone was tightly fitted on to the cist the whole structure was covered by burnt topsoil (089) which was packed around the cist to form a small mound c. 0.8m in diameter and c. 0.35m deep. This mound contained no cremated bone, only pyre debris. The burnt soil was probably derived from beneath the same pyre that cremated the person whose partial remains were deposited in the cist. Whether or not this material was derived from the earlier, pre-barrow cremation pyre is unknown. If so, a degree of curation of the cremated bone would be necessary: perhaps an additional role for Structure 1 was storage.

5.10.2 Mound 8: the barrow

It seems that the first element of pre-barrow construction was defining a circular area of c. 5.5m diameter by laying out and building a primary kerb (101) on the OLS (109). This consisted of a circuit of one or more courses of large flat stones faced neatly to the outer edge. The kerb was clearly built before the mound although it is not possible to say whether it preceded the cist and defined the area within which the cist was placed, or conversely that the kerb was set around the upstanding cist.

Redeposited compact orange glacial clay (090) formed the bulk of the primary barrow (Fig. 5.80). Although when excavated the mound was badly disturbed by rabbit burrowing and cattle poaching, it seems possible that the glacial clay mound material (090) ran up to the cist capstone, which may have remained visible at this time. Under these circumstances the natural clay capping may have taken the form of a platform as seen at Mound 6 (Section 5.8.2). At a later date the mound was enlarged with the capstone completely covered and encased by a thin capping of grey–white ashy clay (116) containing small amounts of burnt bone. This deposit is probably the ashy remnants of yet another cremation pyre (see below), and if the first deposit of clay formed a platform, then this would have been its prime function.

At about this time a second cist, or stone box (110) was constructed c. 0.25m beyond the south-east edge of the primary mound (Fig. 5.82). Although relating to the primary barrow, it is not possible to assert that it was contemporary with the central cist. In form, the second 'cist' was little more than a shallow stone box, orientated north–south and measuring c. 0.5m long by 0.4m wide and c. 0.21 deep (Fig. 5.83). Unusually, within the cist stones was a bowl-shaped pit filled with black ashy material (111) containing a very small quantity of burnt bone and pyre debris.

Finally, the whole of Mound 8 was substantially enlarged by the addition of a new external kerb (058) and a further capping of glacial clay (057). This kerb was not coursed as such but was formed of many medium and small irregular stones, including a mattock (flaked stone bar SF 101), (Fig. 5.84). In places the kerb was three or four stones deep, but unlike the primary kerb, it was not free-standing but rather had been banked against the bottom edge of the new mound material. Not only did this addition to the mound cover the outer cist (110) but the kerb was deliberately expanded outwards to cover it (Figs 5.82 and 5.83). At least six mattocks (SFs 94–9) were incorporated in the expanded kerb (Fig. 5.84).

This enlargement expanded the diameter of the barrow to c. 6.0m and would also have heightened it substantially. Significantly, this final encasement replicated the depositional process or sequence seen in the primary mound,

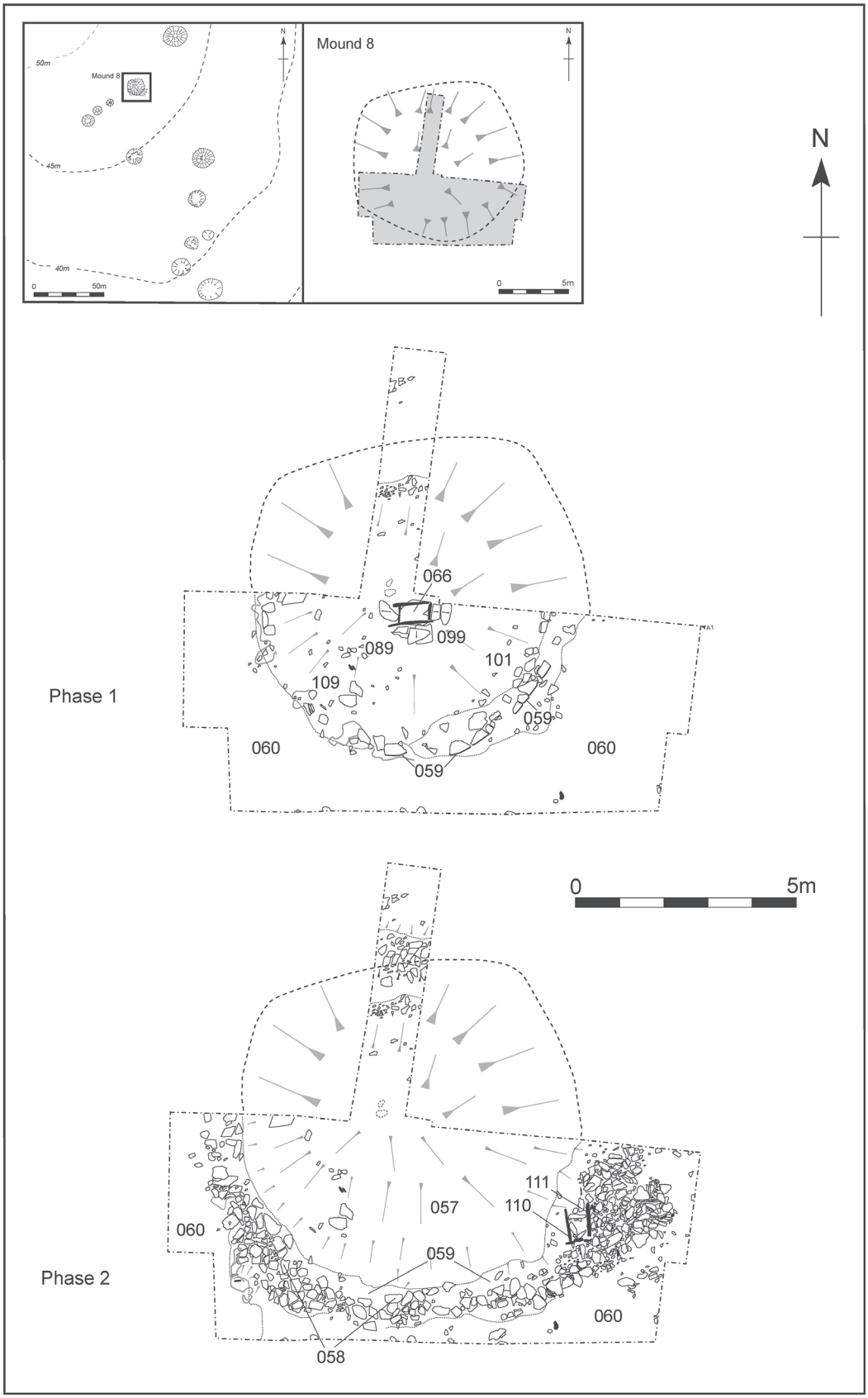


Fig. 5.82 Plan of Mound 8 showing its development and expansion through time.



Fig. 5.83 View of the primary kerb (101) of nicely faced masonry beyond which is the second more diffuse rubble-like kerb (058). The cist (110) is visible outwith the circuit of the primary kerb and covered by the secondary kerb.

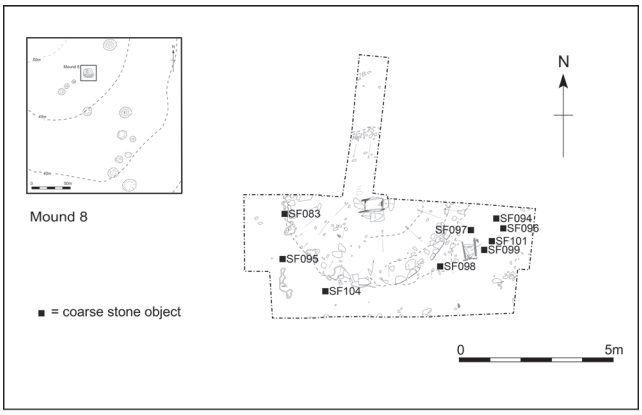


Fig. 5.84 Mound 8: finds distribution.

Table 5.35 Contextual information of Mound 8 features.

Feature	*Fill/Layer [sample no]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
59	59 [67]	Pyre debris dump – poss	2.0	<0.1		0.01
66	69 [11]	Cist	2.8	Observed		
	[13]		14.9	Observed	c. 109	67.4
	[14]			Observed	Trace	85
	[15]		39.7	Observed	c. 10–60	97.6
	[16]		46.1	Observed	13.5	91.4
	[17]				Trace	259.4
	[18]				Trace	217.6
	[19]		106.4		19.3	260.9
	[20]				Trace	
	[21]					
	[22]					
	76 [30]					
	[31]				Negligible	
	[32]		12.7	Observed		
	[33]			Observed		
	73 [23]	(73) clay lining of cist		Negligible		
	[24]					
	[25]					
	[26]					
	[34]					
	89 [41]	(89) layer supporting slabs				
	[42]					
	111 [47]	Cist	2.7			0.4
110	[50]		1.7	Observed		
	[51]		1.1	Observed	19.9	
115	115 [403]	Pyre debris dump	0.1	0.1	0.1	

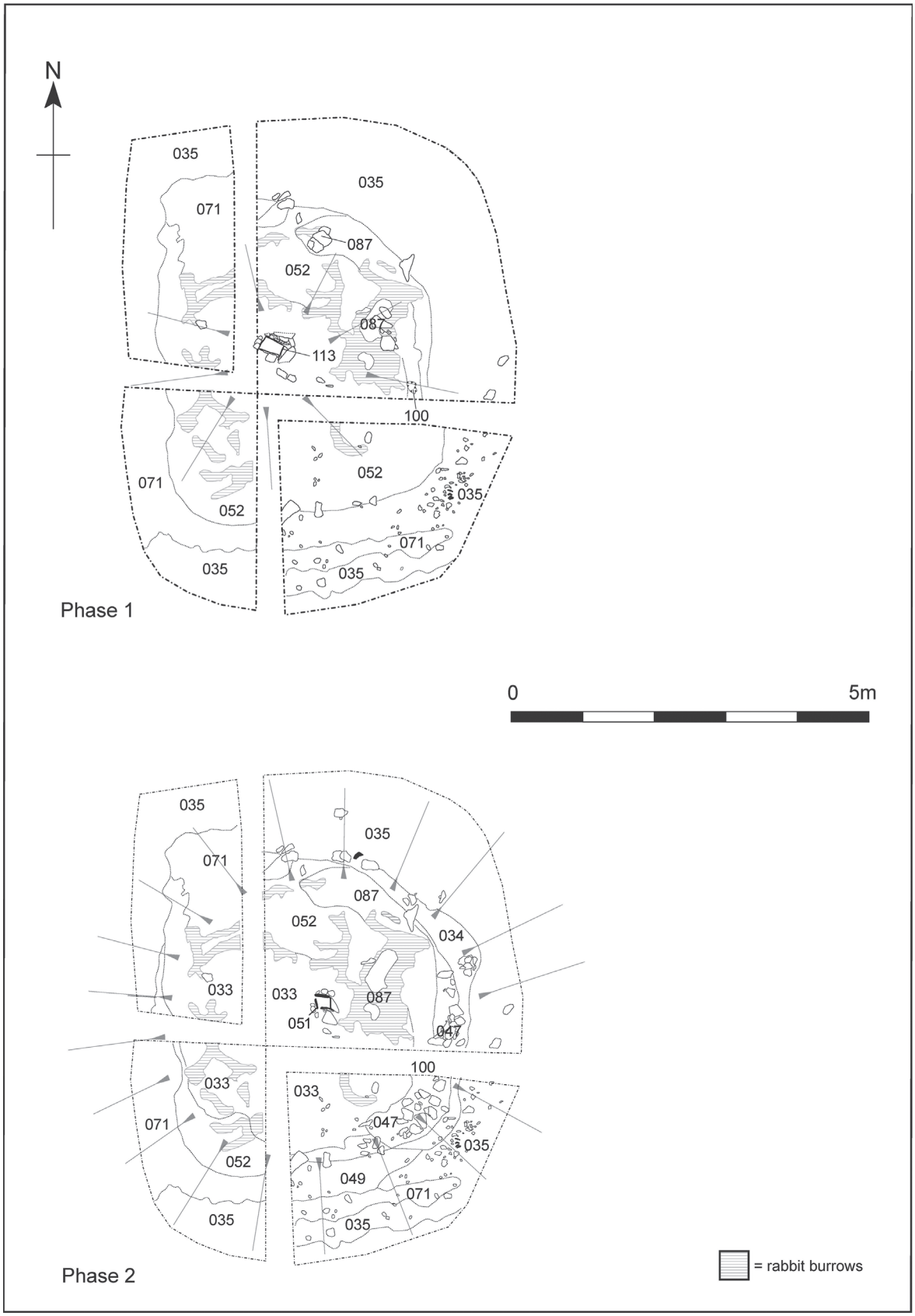


Fig. 5.85 Plan showing the structural changes to Mound 9.

for example, a thin layer of ashy grey clay (115), almost certainly redeposited pyre debris, was spread over the secondary clay mound. During excavation, thin bands of this material were uncovered (Fig. 5.80), while the secondary kerb was set into a similar deposit of silvery ashy clay (059). A bulk sample taken from this deposit contained burnt bone and cramp, indicating that it was a dump of pyre debris. Remarkably, it seems that the enlarged barrow and outer kerb were both covered with a spread of pyre debris (see Table 5.35).

5.11 Mound 9: the breakage of impure things

At the head of the western alignment is Mound 9, the most northerly extant mound of the cemetery which, in 1994, measured c. 9.5m in diameter and c. 0.40m high. At that time it was very badly damaged; parts of the body of the barrow had collapsed through rabbit burrows and other parts were scuffed and eroded by continued cattle poaching. Apart from a general scruffiness and structural damage, the main effect of this prolonged erosion was a substantial reduction in height. Two years earlier, in 1992, a small cist (051), located to the east of the mound had been exposed through erosion and its contents excavated by Julie Gibson (see Moore and Wilson 1995). Given this level of damage expectations were low as to the amount of *in situ* evidence of related funerary practices that would be present. The gradiometer survey indicated that peripheral deposits may be present (Fig. 5.4). However, investigations were restricted to the barrow, which revealed a relatively straightforward sequence of primary burial covered by a barrow, followed by barrow enlargement and secondary burial. Like Mounds 8 and 27, the material forming Mound 9 was entirely glacial clay and in having no turf or topsoil core reveals a consistently different form of construction to the barrows forming the eastern alignment at Linga Fiold. This lack of turf forming the primary mound is

Table 5.36 Radiocarbon date from the cremation in Linga Fiold Mound 9 cist (050).

Lab code	*Material sampled*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
SUERC-9001 (GU-13718)	Cremated bone (femur shaft)	061	Fill of Cist 050 (Phase 1)	3260±35	1620–1440

Table 5.37 Cremated human remains from Mound 9.

Fill/layer	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
061	050	Cist	536.4	2	1) older mature adult 2) subadult/young adult	1) ?male
067			819.0		1) older mature adult 2) young adult	?
068			100.3		Adult	
092	100	Pit	28.2		Older subadult/adult	
112	Outside 050	Cist	31.1		Young adult	

Table 5.38 Contextual information of Mound 9 features.

Feature	*Fill/layer [sample no]*	*Feature type*	*Cramp (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*
034	034 [52]	Pyre debris dump – poss.		<0.1		2.4 *(0.8)*
049	049 [10]	Pyre debris dump – poss. ashy layer		Observed		0.4
050	061 [3]	Cist	58			67.4
	[4]		33	Observed		33.5
	[5]		75.3	Observed	22.8	186.4
	[6]		120.2	Observed	10.9	249.1
	067 [7]		100.2	Observed	9.4	332.7
	[8]		53.6	0.2	?	486.3
	068 [9]		16.0	Observed		100.3
100	092	Pit				28.2



Fig. 5.86 Mound 9: cist (050) from south-west showing the elaborate arrangement of supporting slabs.



Fig. 5.87 The cremation deposits within central cist (050) of Mound 9 were partially placed on a large, shaped stone disc (SF 51) set at the western end.

both notable and interesting, so it will be discussed further in Section 5.13, suffice to note here that just like Mound 8, although Mound 9 is formed entirely of glacial clay it was erected on an old turf-line (Fig. 5.89).

5.11.1 The central cist and primary mound

The erosion was so advanced that the central cist, which once had been buried deeply within the mound, was visibly projecting through the ground surface at the summit. Once again, the cist (113) was erected as an upstanding structure, on the old turf-line (071) which had areas of burning and spreads of charcoal across its surface. Although similar, the cist was supported in a more complex manner than the central cist in Mound 8. This supporting architecture is closer to the elaborate central cist discovered in Cairn 1 at Bu Farm, Rapness, Westray (Barber *et al.* 1996, 108).

Also different from Mound 8, the central cist of Mound 9 was not erected on a stone slab but set in a shallow scoop cut into the old ground surface. As was typical, it comprised four upright flagstones standing c. 0.35m high, positioned to form a free-standing rectangular box orientated north-west–south-east and measuring c. 0.5 × 0.3m. A layer of clay (068) formed the base (Fig. 5.89). Holding the cist slabs in place was a layered arrangement of surrounding angled stone blocks (050), with some interleaving (Fig. 5.86). When this setting had been constructed, and the upstanding cist was stable, a large bifacially flaked stone disc or ‘pot lid’

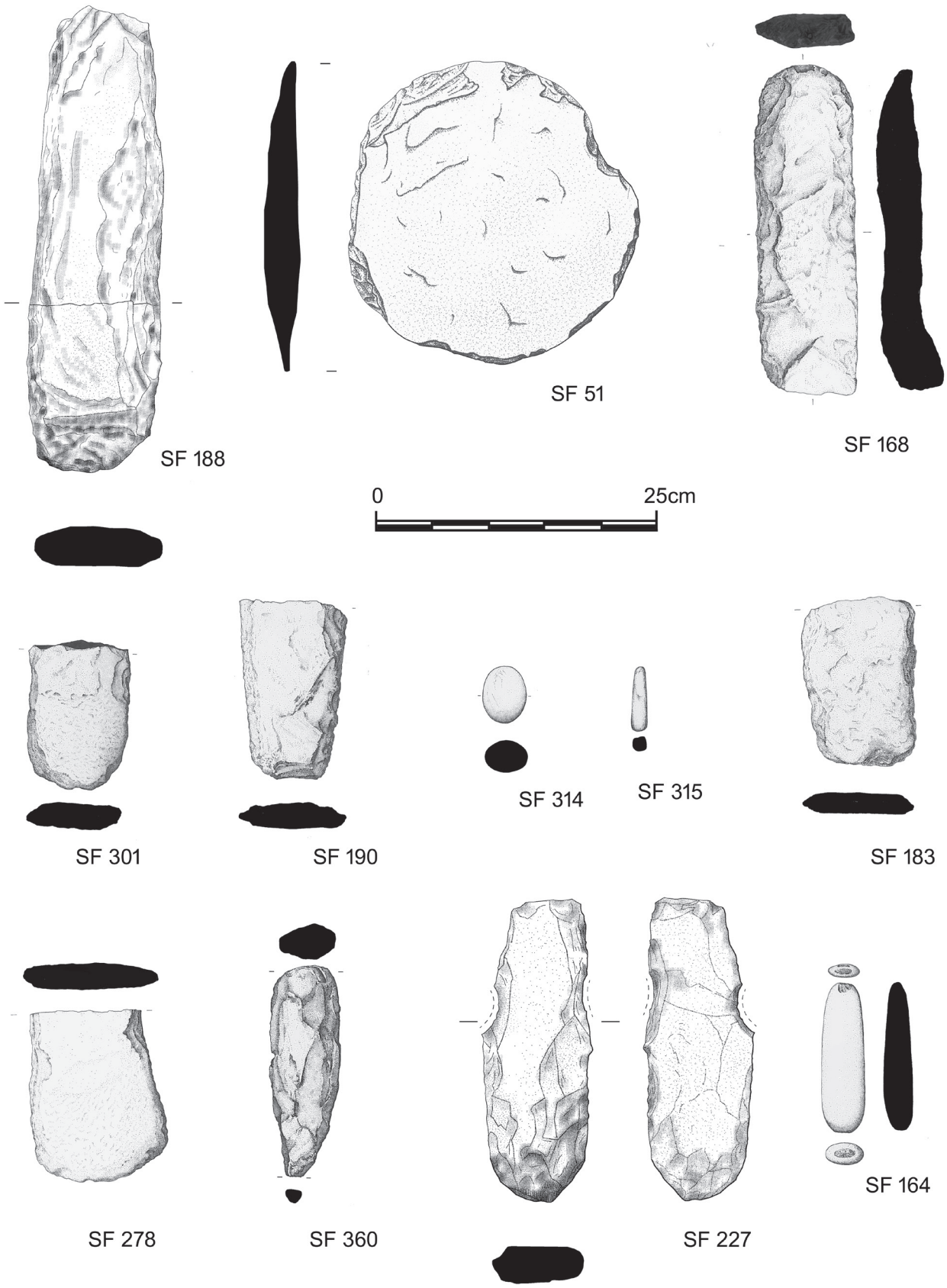


Fig. 5.88 Select coarse stone tools from Linga Fiold cemetery.

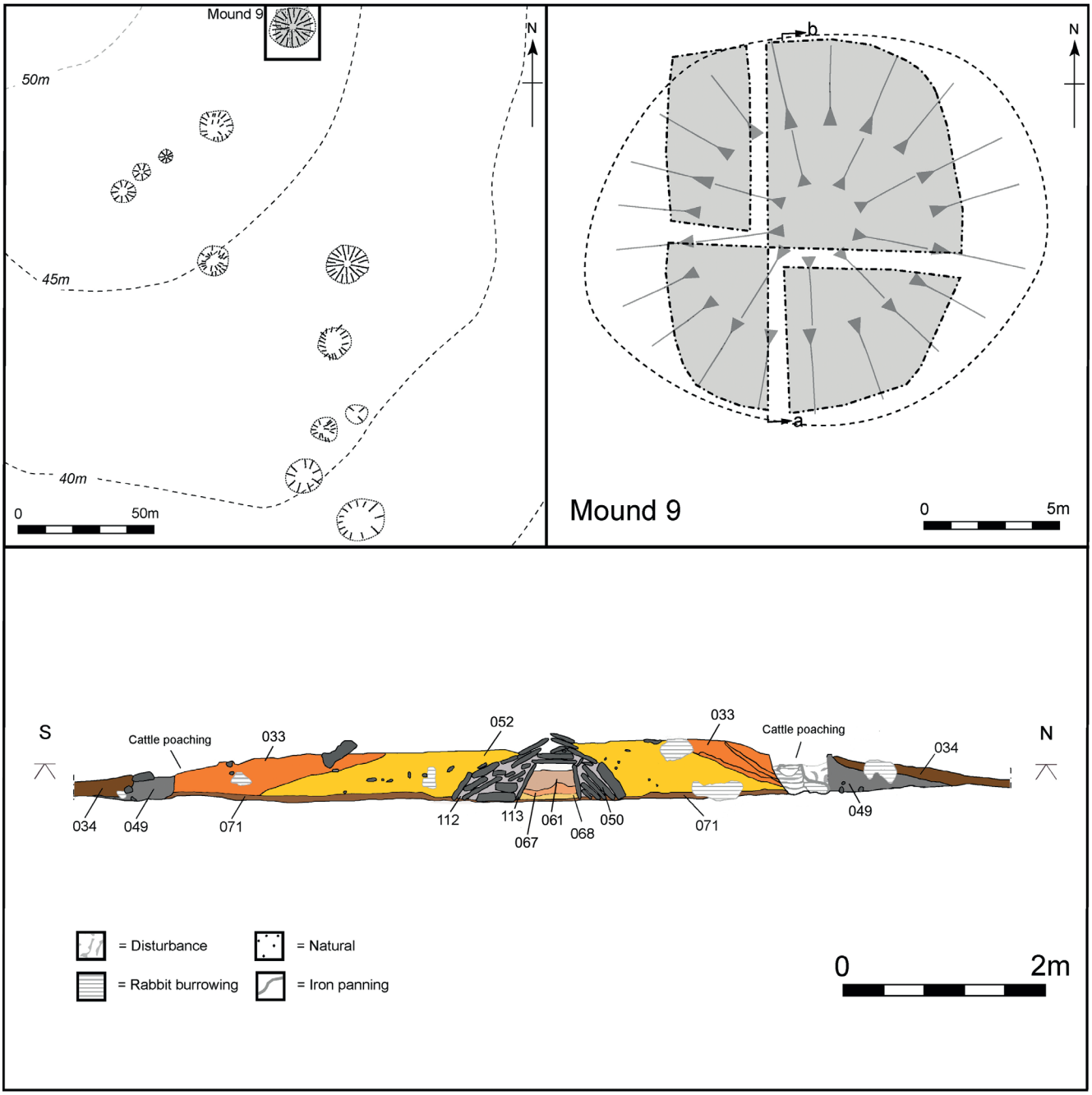


Fig. 5.89 East-facing section through Mound 9.

(SF 51), c. 25cm in diameter, was placed on the surface of the basal clay at the west end (Figs 5.87 and 5.88). Interestingly, a similar stone disc had been placed in the central cist at Knowes of Trotty (Section 4.4.1) and Queenafjold barrow, Birsay (Ritchie and Ritchie 1974, 35).

Deposited on the disc and clay floor were substantial amounts of cremated bone representing two individuals (an older/mature adult and a younger adult; see Table 5.37) together with pyre debris, including cramp (067). A date of 1620-1440 cal BC was obtained for the cremation deposit (Table 5.36). In the cist, rain-washed sediment (061), c. 0.10m deep built up over the main cremation deposit. Mixed in with this material were the cremated remains of an older/mature adult, possibly male, and a subadult/younger adult, probably the same two individuals as in the primary burial deposit. Further cremated remains of a young adult (31.1g) were present in the sediments (112) that had built up between the surrounding angled stone slabs, perhaps as

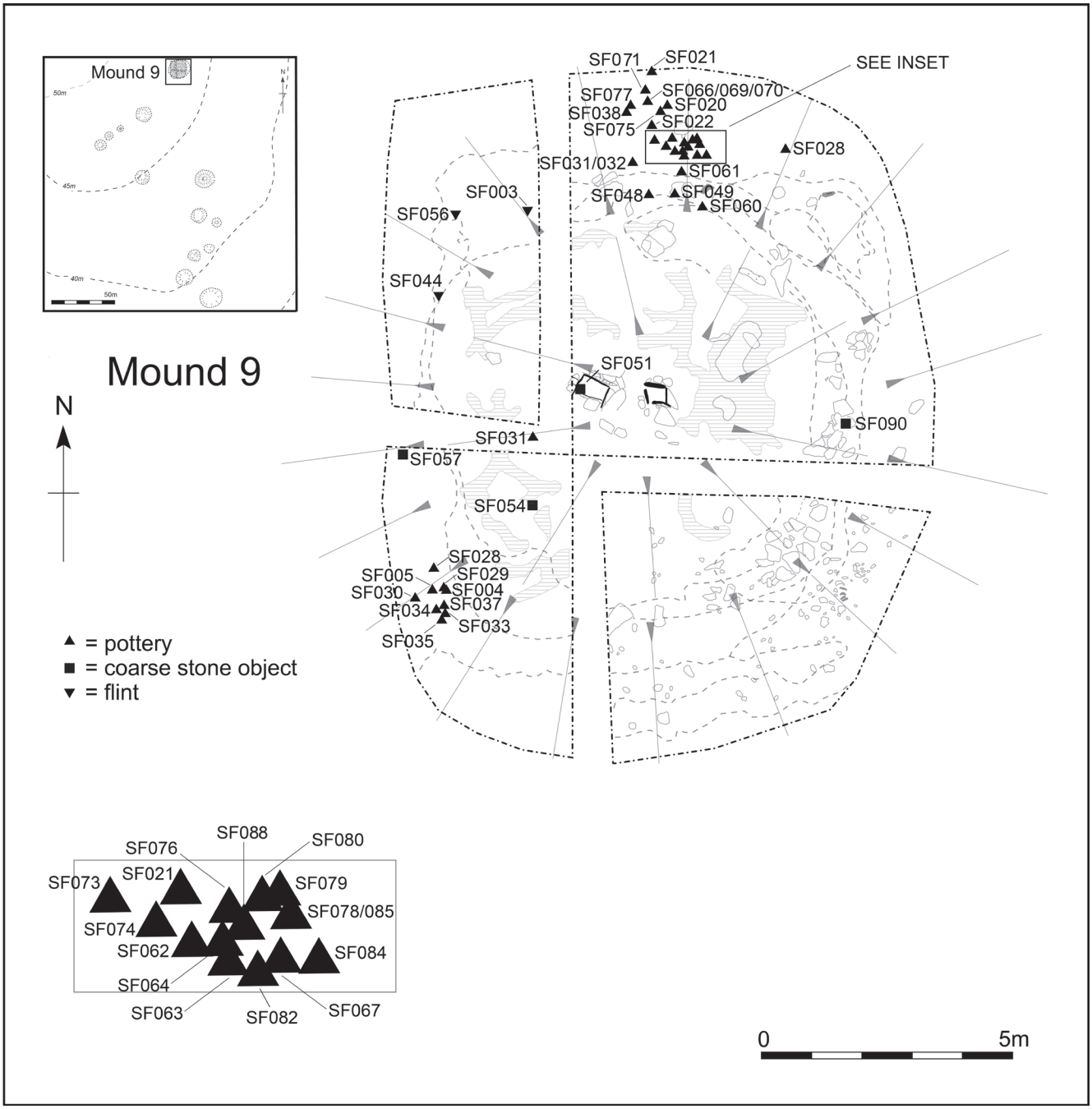


Fig. 5.90 Mound 9: finds distribution, note the high density of pottery sherds adjacent to the ruined northern kerb.

a result of having spilled out of the cist (Tables 5.37 and 5.38). Once filled, the cist was sealed by two superimposed capstones which in turn were covered by a form of corbelling of smaller stones which were an upward extension of the angled slabs (050) (Fig. 5.89).

Around the central cist, a c. 6.40m-diameter kerb (087), was constructed on the old ground surface consisting of large slabs up to three courses high. On excavation it survived in an extremely fragmentary state, having been entirely removed by ploughing in the north-west and south-west quadrants (Fig. 5.85). The kerb was overlain by a grey clay deposit (088), which is likely to have been deposited as part of construction perhaps to bond and stabilise the stones. The kerb appears to have delineated the extent of the primary mound (052), formed by a deposit of compact orange-yellow-brown glacial clay which had been mounded around and presumably over the central cist and partially extended over the kerb (Fig. 5.89).

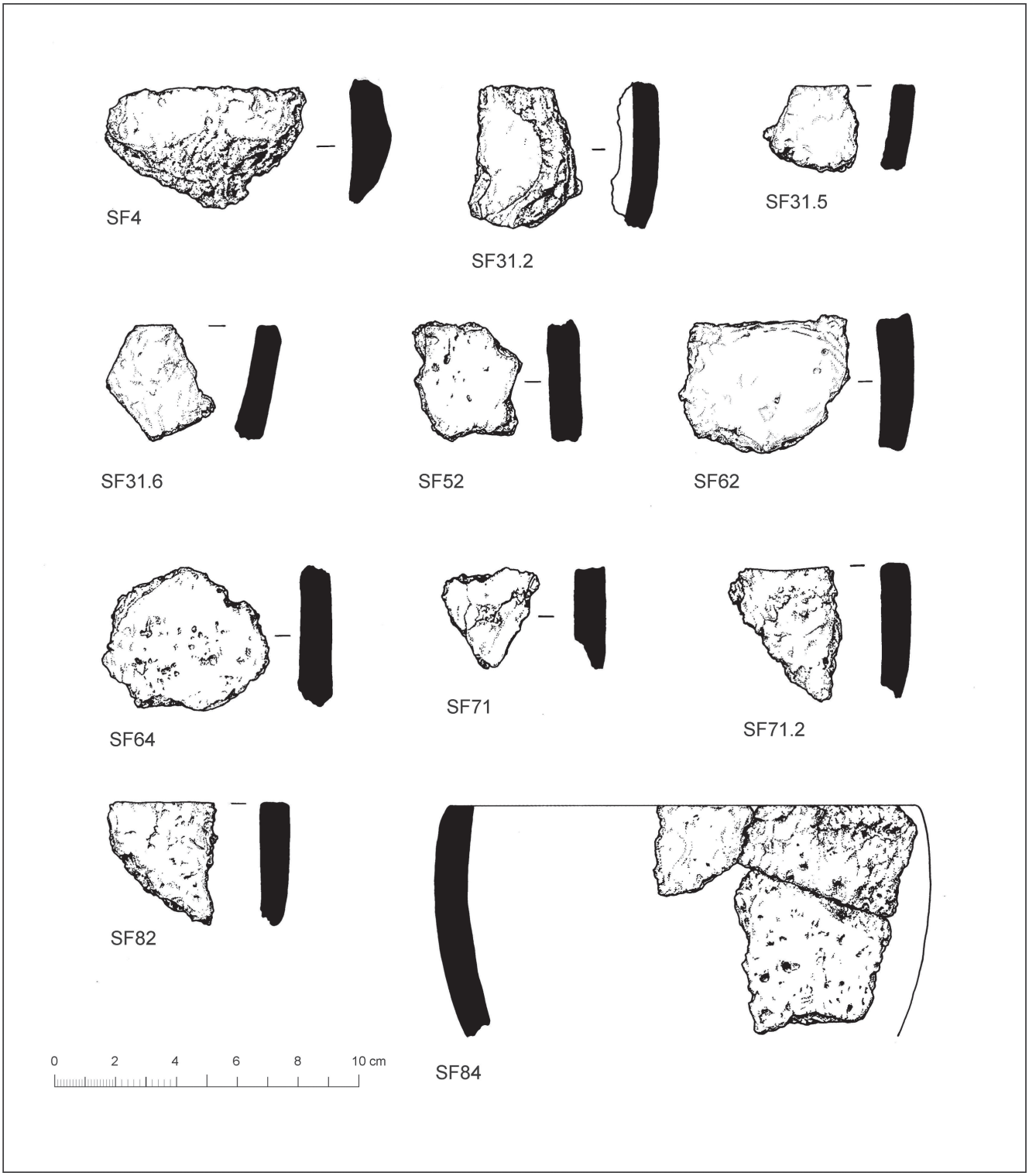


Fig. 5.91 Select pottery from Mound 9.

What had merely been hinted at in other barrows in the Linga Fiold cemetery was confirmed at Mound 9; large amounts of broken pottery had seemingly been smashed on the kerb in its northern circuit (Fig. 5.90). More than 50 pottery sherds representing at least five vessels were found in the slumped mound material (052), clustered near the kerb at the northern edge of the mound (Fig. 5.91). Significantly, at least four of the broken vessels

Table 5.39 Details of pottery recovered from Mound 9.

Vessel	*Context*	*SF no*	*Thickness (mm)*	*Description*
9.1	049 052	71.2*, 82*, 84.1*, 84.2, 85, 88 78, 80 (part)	10	11 body sherds & 4 flat rim sherds from vessel of 220mm diameter. The fabric is steatitic clay with c. 40% steatite frags, reduced (grey). There is some pitting on the exterior surface, probably from erosion of the steatite frags.
9.2	049	84.1	14	Body sherd. The surfaces are smoothed. The fabric is steatitic clay which is oxidised (brown).
9.3	052 033	60, 61, 62*, 63, 64*, 66, 67, 68, 69, 79, 80 52*	11m	Body sherds. The exterior surface of most is well smoothed. The fabric is steatitic clay with c. 40% steatite frags, incompletely reduced (brown exterior, grey interior). There is some pitting on the exterior surface, probably from erosion of the steatite frags.
9.4	052	71*	13	4 body sherds & a flat rim sherd. The exterior is well-smoothed. The fabric is steatitic clay with c. 50% well-crushed steatite, reduced (grey) with an oxidised exterior surface (brown).
9.5	052	65, 75	abb	Abraded sherds or poss. burnt clay. The fabric is fine clay which is reduced (light grey). These are softer than the other sherds from Mound 9, with less temper.
9.6	052	74	abb	Body sherd, the interior surface abraded. The fabric is steatitic clay with c. 30% well-crushed steatite, reduced (grey) with an oxidised exterior (buff).
9.7	034 033	30, 31, 31.5* & 31.8 (join), 31.7 & 33 48, 49	9	3 body sherds & 3 flat rim sherds. The exterior surface is smoothed. The fabric is sandy clay with c. 50% well-crushed rock, reduced (grey). The exterior surface is sooted.
9.8	034	73	11	Flat rim. The fabric is sandy clay with c 40% crushed steatite, reduced (grey). There is iron-panning on the exterior surface. The interior surface is sooted.
9.9	034	31.1 & 31.2* (join), 31.6*	9	Body sherd & rim sherd from a flat rimmed vessel. The fabric is sandy clay with c. 30% crushed rock, poss. steatite, reduced (grey).
9.10	034	4*, 5, 20, 21, 22, 23, 29, 32, 34, 35, 37.1, 37.2, 38, 76	10	38 body sherds (some are poss from the base). The fabric is steatitic clay with c. 60% steatite frags, reduced (grey). The interior surface is sooted.
9.11	034	28	10	20 body sherds, most abraded with 1 surface missing. The fabric is fine sandy clay with c. 80% rock frags, oxidised (brown). Both surfaces are sooted.
9.12	052	70	abb	4 sherds, steatitic clay (see Appendix 12)
9.13	052	72	10	Body sherd, steatitic clay (see Appendix 12)

*illustrated

Table 5.40 Details of stone tools recovered from Mound 9.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
47	90	Flaked stone bar	19	Tabular piece of laminated black micaceous sandstone with cobble cortex on 1 face. Abraded all over. Flaked around edges. Parallel-sided with 1 end squared & opposite end broken.
52	54	Cobble	26	Large sub-rectangular cobble of grey micaceous sandstone. Abraded. No sign of wear.
67	51	Stone disc	25	Stone disc from under cremation deposit. Tabular black micaceous sandstone. Bifacially flaked around edge to form a neat circular shape.
33	57	Flaked stone bar	11.5	Tabular piece of sandstone. Very abraded all over destroying edges. Frag. only.

Table 5.41 Details of worked flint recovered from Mound 9.

Context	*SF no*	*Type*	*Length (cm)*	*Description*
33	3	Blade (retouched)	1.3	Retouched blade, broken, middle segment surviving, edge retouched. Segment of fine blade with steep edge retouch along 1 straight side.
33	44	Flake	1.7	Flint, flake, inner, bipolar
33	56	Flake	1.9	Flint, flake, inner, bipolar

represented were manufactured in Shetland as they were formed from steatitic clay and included crushed steatite filler in their fabric (Table 5.39; Campbell *et al*.: Appendix 12). Indeed, as MacSween (Appendix 11) and Campbell *et al*. (Appendix 12) note, Mound 9 is distinctive in having vessels that were steatite-tempered with a steatitic clay fabric matrix.

Seemingly quite quickly Mound 9 was enlarged as there was no evidence 'of pedogenesis at the upper surfaces of sediments that would demonstrate the location of an earlier mound surface' (Carter: Appendix 23). This expansion was undertaken in conjunction with the construction of a secondary cist. Redeposited natural clay (033) was heaped over the primary mound that added at least 3m to its diameter whilst substantially heightening it. At the edge of the expanded mound yet more broken pottery was present (e.g. SF 52; Figs 5.90 and 5.91), as was a retouched flint blade (SF 3) and two waste flakes (SF 44 and 56; Wickham-Jones: Appendix 18) (Fig. 5.90). This mound material was found to be severely truncated towards the summit/centre of the barrow, and that was why the upper (secondary) cist (051) had been revealed and previously excavated. It had been orientated north-west–south-east, and measured c. 0.30 × 0.25m, and was intrinsic to the barrow enlargement which is likely to have been undertaken to accommodate the new burial. When excavated this cist contained 633.11g of burnt human bone (adult), 0.2g of charcoal and 0.3g of cramp (Moore and Wilson 1995, 244–6).

A secondary kerb (047), built directly on glacial till formed part of this augmentation. This was formed by a circular setting of substantial subangular stones c. 7–8m in diameter, two courses high and c. 0.80m wide, within a grey ashy soil (049), which was once again possibly pyre debris. This situation virtually replicated the association of the earlier inner kerb (087) with the overlying grey ashy clay (088). Why kerbs are consistently set in and incorporate pyre debris is an intriguing question; it is almost as if the barrow is wrapped by pyre material as the body is wrapped and embraced by the flames of the cremation pyre. A stone mattock (SF 90) was recovered from the secondary kerb (Fig. 5.90). The remains of two pottery vessels (SF 71, 82, 84, 85, 88) also derived from this context (MacSween: Appendix 11; Table 5.39; Fig. 5.90).

In places the clay mound material had slumped over the kerb stones, which in turn was covered by a crumbly brown soil (034). Although this deposit was restricted to the edge of the mound, it is possibly a very truncated component of further enlargement; it too contained more broken pottery (see Table 5.39; Figs 5.89 and 5.90). Indeed, this constituted the largest group of pottery encountered at Linga Fiold comprising 84 sherds which represent the remains of up to five pottery vessels found within the 'crumbly soil' (034), at the edge of the barrow (see Fig. 5.90; Table 5.39). Deposits of broken vessels at the periphery of each phase of barrow construction, are clearly visible at Mound 9, and in some instances, the broken pottery became incorporated in adjacent contexts, such as (049) and (052). Such consistency in the dumping of broken vessels at the periphery of the barrow can be seen as vessels being deliberately smashed on the kerb stones and the sherds left *in situ* (Fig. 5.90). Another notable feature of the Mound 9 ceramic assemblage is its derivation from Shetland, as opposed to local production in Orkney (MacSween: Appendix 11; Campbell *et al*.: Appendix 12).

5.12 Mound 27: an early small barrow

The discovery of the early Mound 29, to the north of Mound 7, provides some indication that the Ling Fiold cemetery may have begun life as a collection of small barrows. South-west of Mound 8 three further small barrows (Mounds 26, 27 and 28) were revealed during the gradiometer survey (Fig. 5.4) and much later by LiDAR data (Fig. 5.5). These small mounds are set in a linear arrangement, continuing the south-west–north-east alignment of Mounds 8 and 9 (Fig. 5.1). In 1994, in contrast to its neighbours, the central barrow of the three, Mound 27, was recognisable as a very slight rise in the ground. To investigate this barrow, particularly to establish what level of information remained in this almost completely levelled state, an excavation trench measuring 6 × 2m running north-west–south-east was set out to half-section the barrow.

Mound 27 measured c. 3.2m in diameter and survived as a raised area of orange and brown silty clay (063) up to c. 0.2m high (Fig. 5.92). This mound material was redeposited glacial clay, mixed with topsoil within which rabbit burrows could be seen clearly. Large stones were present in the eastern area just beyond the barrow which may well be remnants of a stone kerb. The truncated mound material sealed the remnants of a buried soil (064).

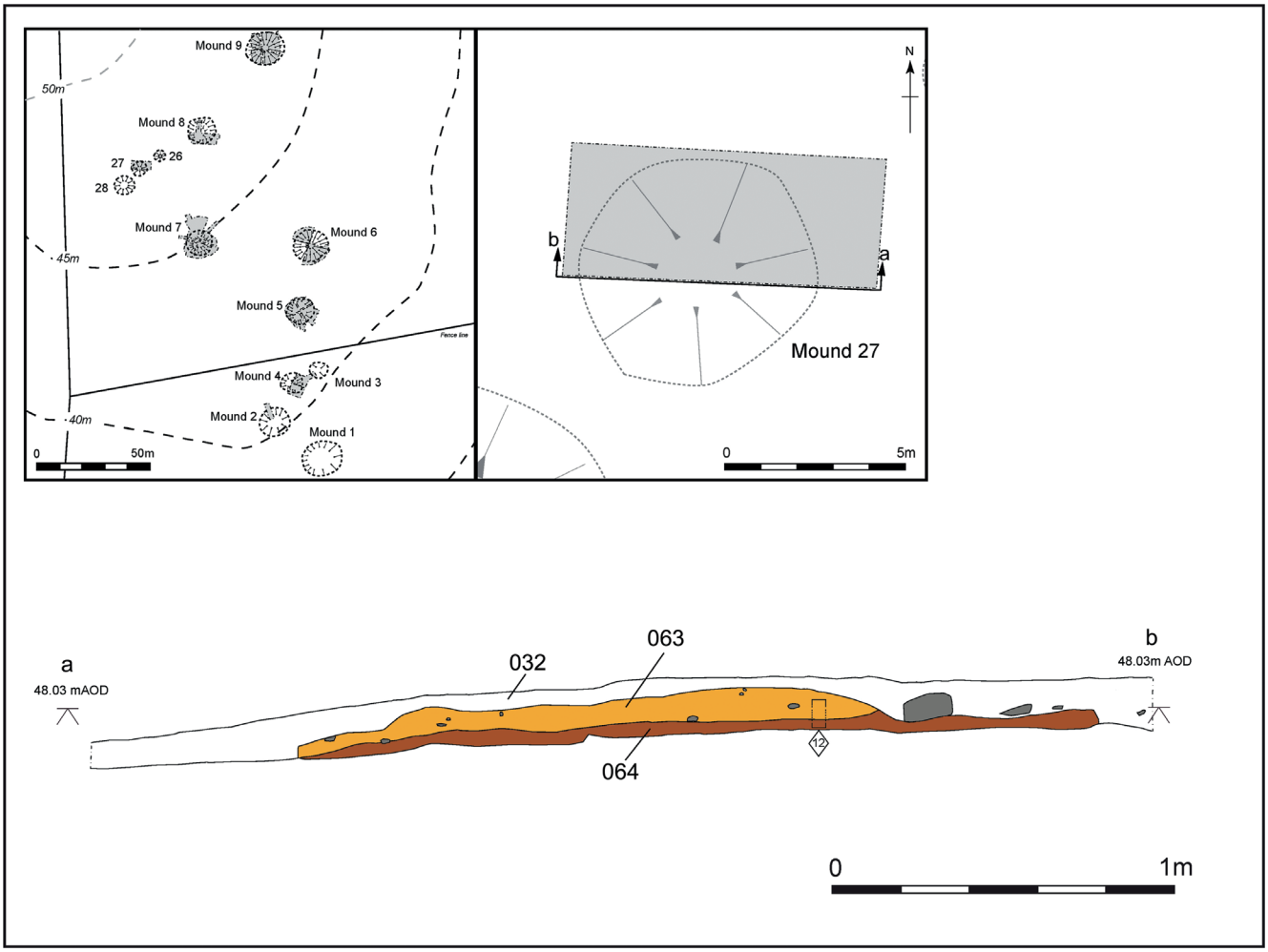


Fig. 5.92 North-facing section through Mound 27.

The majority of other barrows at Linga Fiold had been raised over circular areas or 'platforms' of turf that stood proud after the surrounding soil had been stripped away. In each case, this elevated area was found to be strewn with burnt material (pyre debris) and heavily scorched. In contrast, below Mound 27 was a stable vegetated turf which showed no evidence of burning or contained any burnt material (Carter: Appendix 23).

Surprisingly, given the pit in the centre of Mound 29 (Section 5.9.1), there was no sign of a pit or cist beneath truncated Mound 27. It is possible that further features are present in the unexcavated portion of the barrow since the gradiometer survey revealed a strong positive anomaly which may actually be positioned south of centre and beyond the area of excavation (Fig. 5.4).

5.13 The Linga Fiold cemetery

Rarely have such extensive excavations taken place within an extant Bronze Age barrow cemetery, where cremation is the main form of mortuary practice, as occurred at Linga Fiold in 1994. This enables a detailed assessment of cremation at Linga Fiold which will be discussed in Chapter 7 (see Section 7.3.1). The investigation of some eleven mounds allows not only the possibility of charting the overall development of the cemetery through time but also to detail the complex biographies of individual barrows.

The anatomy of Linga Fiold as a dual linear cemetery was identified at the very beginning of this chapter (Fig. 5.1). Through the investigations it has become apparent that not only are these two linear arrangements separated in space, but also each group of barrows appears distinctively different and internally consistent in the substances and sequence of construction. There, however, consistency ends as it does not translate into or include a distinction in mode of burial. Instead, a number of different burial strategies are employed which appear to crosscut the two barrow groupings. But as we navigate through this evidence it is noticeable that in one area there appears to be consistency across all the Linga Fiold burial mounds and that is in primary activities

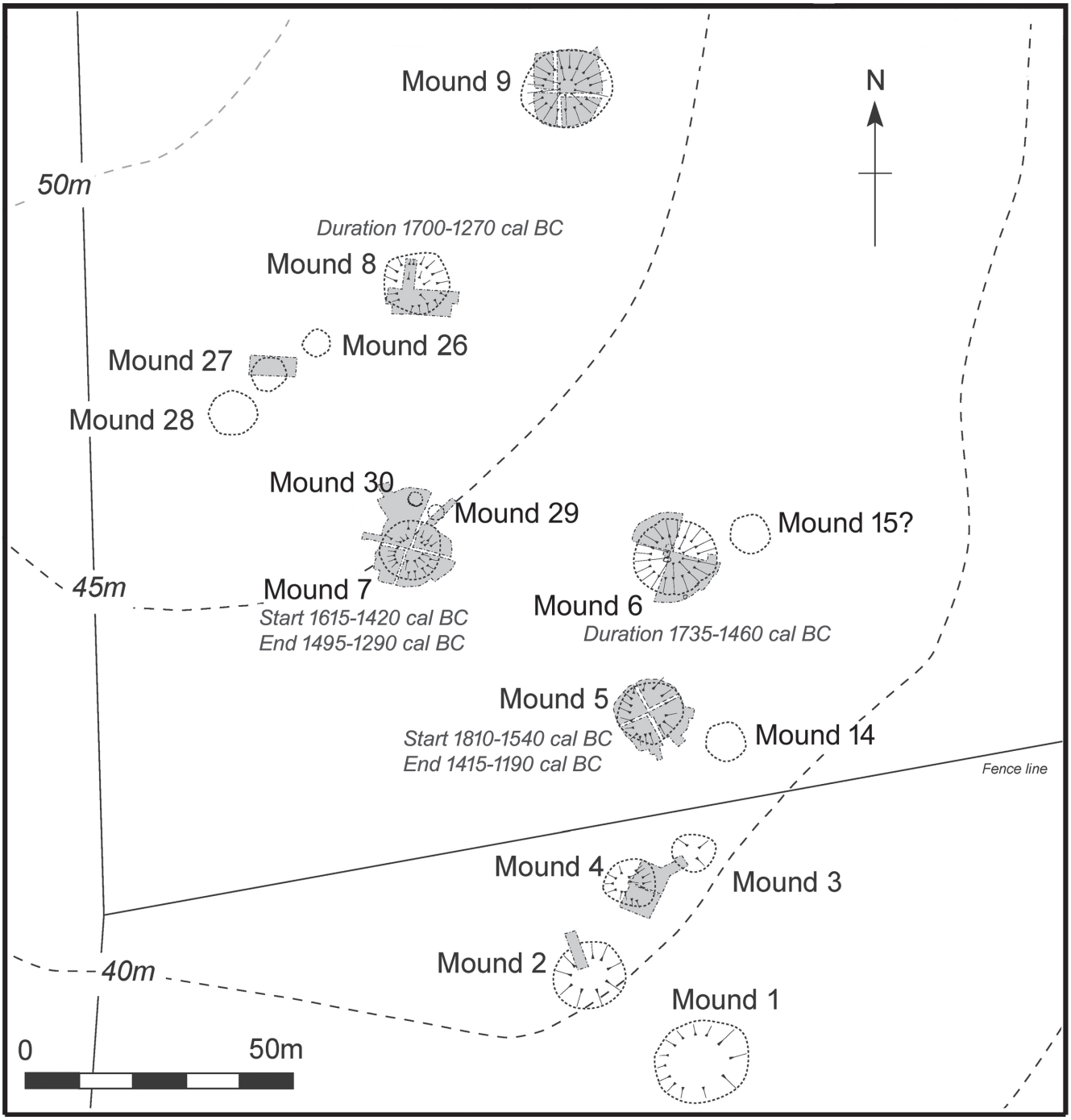


Fig. 5.93 Plan of all possible barrows identified at Linga Fiold, including the potential, smaller examples recognised through LiDAR data.

at each site, and this marks the point of departure for the discussion of Linga Fiold.

5.13.1 Setting the stage: islands of cremation at Linga Fiold

How does a barrow cemetery such as Linga Fiold come into existence and then develop? Although there is interesting information from other excavated barrow groups concerning their origins, and evolution through time (e.g. Green and Rollo-Smith 1984; Garwood 1999; 2007; Garrow *et al.* 2014; Bourgeois and Fontijn 2015), these are specific sites and mainly in southern Britain. Equally, even though particular 'types' of cemetery organisation have been identified (e.g. Woodward 2000), it is highly unlikely that they follow similar origins and trajectories of development. Focusing attention on Linga Fiold, the cemetery

Table 5.42 Posterior ranges produced in the radiocarbon dating analysis shown in Griffiths (Appendix 28, figs 5–7).

Parameter name	*Date range for parameter (cal BC 95% probability)*
Start Orkney barrows	*2045–1675*
Start Linga Fiold cemetery	*1890–1575*
Start Linga Fiold mound 5	*1810–1545*
GU-4886	*1745–1515*
GU-4884	*1765–1530*
AA-23266	*1440–1285*
SUERC-8991 GU-13710	*1680–1335*
SUERC-8992 GU-13711	*1665–1340*
AA-23264	*1425–1260*
End Linga Fiold mound 5	*1415–1190*
R_Combine Linga Fiold mound 6 charcoal	*1735–1460*
SUERC-8993 GU-13712	*1805–1290*
Start Linga Fiold mound 7	*1615–1420*
SUERC-8994 GU-17313	*1560–1405*
SUERC-8995 GU-13714	*1565–1400*
AA-23265	*1505–1410*
GU-4878	*1525–1415*
GU-4877	*1500–1390*
build mound 7	*1500–1355*
GU-4887	*1495–1320*
GU-4879	*1540–1380*
GU-4876	*1540–1370*
End Linga Fiold mound 7	*1495–1290*
R_Combine Linga Fiold mound 8	*1700–1270*
GU-13718; SUERC-9001	*1565–1220*
End Linga Fiold cemetery	*1400–1015*
Start Gitterpitten	*1860–1520*
Start Gitterpitten 2	*1715–1210*
SUERC-1179 (GU-11391)	*1610–1120*
AA-53156 (GU-10626)	*1400–1125*
GU-11387	*1480–1115*
GU-11388	*1630–1115*
End Gitternpitten 2	*1390–870*
AA-53154 (GU-10624)	*810–740*
GU-11390	*1745–990*
AA-53155 (GU-10625)	*1680–1495*
GU-11392	*1555–895*
GU-11389	*1715–965*
AA-53153 (GU-10623)	*1385–1055*
End Gitterpitten	*805–645*
GU-11385	*1595–890*
GU-11384	*1430–805*
GU-3186	*1885–1455*
Start Quoyscottie	*1800–1025*
UB-2161	*1545–975*
UB-2162	*1380–920*
UB-5128	*1190–905*
UB-2163	*1115–775*
Gr-21698	*1600–895*
End Quoyscottie	*1060–665*
Start Knowes of Trotty	*1850–1465*
Start cist 89	*1680–1435*
SUERC-7913 (GU-13398)	*1630–1410*
SUERC- 7914 (GU-13399)	*1630–1410*
SUERC- 7918 (GU-13400)	*1625–1410*
SUERC- 7919 (GU-13401)	*1625–1410*
End cist 89	*1605–1365*
SUERC- 7920 (GU- 13402)	*1605–1390*
SUERC-7921 (GU- 13403)	*1665–1445*
GrA-32137	*1795–1375*
GrA-34776	*1780–1380*
End Knowes of Trotty	*1590–1220*
Start Louth Road	*1670–1430*
GU-12293	*1525–1415*
GU-12294	*1565–1425*
GU-12291	*1510–1375*
GU-12292	*1505–1400*
End Louth Road	*1500–1245*
AA-11767	*1615–1320*
AA-11766	*1405–930*
SUERC-2987 (GU-12120)	*1915–1115*
SUERC-2988 (GU-12121)	*1910–1115*
R_Combine Holland Holm	*1260–940*
GrA-19989	*2000–1125*
GrA-19988	*1965–1130*
SUERC-1198 (GU-11496)	*1770–1465*
SUERC-1199 (GU-11497)	*1680–1500*
SUERC-1200 (GU-11498)	*1495–1200*
End Orkney barrows	*795–540*
Start cist and pit burials	*3080–2505*
GrA-21738	*1970–1390*
AA-53167 (GU-10638)	*2920–2490*

(Continued)

Table 5.42 Posterior ranges produced in the radiocarbon dating analysis shown in Griffiths (Appendix 28, figs 5–7). (Continued)

Parameter name	*Date range for parameter (cal BC 95% probability)*
GU-11386	*1980–1420*
AA 51369	*1890–1635*
Start Sandfiold	*2810–1905*
UT-1483	*2685–1900*
UT-1486	*2280–1905*
build cist	*2175–1895*
UT-1484	*2015–1765*
UT-1487	*2105–1780*
UT-1559	*2050–1775*
End Sandfiold	*2005–1505*
GrA-21627	*2280–1505*
SUERC-5471 (GU-12745)	*1845–1380*
SUERC-5472 (GU-12746)	*1865–1540*
AA-43651 (GU-9481)	*1875–1540*
AA-51418 (GU-10382)	*1740–1500*
SUERC-817	*1905–1395*
SUERC-815 (GU-11269)	*1840–1375*
SUERC-816 (GU-11270)	*1825–1350*
OxA 4607	*1790–1315*
GrA-21734	*2035–1415*
End cist and pit burials	*1610–1075*

appears to comprise two parallel lines of barrows; a western and eastern group both running on a south-west–north-east axis (Figs 5.1 and 5.93), so this could be identified as a dual linear grouping, similar to that present at Knowes of Trotty (Chapter 4). With single linear barrow cemeteries there has been a tendency to see sequential temporal development (e.g. Garwood 2007, 39), as an obvious corollary of a barrow having 'been set up on a given site and its companions added over a period of time' (Ashbee 1960, 33; but see Needham *et al.* 2010, 4; Garrow *et al.* 2014). For Linga Fiold which has a dual linear arrangement, a barrow (Mound 7) situated between the two groups, and a cluster of barrows at the southern end of the eastern alignment, it is less clear where and how this cemetery starts or how its sequence of development unfolded. If, however, Mound 1 is seen as the founding barrow then only at a later date did the dual linear arrangement emerge (Fig. 5.93). In the context of an expanding barrow cemetery, we can amend Meinig (1979, 44) in acknowledging that rites of death and burial in the context of Early Bronze Age Orkney were undertaken 'amidst that which was made before'. But in the case of Linga Fiold, a question mark hangs over what exactly was made before, and this begs the question of at what stage in the sequence of funerary activities was the establishment of a barrow cemetery planned. Conversely, was the development of Linga Fiold more *ad hoc* or incidental? Perhaps this was more a consequence of 'episodic or periodic returns' (Last 2019, 107), with little forethought given to what was being created?

Starting with chronology and accepting the problematic issue of radiocarbon discrepancies between cremated bone and associated charcoal pyre material (see Griffiths: Appendix 28 for discussion), the dates from Linga Fiold provide a broad picture of its general development through time (Figs 5.94–5.95). In the absence of any dating material from Mounds 1 and 2 the question of a founder barrow remains largely unanswered, but based on the spatial organisation of the barrows together with the radiocarbon dates obtained it seems a strong possibility that the cemetery developed northwards in a sequential manner.

To better gauge the possibility of the upslope chronological development of Linga Fiold, an analysis of the available radiocarbon dates was undertaken, with posterior density estimates calculated from the stratigraphic analysis of the cemetery used to examine whether the different barrows were constructed as a series of events (Fig. 5.95). This tests the feasibility of a linear development to the cemetery. In the analysis shown in Figure 5.95, we have presented the results as if Mound 5 is older than Mound 6, followed in order by Mound 7, Mound 8 and finally Mound 9. This effectively demonstrates that this sequence of events could be consistent with the scientific dating evidence currently available (Fig. 5.95).

However, it should be noted that many of these distributions could also accommodate alternative sequences of development over time. Based on this interpretive chronology, the barrows from which we have radiocarbon dates at Ling Fiold began to be used in *1850–1520 cal BC* (*95% probability*) or *1710–1550 cal BC* (*68% probability; Start cemetery development*) (Fig. 5.95). The last monument from which we have radiocarbon results was in use in *1500–1180 cal BC* (*95% probability*) or *1455–1320 cal BC* (*68% probability; End cemetery development*) (Fig. 5.95). Posterior density estimates for the key parameters are given in Table 5.42.

Despite differences in composition, all the larger mounds at Linga Fiold reveal a degree of consistency in being initially built as small barrows which later become enlarged, a sequence which resonates with Early Bronze Age burials further south. This throws attention onto the chronological status of the smaller barrows which did not receive later augmentation and are present within both the western and eastern linear arrangements, and also to the north of Mound 7 (Fig. 5.82). Hence, despite the extent of excavations and resulting knowledge of the sequence of barrow

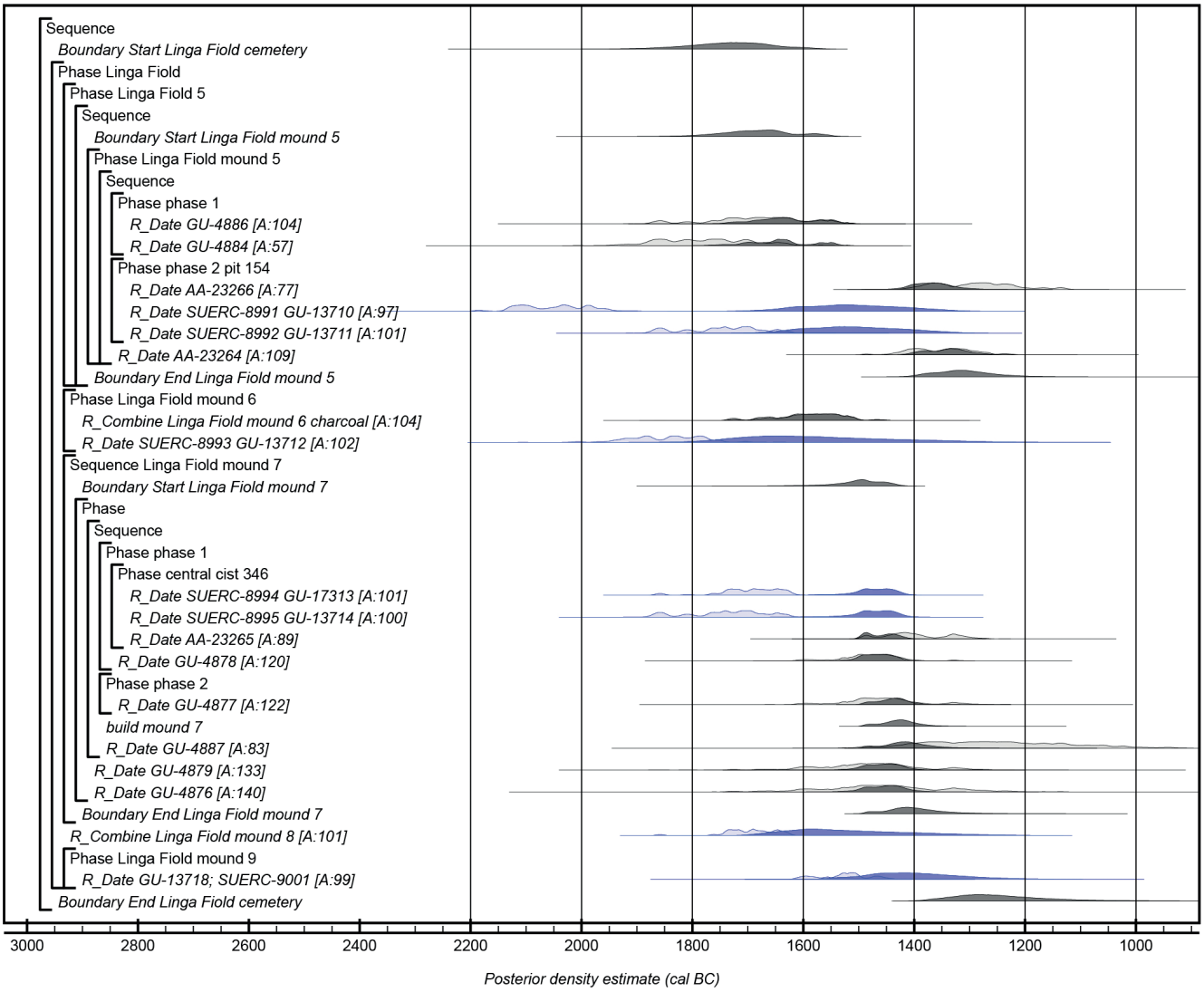


Fig. 5.94 Details of the results from the Linga Field cemetery (as calculated in Griffiths: Appendix 27, Figs 5 & 7). Blue = cremated bone, grey = charred plant.

construction at Linga Field, there remains a questionmark hanging over the time and place of these smaller barrows.

Stratigraphically, Mound 29, situated to the north-east of Mound 7, is early in the sequence, certainly relative to the latter. In both size and construction Mound 29 is very similar to Mound 27 in the western alignment. The kerb cairn (Mound 30), however, just west of Mound 29, is also of similar size but is architecturally different and clearly of a later date in being built after the latest phase of Structure 1. The small Mounds, 28, 27, and 26 in the western linear section of the cemetery, together with Mounds 3, 14 and the additional small barrow that shows to the north-east of Mound 6 on the LiDAR survey (see Fig. 5.5 top plots), provide hints of an early period of linear-arranged small barrows at Linga Field. If the chronological progression of the cemetery from south to north as recognised in the larger mounds holds for the smaller examples (see also Chapters 2 and 8), then the eastern alignment is based on Mounds 1 and 2. This is interesting as the largest barrow in the cemetery is Mound 1, which was suggested to be a possible 'founding' barrow (Section 5.4).

In order to provide a narrative for Linga Field, we need to start at the beginning before the barrows were built. The results of the soil micromorphological analysis of the barrow sediments are helpful here, as they demonstrated that beneath each mound a buried 'stable vegetated … well developed' turf-line was present (Carter: Appendix 23). There may well have been heathland near the site, with scrub hazel, but the immediate vegetation was grass-dominated in an open landscape (Bunting and Tipping: Appendix 20).

Although a well-developed turf-line is present, on excavation it was found to be curtailed towards the edge of each barrow (Figs 5.11, 5.15, 5.22, 5.42, 5.62, 5.80 and 5.89). This situation is observable because subsequent phases

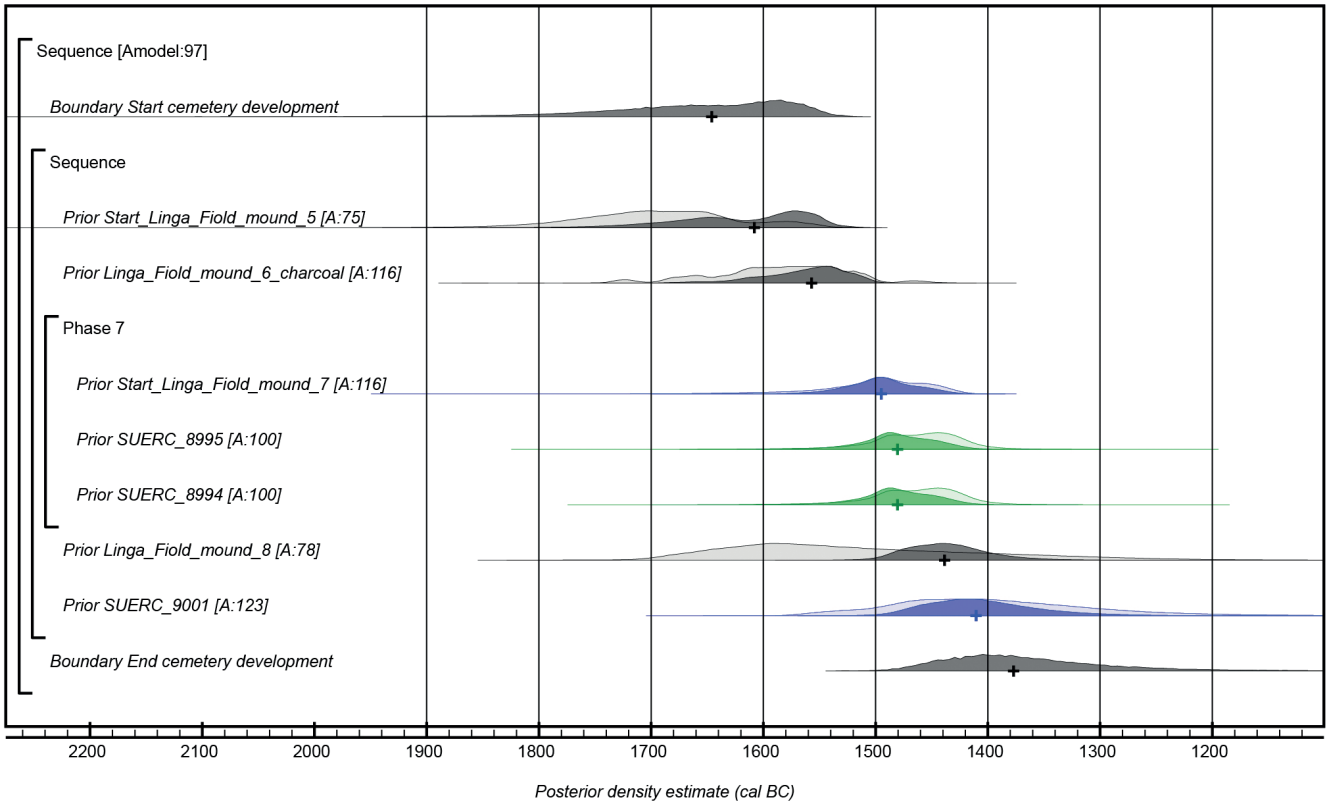


Fig. 5.95 An interpretive chronology of the Linga Fiold cemetery using the posterior density estimates produced from the analysis shown in Fig. 5.94. The median of the distributions calculated in this analysis is shown by a cross. Blue = cremated bone; grey = charred plant, green = unburnt human bone.

of enlargement expanded the diameter of each barrow. It is possible to see in this increased area that the buried turf-line stops without exception *towards the edge of the primary barrow*. From this evidence it is clear that while 'the bulk of the soil was dug away from the immediate vicinity of the mounds' (Carter: Appendix 23), the actual ground surface that would eventually become covered by the primary mound remained intact. This means that once the surrounding topsoil had been stripped, circular areas of turf would remain assuming the appearance of raised platforms or 'islands' surrounded by an area of stripped soil and probably revealed as white–yellow glacial clay.

Here we see a situation that has been recognised elsewhere (see also Bradley and Fraser 2010, 22). For example, at Charmy Down and Lansdown, Somerset, where 'a process of turf and topsoil removal and archival ... exposed the light oolite bedrock … but left undisturbed a linear or circular platform of the original turf surface' (Owoc 2007, 118). The original excavator, Audrey Williams, also noticed that 'the rock had been stripped of loam and dressed so that it sloped sharply away from the flat central area of each barrow' (1950, 35), which achieved the 'illusion of additional platform height' (Owoc 2007, 118). Whether the stripped glacial till was scraped around the Linga Fiold turf platforms is unknown, but stone mattocks (flaked stone bars) were prolific across the excavated areas; these are objects that Ann Clarke interprets as being 'some form of ground/soil-breaking tool which was hafted … for use as a mattock or hoe in which the bar was fixed to the handle' (Appendix 15). These mattock-like implements (Fig. 5.88), would have functioned equally well as tools for scraping the subsoil clay surface. The size of the stripped area surrounding each turf platform is unknown, but many authors have noted that very large tracts of land are necessary to produce the number of turves required in barrow construction (e.g. Smith 1984; Cleal and Allen 1994; Woodward 2000, 52). As Carter notes 'in all cases it seems that the bulk of the soil was dug away from the immediate vicinity of the mounds', and he continues, making the interesting point that 'this indicates some degree of organisation in the cemetery and may be contrasted with traditions of quarry ditches surrounding burial mounds' (Carter: Appendix 23). Yet, stripping turf and topsoil from around a barrow to leave an 'island' is not so dissimilar to digging a surrounding ditch which in many ways has the same effect.

In some instances, such as beneath Mounds 2, 5 and 8 the raised turf platforms were edged with vertical slabs (Figs 5.11; 5.22 and 5.80). At other mounds, although the stone uprights had been removed or displaced, a sharp vertical outer edge to the old ground surface was present, such as

beneath Mounds 4 and 7 (Figs 5.15 and 5.62). Hence, each of the large barrows begins life as a raised circular area of turf, with some form of stone edging, being surrounded by a stripped area of revealed natural clay. But was the sequence culminating in a covering mound anticipated at this juncture?

At Linga Fiold, it was initially thought that because the turves employed for mound construction did not contain burnt material as was apparent in and on the turf-line sealed below the barrows, they must have been derived from elsewhere (Carter: Appendix 23; Downes 2009, 131). However, by reversing this argument it is likely that the burning and burnt material scattered on and across the OLS beneath each barrow occurred after the platforms had been created and as a result of *in situ* cremation events. The heat produced from these pyres was so intense that it scorched the ground surface to such an extent that when uncovered by excavation it had a reddened colour (e.g. Figs 5.23 and 5.24).

Such cremation events appear to have consistently occurred on every turf platform at Linga Fiold. Burnt material and *in situ* burning were found on the old ground surface beneath Mound 2 (Section 5.5), where a c. 0.12m-deep spread of black pyre debris (471), containing 66.8g of cremated human bone of an older infant/young juvenile was revealed (Table 5.2; Fig. 5.11). The old ground surface under Mound 4 (Fig. 5.24) was also reddened by *in situ* burning and the upper c. 4cm of the turf-line was found to contain cremated bone and burnt material, almost certainly pyre debris. Similarly, the sealed turf-line (382) beneath Mound 6 had areas of *in situ* burning and a scatter of burnt pyre material spread across its surface. Accepting that in so many ways Mound 7 differs from the other Linga Fiold barrows, an undisturbed *in situ* pyre was discovered on the OLS adjacent to an unusual low stone box arrangement. Pyre debris also covered the OLS beneath Mound 8 (Section 5.10.1), while Mound 9 also had a buried turf-line with *in situ* burning and charcoal scattered across on its surface. Taken together the evidence indicates that cremation events occurred on the surface of each of the raised turf platforms or 'islands'. We can now envisage the spectacle of burning pyres on the hillside on what were essentially raised stages for the performance and presentation of cremation events. Less clear is whether all cremation platforms ultimately became barrows, and even though the gradiometer survey (Fig. 5.4) failed to find other areas of burnt material, such unprotected sites would have almost certainly been destroyed and dispersed through a long period of cultivation.

Intriguingly, there is little evidence demonstrating that the cremated bodies on any given platform were destined to be interred in the same location. Indeed, where cremated remains have been recovered from both a pyre and adjacent stone box, as in the case of Mound 7 (Section 5.9.2), the latter contained the cremated bones of an infant, whilst on the adjacent pyre an older/mature adult, possibly female had been cremated (Table 5.27). Where the remains of the older adult were deposited is unknown although it is evident that barrow construction began almost immediately after the cremated bones were collected and removed as the covering mound material was deposited whilst the pyre was still hot (see Section 5.9.2; Chapter 7).

Accepting that the mound swiftly followed the cremation event in Mound 7, we need to appreciate the possibility of a substantial cleavage or disjunction between pre-barrow activities and the requirements of barrow building (for a good discussion see Last 2007b). In this respect, it is quite possible that Linga Fiold is an example of an Early Bronze Age round barrow cemetery having a complex and unusual temporality to funerary activities as Garrow *et al.* (2014, 207), suggest for Over in Cambridgeshire. However, the complex temporality may be more a feature of cremation, cist building and burial *before* the barrows were constructed.

Although a small degree of divergence can be traced within individual barrows excavated at Linga Fiold, after single or multiple cremation events had been staged, the majority seem to follow a similar trajectory. On the scorched and reddened turf, strewn with burnt material as present beneath Mounds 1, 2, 4, 8 and 9, upstanding central cists were erected. In the case of Mound 2, multiple standing cists are present (Fig. 5.10). Yet this sequence from pyre to cist construction seems to have involved a temporal dislocation. On many platforms by the time the cists were erected pyre debris was not just visible littering the ground surface but had actually become incorporated and 'mixed into disrupted soil profiles which then had time to re-vegetate' (Carter: Appendix 23). The mixing of burnt material into the soil matrix and subsequent regeneration of vegetation would have required a considerable time delay. Another consequence of this delay was that after a cremation the burnt bones were collected from the pyre and either stored and curated or, alternatively, deposited in an awaiting cist on a different turf platform.

For a certain length of time, each of the upstanding cist arrangements at Linga Fiold stood proud on a slightly elevated turf platform. Each cist was held in place by angled slabs leaning against the four side stones. The number and arrangement of the supporting slabs varied, and in some cases, as with Mound 9 (Fig. 5. 86), these were elaborate interleaved constructions (see also Barber *et al.* 1996, 98). The intention to build a stone cist that was conspicuous as a standing entity, as opposed to the earlier concealed subterranean structures marks a notable departure in the evolution of funerary architecture and its presentation (see Chapter 3). It also continues the function of the open platforms as separated stages for visually striking choreographed burial rites.

Not only was there a gap in time between cremation event and cist construction, there is also evidence to suggest that some cists stood extant and in full view for lengthy periods of time. For instance, a rain-washed sediment had built up

over the primary cremation deposit in the primary cist that was covered by Mound 9 (Fig. 5.78), and similar sediments had accrued between the surrounding cist-supporting angled stone slabs (Fig. 5.80). Here, it is evident that the cist and stone supports were left free-standing for some time before being covered by mound material.

To recap, accepting the intermittent nature of activities occurring on the turf platforms, once a single or several cremation events had taken place, a period of time elapsed before an upstanding cist was assembled. This sequence occurred on at least six of the platforms (beneath Mounds 2, 4, 5, 7, 8 and 9) that became covered by barrows. In the turf platforms beneath Mounds 5 and 6, either cremated remains were deposited in a pit (Mound 5) or 'poured' into a steatite vessel set into the ground (Mound 6). The complex and fascinating nature of the Linga Fiold cremation deposits will be explored further in Chapter 7. Here further attention will be given to the organisation and development of the cemetery.

5.13.2 Cremation at the centre: funerary pyres and the stone circle beneath Mound 7

Cremation pyres were not exclusive to the individual turf platforms that would eventually become sealed beneath the eastern and western barrow alignments. In a central position was Mound 7 (Fig. 5.1), where excavations revealed five early pyre sites that were either sealed beneath the barrow or closely associated (Fig. 5.57). Almost certainly, if a larger part of the mound had been excavated more pyres would have been discovered. Cremated bone was recovered from each of the pyres: three were young adults, one of which was probably female, another was an older adult, also female, and the body cremated on the fifth pyre was unidentified (Table 5.27). Together these pyres represent numerous cremation events occurring relatively early in the life of the cemetery. Of particular significance is that of the bodies cremated, only two seem to be interred in contemporary features, and these are far from secure. Pits (243) and (244) contained 170.5g and 210.9g of cremated bone respectively and both were adults, but neither was identified as a young or subadult. The cremated bone in the low stone box (346) adjacent to pyre (347) is that of an older infant which does not correspond to the bone recovered from any nearby pyre. Judging from these results, it seems that some of the bodies cremated in this central area of the barrow cemetery were destined to be interred in other barrows or elsewhere entirely.

The largest of the primary pyres (347) was adjacent to the low stone box (346), which were both surrounded by a low stone circle which on excavation was only partially extant (Section 5.9.2; Figs 5.57–5.60). In total three small monoliths remained standing in the south-eastern arc and another had fallen; a fifth large stone (350e), which almost certainly formed part of the western arc had also toppled, and all the remaining stones were missing. Erecting a stone circle around a pyre site is unknown in Orkney but occurs further south across north-eastern and eastern Scotland more generally. For example, especially in Perthshire, some stone circles seem to have been erected around small low cairns covering cremation pyres (or pyre debris), and deposits of cremated bone. Many of these also employ 'chunky' monoliths as seen at Acharn Falls (Gillies 1925), Fowlis Wester (Young 1943), Monzie (Young and Mitchell 1939) and Tigh-na-ruaich (Coles 1908; Richards and Cummings 2024, 156). Given the lack of clear burial deposits and consistent descriptions of spreads of burnt material and reddened soil, it seems likely that a number of small stone circles were wrapping and marking pyres sites. At the same time, similar burnt deposits are present in some of the recumbent stone circles of north-east Scotland. A good example is Tomnaverie, Aberdeenshire, which began life as a series of cremation pyres which then became covered by a cairn and surrounded by a stone circle (Bradley 2005). The seeming dislocation between pyre and burial sites prompts Bradley to ask, 'were bodies cremated in ring cairns before they were deposited in cist cemeteries?' (2007, 178).

If there is little correspondence in the central area at Linga Fiold between the remnant human cremated bone on the pyres with contemporary burials deposited in the same area, either the majority of the cremated bone is either being interred in other barrows or taken elsewhere. In any event, it is likely that some manner of curation and storage facility was required, and with this in mind it is worth remembering that the central cremation area was not just represented by a grouping of pyres but also included a stone building.

5.13.3 The death house: Structure 1

When the initial geophysical survey of the barrow cemetery revealed magnetic anomalies to the north of Mound 7 (Fig. 5.4), there was little indication that this was partly produced by a stone building. When revealed by excavation, and just as occurred at the Knowes of Trotty, the building caused a degree of uncertainty in its interpretation due to the apparent longevity where phases of construction and reconstruction appeared to begin quite early and extend through to the later remodelling of Mound 7. The other curious feature of the building was the unusual architecture. First is the absence of a central fireplace, an essential component to any dwelling in prehistoric or historic Orkney (see Fenton 1978, 195–204; Richards 1990; Downes and Richards 2005, 125–7). Second is the presence of seemingly wide flagstone shelving in the south-east and open fronted cist-like furniture to the north-east.

The attribution of mortuary house to recognised buildings beneath Bronze Age barrows was unproblematic in the early to mid-twentieth century, but rarely was this function described in detail. Here it is suggested that the features described above lead to a case being made for Structure 1 being a death or mortuary house. Within its confines,

corpses could be stored within the cold and dark interior for a duration of time before cremation, and perhaps as calcined bones after cremation events. Pre-cremation bodies may have been laid out on the benches and others held in the cist-like boxes in the north-east of the building. The remains of cremated persons could also have been stored in different forms of containers, before removal for distribution and deposition. Anything that was stored within this building would undoubtedly have been of transitory nature, so it is unsurprising that few artefactual remains were discovered in this area; in fact, Structure 1 appears to be virtually devoid of small finds (see Fig. 5.63). Nor is it surprising, that as was also seen at the Knowes of Trotty, it was centrally placed within the cemetery, and in assuming this position its role in the mortuary process is unequivocally. Therefore, it seems appropriate to reconsider the status more broadly of what have been termed Bronze Age mortuary houses, especially given the observation that 'the mortuary hut interpretation is less in favour at the moment' (Last 2007b, 163).

The status of mortuary houses or structures associated with Bronze Age burial mounds has been an ongoing issue throughout the last century. These are frequently small structures that simply cover burials (Ashbee 1960, 90). A good example is the unexpected discovery made at Beaulieu Heath, Hampshire, over the winter of 1941–2 when as a matter of urgency ten barrows were excavated. Beneath Barrows II and IX the remains of two mortuary houses were uncovered, which Stuart Piggott declared to be of 'very considerable interest and importance' (1943, 24). These were both quite small; below Barrow II, 'the most remarkable discovery was the mortuary-house … this showed at first as a dead black stain in the surrounding yellow clay near the centre of the barrow, which proved to be the infilling of a pit, 5½ ft. [1.67m] square', and at the bottom 'no less than 57 stake and stave holes were present, some still containing wood, arranged in the form of a square following the junction of the four walls with the floor. Two deeper holes, one each side of the centre, were presumably for taking the main weight of the roof' (C.M. Piggott 1943b, 7). The second beneath Barrow IX was formed by a ditch measuring '5 ft. by 4.5 ft. [1.52 × 1.36m], almost the same size as the mortuary-house structure in barrow II and presenting an almost identical appearance on first sight' (C.M. Piggott 1943b, 19).

However, two years before the Piggotts' excavations in Hampshire, 'during the severest winter weather in modern times (1939–40)' circular post arrangements beneath the Bronze Age barrows Sheeplays 293 and 279 in the Vale of Glamorgan had been discovered by Cyril Fox and his wife Aileen (Fox 1959, 128). The timber circles were once again recognised as buildings but in this instance more specifically as mortuary houses (Hawkes and Hawkes 1943, 75). For example, beneath the barrow Sheeplays 293, 'the 28-ft. [8.53m – timber] circle' was identified as 'the wattled wall of a House of the Dead, a mortuary hut' (Fox 1959, 140). This was compared with the arrangement of stake holes discovered by Atkinson beneath a barrow at Cassington, Oxfordshire, of which the excavator declared, 'I do not think there can be any doubt that these stakes do in fact represent the remains of a small ritual hut' (Atkinson 1947, 17).

At this time, the recognition of mortuary houses in southern Britain appeared unproblematic since they were seen as directly relating to the 'timber structures found beneath barrows in Holland' (Atkinson 1947, 22). A good example was the structure found beneath Barrow 3 at Gardereren-Bergsham, Netherlands excavated in 1935 by Van Giffen (1937). This comprised eight large posts, forming a pre-barrow 'mortuary house' which surrounded the central burial pit which would become the centre of Barrow 3 (Lanting and van der Plicht 2003, 194). This site has received more recent attention, and the mortuary house recognised as a seventeenth century cal BC structure covering the cremated remains of two individuals (grave 31)', after which it was 'eventually encapsulated in a relatively small and low mound' (Bourgeois and Fontijn 2015, 53).

But then as now, a degree of uncertainty remained as to the function of post-holes and structures beneath barrows. This is exemplified by Piggott's questioning whether 'these [are] purely ritual arrangements of posts within the barrow or are they circular houses for the reception of the dead, either built ad hoc or, more likely, secular buildings consecrated for the purpose?' (1939, 217). Twenty years later Paul Ashbee echoed Piggott's uncertainty in musing that 'many theories have been put forward, but there is little evidence to prove or disprove them' but ultimately agreeing that 'they seem most likely to have been mortuary huts or houses (1960, 65).

Here it is worth considering if the current reluctance to identify 'mortuary houses' is merely due to timber rings beneath barrows being convincingly interpreted as free-standing circles as opposed to the remnants of roofed structures. The answer is probably in the affirmative but once the timber posts encircling Bronze Age burials have been discounted, there remain examples that are more convincing as standing structures. For example, Site XVI within the Snail Down barrow cemetery in Wiltshire was described as a mortuary enclosure for storing corpses and cremated bones (Thomas 2005, 283). In 1991, a flattened round barrow excavated at Deeping St Nicholas, Lincolnshire, was found to have nine concentric rings of posts surrounding a central burial, but also present was a trapezoidal timber structure c. 5 × 11m (French 1994, 23–4). This was suggested to be a mortuary house used to store a human body or bodies prior to burial (French 1994, 99–100; Woodward 2000, 25). A collapsed turf and daub structure beneath a barrow (Monument A) at Church Lawton, Cheshire was also interpreted as a destroyed mortuary house by Robina McNeil-Sale (1982, 48; see also Reid 2014, 241).

Such structures are not restricted to timber, as when Richard Bradley excavated the Clava Cairns between 1994–6, he discovered that in the basal layers of each of the platforms surrounding the cairns were flat sandstone slabs which were considered to be possible building stones employed at the site before the cairns were raised. Their presence provided a slight hint of the existence of earlier structures, but these 'could have been removed completely as the cairns were erected' (Bradley 2000a, 121). On balance, if they were present a preferred interpretation was of earlier settlement, but another reading of the evidence would have them as mortuary structures.

Overall, the archaeological evidence for Early Bronze Age death houses in a Scottish context is uncertain (Brück 2004a, 183–4), but the requirement for such architecture as part of the cremation sequence may be less so. As discussed in Chapter 3, after death the storage of the dead is an obvious cause for concern for a number of reasons, not least because of the processes of decay and the ambiguous and dangerous status of the deceased. Mortuary practices that inevitably begin in the house and end at the point of cremation (or burial) may well have been suspended and prolonged over a lengthy intermediate period (Lelong 2018, 62; Brück and Booth 2022a; Parker Pearson 2023). As Lelong states the processes of dealing with the dead 'required the devotion of effort ... by those still living, and all of them also *took* time' (2018, 61), and with time comes the need to store the corpse. It is in this context that Structure 1 at Linga Fiold should be situated.

Whilst Joanna Brück has consistently argued for Bronze Age persons as relational entities, with fragmentation allowing the dispersal and exchange of things and people (Brück 2004b; 2006a; 2006b; 2019; see also Fowler 2013), equal requirements of re-aggregation and 'wholeness' are less well covered. Here, the re-assembly of dead bodies at Cladh Hallan, South Uist, may be introduced, not merely because such practices add a further degree of complexity to prevalent views of fragmentation during this period (Parker Pearson 2023, 162), but because it too raises questions concerning the place of storing the dead (or their remains) through time. In the Middle Bronze Age of the Outer Hebrides when cremation was the dominant form of funerary ritual, the burial in acidic wet places, presumably bogs (Parker Pearson *et al.* 2005, 542), would seem to expose an anticipation of future events. To enable the re-assembly of bodies employing parts of known dead persons required a specific and controlled form of storage together with a retention of knowledge of identity and place of burial. In this respect, the idea of curation in the Middle Bronze Age is particularly apposite. But, as Brück and Booth acknowledge, the storage and curation of bodies 'was not limited to that period' and extended back into the Chalcolithic and Early Bronze Age (Brück and Booth 2022a, 441). Indeed, the provision of access into third and early second millennia cal BC Orcadian cists can be seen to combine the potential of storage and removal with addition and accumulation (see Section 3.4). It is not just bodies, both parts and wholes, which are curated during the Early and Middle Bronze Age, but also a range of other things variously identified as heirlooms and relics (e.g. Woodward 1993; 2002; Sheridan and Davis 2002, 824; Woodward and Hunter 2015). In short, at this time storage as an imperative of the projection of things and bodies into the future would appear to be of fundamental concern.

Curation and the facility to store a corpse destined for cremation are necessary for a number of reasons, not least because the intermediate period of *rites de passage* is extremely dangerous and the corpse potentially polluting. Storage and separation are also a requirement for the social and physical distancing that accompanies the severing and detachment of ties which death brings to the relational, inter-connected person (Strathern 1992; Brück 2004b, 311–12; Fowler 2004). If there is a strategic interplay between parts and wholes, in the first instance, rites leading towards cremation may initially be predicated on and demand whole wrapped bodies, even if they are subsequently dismembered and disarticulated for the event itself. Appropriate shelter and protection of the corpse as a complete and whole entity, in the face of tissue decomposition, are crucial for a prolonged funerary process. Under these circumstances the

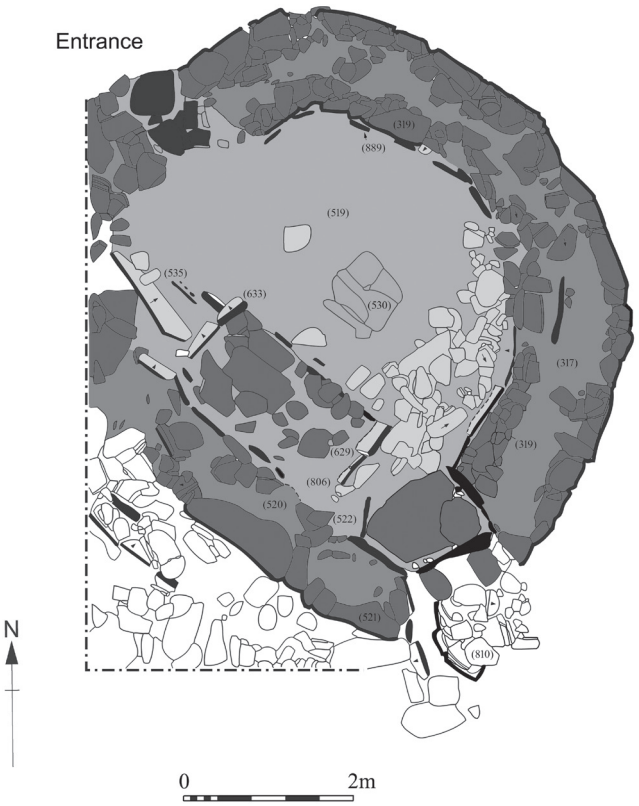


Fig. 5.96 Structure 1 at Stonehall Farm (after Richards et al. *2016b).*

provision and necessity for death houses, and unobtrusive accessible cists (see Chapter 3), as containers of the dead is essential. Moreover, if a strategy of containment and protection requires housing the whole corpse in a mortuary building then a distinction can be made between the architectural requirement of bodily storage and Ashbee's notion of mortuary houses being merely 'elaborations of the grave' (1960, 52). Similar arguments may be made concerning the storage of cremated human remains after they have been extracted from the pyre.

Returning to Linga Fiold, there is no doubt that the stone building, Structure 1, functioned over a long period of time as evidenced by an extensive history of building, re-rebuilding and refurbished (Fig. 5.71). Structure 1 was certainly built at an early stage in the development of the cemetery as some of the masonry was set directly on natural glacial clay, especially the partially displaced masonry (215) to the south-east of the later building (Section 5.9.5.1). From that point in time, it underwent a series of episodes of rebuilding and refurbishment to finally stand upon the secondary clay platform (196), which related to a later phase of activities around Mound 7 and the cemetery as a whole. In being situated halfway between the west and east alignment of barrows, this building was pivotal in providing both pre- and post-cremation storage.

There is one final feature of this building which invites comment and that is its similarity with Structure 1 at Stonehall Farm (compare Figs 5.71 and 5.96). The latter was a building stratigraphically late in the sequence of settlement that stood out because it exhibited 'a lack of conformity with previously excavated 3rd millennium BC houses' (Richards *et al.* 2016b, 134). Architecturally Stonehall Structure 1 had a similar D-shaped plan, upright stones lining inner wall faces, and in both buildings a badly constructed entrance was positioned in the north-west. It is possible that such a crude entrance is a consequence of it being sealed and breached on numerous times, perhaps in conjunction with storage events. Neither building had a central hearth, although in Stonehall Structure 1 a primary fireplace was suspected due to bands of ash noticed on the floor (Richards *et al.* 2016b, 139–40). Certainly, no hearth was present in its final form, instead at the centre a capstone covered a cist-like shallow stone box (Richards *et al.* 2016b, figs 6.24 and 6.25). Beneath a stone slab set in the clay floor to the north of the cist was a deposit comprising a polished quartz stone axe, a number of hammerstones and worked flints which were sandwiched between the upper and lower slab, in much the same way that frequently occurs in double capstone cists (Richards *et al.* 2016b, 138–9). In both the Stonehall Structure 1 and Linga Fiold Structure 1 the flattened side of the buildings which gives the distinctive D-shape were due to wide elevated shelving perfectly suited for storage. Indeed, storage of the dead was suggested for Stonehall Structure 1 as a place for the 'safe presencing of the dead within the domain of the living' (Richards *et al.* 2016b, 145).

5.13.4 Building barrows at Linga Fiold: 'mounding', containment and wrapping

In the previous chapter (Section 4.8.2), the materiality of Bronze Age mounds was argued to bring a vitality to the dead, and here we wish to make a distinction between making and intentionality. As will be shown, both processes are relevant to the formation of the Linga Fiold cemetery and the first to be examined is that of making, particularly the method of constructing barrows by the sequential laying of discrete and well-defined substances. As a result of soil micromorphological analysis through the different barrow profiles, several different material constituents were identified (see Carter: Appendix 23). First, intact turves were cut and stacked to form part of the mound. Second, there is turf material which is different to the first and recognisable as loose topsoil. Third, there is loose burnt topsoil containing pyre debris, including cramp and charcoal, which is heat-reddened soil from beneath the pyre. The fourth substance is local glacial clay, soft and impermeable, and white to yellow in colour. Many barrows at Linga Fiold comprised two major phases, an initial small barrow covering a burial deposit which is then enlarged in tandem with a secondary cist burial.

Yet there was a significant difference in the sequence of material deployed between the eastern and western barrow alignments (Table 5.43). First, the construction of Mound 5 will be briefly reviewed as being representative of the eastern alignment of barrows.

The central burial in Mound 5 is atypical in being a discrete cremation deposit, probably tipped into an elongated

Table 5.43 Contrasting sequence of materials deployed in barrow construction at the eastern and western linear groups of the Linga Fiold cemetery.

Eastern linear barrow group		*Western linear barrow group*	
Basal	Reddened soil from the pyre	*Basal*	Reddened soil from the pyre
Covered by	Intact/stacked turfs	*Covered by*	Thick layer of yellow-white glacial clay
Covered by	Loose topsoil	*Covered by*	Thick layer of yellow-white glacial clay
Top	Thick layer of yellow-white glacial clay	*Top*	Loose topsoil

pit from a container (Figs 5.25 and 5.27). The pit had been cut into the centre of the ash-covered, scorched turf 'platform', edged with vertical slabs, which had served as a place for cremation events (see discussion in Section 5.13.1). A large capstone sealed the pit upon which pyre debris had been heaped up (Figs 5.28 and 5.29; see also Section 7.6.2.3). Covering this deposit was a thick layer of stacked turves and loose topsoil, which was covered by yellow glacial clay to form an outer skin to the primary mound (Fig. 5.22). This was accompanied by the construction of a new masonry kerb and the deposition of a thin layer of burnt topsoil. After this, some additional yellow glacial clay material was added, as was a lens of grey subsoil (Fig. 5.22). The final enlargement of Mound 5 appears to reverse the primary barrow construction sequence with a thick layer of glacial clay being overlain by a capping of turf and topsoil. It is the primary mounds of the eastern alignment at Linga Fiold that in conjunction with the cremation deposits have been identified as examples of an inversion of the natural order of substances (Owoc 2000, 218–9; Downes 2009, 127–31; Wiseman *et al.* 2021, 724–5).

The structuring of the burial deposit and the inverse sequence and ordering of materials within the barrow mound have been suggested to be key in evidencing an approach to categorisation and ordering relating to Bronze Age cosmology and ontology. This is particularly indicative of the significance of a vertical grid in ordering the world (Downes 2009; Downes and Thomas 2013; Chapter 7). The meticulous selection and deposition of the components of the pyre and the earth upon which it was situated reversed natural stratigraphy and the sequence of the creation of the pyre. Specifically, the remains of the body that had surmounted the pyre were placed at the lowest point, within the earth; cramp resulting from the fusing of the body fats with pyre fuel and earth was placed on top of the cleaned bone together with charcoal and ashes from the pyre. Turf and topsoil were then placed over these, and the whole then surmounted with subsoil (glacial clay).

Inversion as a material strategy of mound building in Bronze Age burial contexts has been identified elsewhere (e.g. Smith 1984; Owoc 2000, 218–19; 2005, 270–3; 2007, 122; Wiseman *et al* 2021, 724–5). For example, when Peter Drewett (1985) excavated a series of barrows at West Heath, Sussex, in 1980 the turves stacked to form the core of the barrows (Drewett 1985, fig. 5) were instantly recognised as being inverted (Sue Hamilton pers. comm.). Subsequently, at Site 41, Trelan, Cornwall, it was observed that 'the turves … were laid grass down' and the ubiquity of this practice prompted Smith (1984, 25) to comment that 'this seems the most frequently used method among excavated turf mounds'.

Interestingly, inversion does not appear to be a feature of barrow building in the western linear arrangement at Linga Fiold. Indeed, here, the construction sequence is reversed as exemplified in Mound 9. Initially, over a buried turf platform that was burnt and had spreads of charcoal across its surface, an elaborate cist structure was erected. Because the scorched turf 'had time to re-vegetate' (Carter: Appendix 23), the construction of the barrow clearly occurred substantially later. This began with the deposition of a substantial amount of glacial clay quickly followed by a thick second deposit of clay. This mound of clay may have had a further layer of topsoil added subsequently (Fig. 5.80).

At first sight, the eastern and western alignments of barrows appear to be similar monuments, but through the practices of making, particularly the divergent depositional sequence of substances, they are very different indeed. And each would have appeared different through the construction process. Whilst this distinction provides clear evidence of the fragility of assuming that the similar appearance of monuments of a given type is the outcome of homogeneous constructional practices, here we are more interested in why these differences occur. Carter has suggested the duality between the two barrow groups can be attributed to a chronological difference; 'it may be hypothesised that as the cemetery developed, persistent topsoil stripping led to the exposure of large areas of subsoil. If this is the case, the subsoil mounds should be relatively late additions to the cemetery and mounds dominated by topsoil should be early features' (Carter: Appendix 23). This explanation is unsupported by the radiocarbon dating (Griffiths: Appendix 28), and even with the western barrows some topsoil seems to have been employed as part of their secondary enlargement. We are therefore left with a differential strategy of barrow building existing between the two linear elements of the Linga Fiold cemetery.

At this point it may be worth briefly reconsidering what exactly a Bronze Age round barrow is. At first glance the answer would seem quite straightforward; the round barrow is a mound of earth or stone (cairn) constructed to cover, monumentalise and memorialise a burial. But as was argued in the previous chapter things may not be that simple and Cooper is correct to point out that although appearing as 'a readily recognisable, stable and discrete category … it seems unlikely that "round barrows" had a coherent, constant identity even in the Early Bronze Age' (Cooper 2016b, 691). Similarly, a contrast between the heterogeneity of what is concealed or buried beneath the barrow and the homogeneity or uniformity of the barrow form has also been observed by Last (2007b, 156), and while across southern Britain there are a range of different forms of circular earthen burial mounds, particularly those in Wessex, 'the ordinary round bowl-shaped barrows are by far the commonest' (Grinsell 1941a, 75). Even when the final form of the barrow is a result of several stages of enhancement and augmentation the rounded profile of the barrow still retains its 'elegant campanile form' (Ashbee 1960, 59). Such homogeneity of

monument form can deceptively be translated into a uniformity of function with the common assumption that 'the primary purpose of a barrow … was for burial of one or more dead human bodies' (Woodward 2000, 21). In short, the ubiquitous round barrow has come to define burial in the Early Bronze Age (e.g. Piggott 1938, 90).

But is this necessarily the case? When Anwen Cooper cautions against round barrows possessing a lack of 'coherent, constant identity' (2016a, 691), she seems to be referring to the overall category, but it is useful to disentangle what is being covered from the process of 'mounding'. Questions have been asked about how integral the barrow is to the burial, and more importantly whether the construction of the barrow marked a fundamental change to 'the nature of the place' (Last 2007b, 172). In the previous chapter, it was argued that there was a conjunction of the burial and mound, indeed, it was claimed that the material of the mound provided a vitality to the corpse. Conversely, in other contexts, hints that the relationship between round barrow and burial was far from straightforward, if not quite separate, have been present for some time. For example, Brophy and Noble (2012) have argued that Late Neolithic 'henging' is a material strategy of closure and containment and that Early Bronze Age 'mounding' performs a similar function. Under these circumstances erecting a mound as an act of containment, both sealing and fossilising 'all that lay beneath' (Nowakowski 2007, 110), may not necessarily relate to an actual burial. There are the numerous earthen round barrows which do not cover burials. An extraordinary example of this occurrence was at the West Heath barrow cemetery, Sussex, where of the nine mounds investigated the majority had no burials being just 'simple turf mounds' (Drewett 1985, 35). A similar situation was discovered at Roxton, Bedfordshire, where two barrows within the cemetery contained no burials (Taylor and Woodward 1985). This also occurs in Orkney, where at Knowes of Quoyscottie, Knowe 4 'contained no primary burial' (Fig. 6.61; Hedges 1977, 136). As we will see in the following chapter, there are no burial deposits beneath Mound 5 at Gitterpitten (Section 6.3.3), and more generally, where burials are not present beneath a barrow they are commonly called cenotaph barrows, or the rather unhelpful designation 'ritual barrows' has been employed (Nowakowski 2007, 98–9).

Regardless of composition, if 'mounding' is also a material strategy for containment and closure, then the employment of round barrows to cover pyres, as occurs at Linga Fiold Mound 7, becomes comprehensible. Indeed, many years ago, Leslie Grinsell arrived at the same conclusion commenting that 'sometimes the barrow was erected over the remains of the funeral pyre' (1941a, 92), and pointing to a number of examples where barrows were built over pyres, with an adjacent barrow covering burials, such as Burlands Hill Field in Gloucestershire, and Scrubbity Barrows IX, X and XI, Dorset, excavated by Pitt Rivers (see also Ashbee 1960, 58). In commenting on the spread of 'charcoal and wood ash' found beneath a barrow near Stancombe, Berkshire (Berks. 19 SE), originally excavated by Greenwell, Grinsell considered 'it quite probable that this was the site of the funeral pyre' (Grinsell 1941a, 92). From these examples a clear disjunction between the covering barrow and covered burial is evident, and so it is possible to conceive of 'mounding' as merely a form of containing and covering as opposed to being intrinsic to Bronze Age burial. In the case of Mound 7 at Linga Fiold, the barrow functions to cover the pyre and stone circle as much as the low stone box.

Of course, containment and wrapping can take a number of forms, some being directly tangible whilst others are not (cf. Brück 2004b, 318–19). In the context of Orcadian barrow architecture, kerbs are often recognised as revetments providing stability to the mound structure. Yet in some cases it can be demonstrated that kerbs are built well before the barrow was raised (e.g. Mound 5). This would seem to place the kerb as a barrier; a material strategy of definition, particularly in relation to separation, wrapping and containment in this instance for the cremation events taking place of the turf platforms. With the subsequent construction of a barrow, kerbing provides a good example of masonry creating an impermeable physical barrier which serves as an outer skin for the mound (cf. Cummings and Richards 2017). It is interesting that frequently in the Linga Fiold barrows, the surrounding kerbs are associated with ashy, pyre debris-like deposits, as are present in Mounds 4, 6, 8 and 9. It is almost as if pyre debris is dumped on and amongst the kerb stones.

Conversely, actions occurring at the edge of the barrow, which may leave minimal or no material traces, can perform a similar role. In this situation it may be allied or resulting deposits that leave a more permanent material signature. In this sense depositional events and material outcomes form a 'relational texture' (Gell 1998, 26), in being an index of social, or in this case, ritual action, which can be argued to constitute a form of affective agency. This aspect of barrow building, perhaps not quite expressed in these terms, has been discussed in detail by Jacqueline Nowakowski (2007) in relation to ditches and depositional practices. Like many, she recognises barrow ring ditches as bounding a space, and barrows as sealing and prohibiting access to what lays beneath. For Nowakowski, the breaking of vessels and their deposition in the external ditch of the Trelowthas barrow in Cornwall was a process where 'memory was created, activated sustained and regularly inscribed through a constancy (the many repeated events) which involved the burial of incomplete pots' (2007, 109). Unfortunately, the status and function of the vessels are not specified within this scheme and, of course, a notion of 'making memories' must be predicated on a recollection of the acts of destruction and deposition since the broken pots are hidden from view

within a ditch and covered by natural silting and purposeful backfilling.

Once again, following a major theme of this book, this notion of making memories can be recast as anticipated futures when considering the evidence for the deposition of broken vessels around the Linga Fiold barrows. Broken vessels were deposited adjacent to the kerbs of Mounds 4 (Fig. 5.14) and 6 (Fig. 5.49), with particularly large quantities occurring at Mounds 7 (Fig. 5.63) and 9 (Fig. 5.90). The first point of interest is that although some of the vessels at Linga Fiold were locally made, many were manufactured in Shetland. For example, just beyond the south-east skirt of Mound 6, a pit (146) containing pyre debris and cremated bone also included large amounts of pottery represented by parts of four vessels each tempered with crushed steatite (Table 5.21; Fig. 5.49). A number of the vessels from Mound 7 were tempered with steatite fragments and steatitic clay (Table 5.31;), while most of those recovered from Mound 9 were steatite-tempered within a steatitic clay matrix (Table 5.39; MacSween: Appendix 11; Campbell *et al*.: Appendix 12).

It would appear that the majority of these vessels were being broken on the kerbs of the barrows and the sherds simply left *in situ*. Given the grey ashy soils, probably pyre debris, which are also being deposited on and around a number of the barrow kerbs, the vessels may have been part of the funerary process, possibly as containers employed to store and transport cremated remains. Thus, at one level it can be argued that after direct or indirect contact with the dead these vessels were deemed impure and dangerous and could not leave the burial site (Downes 1999a). Consequently, they were destroyed and broken on the stone kerbs at the periphery of the barrows.

Also of interest is that many of the vessels seem to have had a life previous to being destroyed on the barrow kerbs. MacSween (Appendix 11) identifies numerous examples of vessels with soot deposits adhering to the vessels, for example at least four of the 11 vessels from Mound 9 had surfaces which were sooted (Table 5.39). Many years ago, Janet Hoskins (1998) argued that things intersect with human biographies acting within a reflexive process that could be characterised as 'chains of connections' as identified by Chris Tilley (1996, 316). Indeed, Tilley makes a persuasive argument for ceramic vessels being treated 'as if they were persons' (1996, 316), in relation to the breakage of vessels on the periphery of passage graves in Sweden and Denmark (cf. Holten 2000, 289–92). Tilley assures us that 'linkages can be made between the manner in which the human body is being symbolically defined and redefined in different contexts and what happens to the artefacts' (1996, 317). Such an argument certainly resonates with the destruction of vessels at Linga Fiold, which 'like the human skeleton … are being broken down' (Tilley 1996, 317). Both Joanna Brück (2001) and Mary Ann Owoc (2001) have drawn heavily on these ideas since they seem so apposite for interpreting similar activities occurring in particular Bronze Age burial contexts. Brück uses an example from Bromfield, Shropshire, where 'differential burning of the potsherds recovered from the area of the funeral pyre indicates that pots were deliberately broken at the pyre-side … broken as part of the funerary ritual in a way that metaphorically linked pots and human bodies through the process of fragmentation' (2001, 152). Similarly, Owoc observes that 'it appears [at Davidstowe I barrow] that analogous qualities of pots and persons were being highlighted' (2001, 198). Of course, at Linga Fiold this entwinement between pots and people may have extended as far as vessels displaying sooting having accompanied the body on the pyre (cf. Ashbee 1960, 96). These homologous processes assume greater relevance when juxtaposed with the recognition that the dissolution of the 'relational person' at death (cf. Strathern 1992, 91–9), brings to an end the social and material networks established during life. Certainly, Brück recognises a clear metaphoric link between the fragmentation of bodies and materials in the funerary context where 'these items could never again be used, just as the relationships that they had once sustained and signified had themselves come to an end' (2004, 320).

At Linga Fiold, the residue of this process was not hidden from view within a ditch fill at the periphery of the barrow (cf. Nowakowski 2007, 109) but conversely were left *in situ* for all to see scattered on and around the kerb-side, as demonstrated by a broken urn at Mound 7 (Vessel 7.1 Table 5.31; MacSween: Appendix 11). In this instance, over 200 sherds were present, all being small, abraded and fragmented: a condition almost certainly due to scattering and trampling. As mentioned, many of these vessels were special, in having been imported from Shetland. Whether this was specifically for the funerary process is unknown, however, it may be assumed that these would have been important if not prized vessels which makes their shattering against the kerb stones of even greater consequence. What is clear is that this distant origin (or certainly difference) would potentially be visible due to their grey colouring produced by the steatitic clay and filler. This also made the vessels obviously different from the broken examples produced in Orkney.

To conclude, it is clear that a number of different modes of wrapping involving things, people and architecture occurred at the edge of each of the Linga Fiold barrows. Each of these provided divergent but complementary forms of envelopment. These included the deposition of pyre debris on and around the kerbs, the incorporation of stone tools (employed to remove the turf) in the fabric of the kerbs, and the breaking of pots on the kerbs. Each of these was potentially visible: as fragmented vessels lying *in situ* at the edge of the barrow, as stone tools in the face of the kerbing and as ash seeping from between the kerb stones. Together, these provided heterogeneous and multifaceted

forms of definition and containment. With this observation comes the realisation that virtually nothing left the site of each barrow or the cemetery as a whole apart from perhaps some of the cremated remains from pyres. This, it is argued, is not intentional memory-making but expedience in relation to the pollution surrounding death and burial in Bronze Age Orkney. Indeed, it could be argued that it is the pragmatic anticipation and recognition of this danger that led to the employment of mounding and wrapping to seal and contain what lies beneath, whatever that may be.

6

Examining three smaller barrow groups in West Mainland: Varme Dale, Seven Knowes of Gitterpitten, Vestra Fiold and two coastal cairns at Queenamuckle, Rendall, West Mainland and Quarrel Geo, South Ronaldsay

with contributions by C. Begg, J. Bending, S. Carter, A. Challands†, A. Clarke, A. Crone, A. Duffy, L. Dunbar, S. Griffiths, D. Jones, R. Ives, S.E. King, D.H. Lorimer†, A. MacSween, R. May, D. McLaren, J.A. Roberts, R. Simison†, P. Wagner and C.R. Wickham-Jones†

> Whether difference in size and construction would mean different ranks of the individuals 'mound laid' or different periods of interment, was not to us apparent. (Fraser 1913, 420)

6.1 Of place and tradition

In the previous two chapters the barrow cemeteries of Knowes of Trotty and Linga Fiold have been discussed and, although quite different in some respects, these two barrow groups do show a degree of similarity. First, in both cases cremation events assumed a prominent on-site component, with funeral pyres being positioned in different but dominant locales. Second, each cemetery comprises two, almost parallel linear arrangements of barrows. Finally, they both incorporate a larger barrow which following Øvrevik's (1985, 135) suggestion that such barrows are being erected at the beginning of the second millennium cal BC and could be recognised as a 'Founder Barrow', even in the limited sense discussed by Ashbee (1960, 33–4). This distinction in scale also relates to the above quote by Fraser which is actually a question raised in relation to the 1902 excavations that he undertook at Knowes of Trinnawin, Harray (NHRE ID: 2033), c. 1.6km north-west of Knowes of Trotty.

Yet, when it comes to topographic situation, the Knowes of Trotty and Linga Fiold assume very different positions in the landscape, although a trend towards elevation is present. With a view to further examining issues of landscape situation in terms of cemetery location and development, and relatedness to other sites and monuments, in this chapter we will explore three additional West Mainland Bronze Age barrow groups or cemeteries: Varme Dale, Seven Knowes of Gitterpitten and Vestra Fiold (Fig. 6.1). This investigation seeks to uncover what factors influenced the construction of barrows at a particular place, and whether proximity to older places of importance or fields of visibility were the determining factors. Such choices may well have provided a degree of tension with the mortuary process and barrow placement.

In thinking further about barrow placement there arises the question of referencing other sites and monuments. For Bronze Age burial mounds, particularly those that developed into cemeteries, this is a common occurrence which is manifest in several ways. For instance, many years ago, Paul Ashbee observed that if any attention was given to topographical situation it would emphasise 'among other things the clustering of barrows, in certain areas, upon the enigmatic henge monuments' (1960, 35). Clearly, Ashbee was thinking primarily of Stonehenge which is an obvious example of a large number of barrow cemeteries encircling and referencing an earlier but impressive Late Neolithic monument (e.g. Woodward and Woodward 1996, 281–7). But even here we find a degree of layering to the strategies

of referencing and relatedness revealed in barrow location. For instance, continuing with Stonehenge, whilst there can be little doubt of the focus on the extraordinary stone circle (see, however, Fleming 1971, 159), a few barrow cemeteries such as the well-known Winterbourne Stoke Crossroads group are clearly positioned in relation to, and extending from, the earlier long barrow. Indeed, this is the principal focus of the cemetery as from the Neolithic long barrow and the majority of Bronze Age mounds Stonehenge is invisible, with just the tops of the Stonehenge trilithons being visible from the two northernmost barrows in the group (Tilley *et al.* forthcoming).

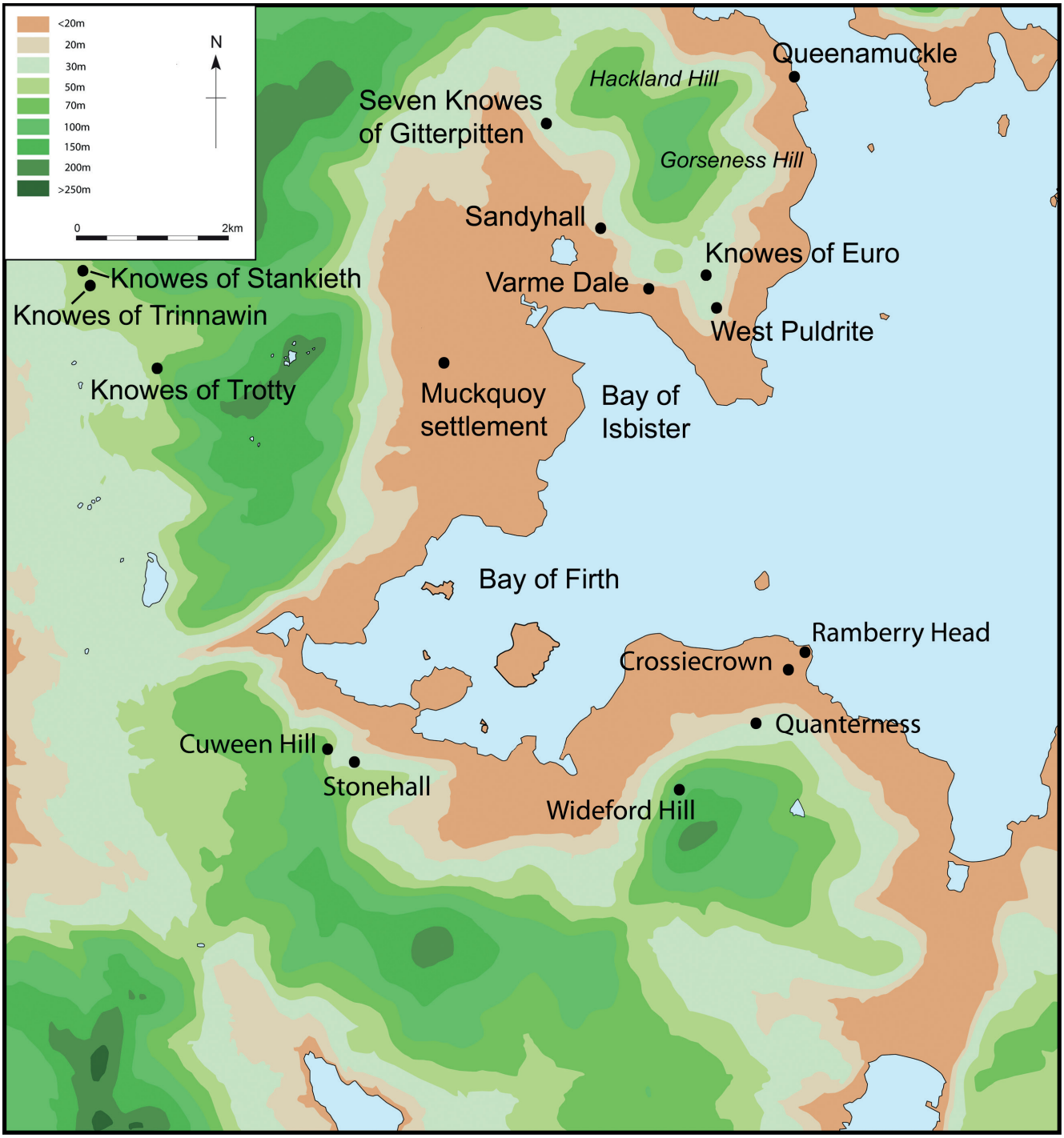


Fig. 6.1 Location map showing the barrow cemeteries lying in a 'different world' to the east of hills dividing Harray (west) from Rendall (east) West Mainland, Orkney. Notice how Hackland and Gorseness Hills are surrounded in a clockwise direction from the east to the north-west by the Knowes of Euro, West Puldrite, Varme Dale, Sandyhall and Gitterpitten barrow groups.

In Orkney, there is a similar clustering of round barrows around the Ring of Bookan and Ring of Brodgar (Figs 2.4, 8.8 and 8.17), and as will be discussed in the final chapter this monument complex may have influenced the broader concentration of barrow cemeteries in West Mainland. There are also more intimate and less visually impactful associations apparent between earlier Neolithic sites and round barrow cemeteries. The most obvious being the Knowes of Trotty barrows built adjacent to the Early Neolithic settlement (Chapter 4: Downes *et al.* 2016), and the Varme Dale barrow group shares an almost identical association (Section 6.2). This strategy of round barrows referencing earlier sites and monuments is not restricted to fourth and third millennium cal BC settlements and monuments, but also embraces earlier barrows as occurs at Gitterpitten (see Section 6.3). Not only are there subtleties and variety in the realisation of this process of referencing but also examples of mistaken identity.

As was mentioned in Chapter 3, third and early second millennia cal BC unobtrusive cist burials often seem to confuse, or purposefully confuse, glacial mounds with chambered tombs and earlier settlements. In the absence of a knowledge of drift geology, and since all these places assume the appearance of mounds, this confusion is understandable (cf. Mullin 2001, 536). It may also be a case of strategic misidentification in relation to a revisionist past. Nonetheless, it is not restricted to subterranean cist burial but also affects barrow building. Knowes of Trotty clearly reveals the way in which a group of glacial mounds are exploited in the construction and arrangement of not only a series of barrows but also a large pyre site. In another example, an unusual bell barrow at Vola (NHRE ID: 2155), c. 1.2km north-north-west of Maeshowe, is constructed among a group of glacial mounds which strongly resemble other barrows (Fig. 8.18). Coastal situations are also an interesting location for barrows and cairns and clearly the imperative here is visibility from the sea. The largest barrow cemetery in South Ronaldsay at Brough Ness (Fig. 1.2) is a good example being situated in a perfect situation to be highly visible from both seaward and inland directions. Equally, there can be little doubt that the situation of both Quarrel Geo, South Ronaldsay (Section 6.6; Fig. 6.51) and Queenamuckle, Rendall, West Mainland (Section 6.5) was determined by concerns for a coastal vista. If we take all these factors together - visibility, referencing older sites and ambiguous glacial features – then questions concerning appropriate places to bury the dead and social strategies behind barrow location become quite nuanced and complex.

To explore these issues further, the first two sites to be examined in this chapter are Varme Dale and Gitterpitten, which together with the Knowes of Euro (RCAMS 1946, 82), West Puldrite (Corrie 1929) and Sandyhall or Sandyha' barrow cemetery (Fig. 1.7; RCAMS 1946, 82; Hedges 1980, 56–7) form part of a substantial group of burial monuments in the north-east of western Mainland, Orkney. Immediately to the west is the parish of Birsay and Harray where a string of barrow groups, including the Knowes of Trotty cemetery (Chapter 4) nestle low on the western lower slopes of a spine of hills running north-south which effectively divides the two areas of western Mainland (Fig. 6.1). Although the barrow cemeteries appear spatially close, the hills serve to totally divorce the areas into quite different geographic zones which are worlds apart.

The five barrow cemeteries run around the lower slopes of the conjoined Gorseness, Enyas and Hackland Hills, and here they will be discussed following a clockwise direction (Fig. 6.2). Starting in the east with the two barrows remaining of the Knowes of Euro, although they both appear a little misshapen and 'disturbed', there is no record of any excavations having taken place (RCAMS 1946, 82). To the south of the Knowes of Euro is a pair of barrows at West Puldrite of which the larger mound was partially excavated in 1928 by Mr Corrie when a 'small portion of one of the side slabs of a cist, with an apparently undisturbed cover-slab in position, was exposed by a rabbit scraping near the top of the mound at the west side' (1929, 190; see also 2.3 above). Once revealed the cist was found to be finely built with clay luting sealing each corner. The tops of the uprights had been trimmed to enable a close fit for the 'fine large cover-stone' (Corrie 1929, 190–1). When opened, the cist was found to contain three inhumations which had clearly been interred sequentially over a prolonged period of time, with the final interment being a crouched burial which remained articulated and in a relatively good condition (Fig. 6.3). In contrast, while the skulls of the two other bodies were considered to be still in place, their remains 'were disposed in a heap alongside the east slab of the cist, and the much-decayed pelvis of one of them was found at the north end a few inches from the feet of the third and most complete skeleton' and 'it appeared clear that the remains of these two bodies had been pushed aside to make room in the grave for the third interment' (Corrie 1929, 191).

Given the discussions in Chapter 3 concerning the accessibility of many unobtrusive cists this is an interesting above-ground example of a cist that remained accessible for a substantial period of time. No mention is made about the possibility of side entry, but the effort made to trim the upper edges of the cist slabs to enable the capstone to fit tightly was sufficient to draw attention (Corrie 1929, 191–2). As part of the Orkney Barrows Project, in 1994 the mound was re-examined and found to measure c. 12.6 × 10.7m, and c. 1.05m in height. The cist was also visible but interestingly it was felt to be set too high in the mound to be sitting on an old ground surface (see NHRE ID: 3420). Here there is evidence for a well-constructed free-standing cist having been erected on either a platform or the upper surface of a low primary mound (see also Linga Fiold Mound 6 Section 5.8.3). The cist stood in this position for a period of time,



Fig. 6.2 View of Gorseness Hill, Rendall, from the south-west.



Fig. 6.3 The cist in the largest mound at West Puldrite contained three inhumations, two of which had been pushed aside for the final crouched burial (reproduced courtesy Orkney Archive).

certainly long enough to enable two interments to decay to skeletal form. Only then was the crouched burial laid in the cist and the final barrow raised and in this sequence of burial we witness the public display of the cist and a high degree of forward planning as the cist awaited the final burial.

6.2 Varme Dale, Gorn, Rendall, West Mainland (HY 4074 1856)

Continuing in a clockwise direction around Gorseness Hill, further to the west is the Varme Dale barrow cemetery which is situated on the southern slopes above the Bay of Isbister (Figs 6.1, 6.4 and 6.5). Because the barrows are not closely set, a degree of confusion has arisen over the number present. On the first edition 1855 OS map only four barrows are shown (Mounds 1, 2, 4 and 7) lying on the unimproved heath hillside. After the land was partially improved, two visits in 1928 and 1936 by Royal Commission investigators led to six barrows (Mounds 1, 2, 4, 5, 6 and 7) being recorded of which Mound 7 appeared 'to have been opened on the N. E.' (RCAMS 1946, 83). During field survey for the Orkney Barrows Project in 1992–3 another possible burial mound (Mound 3) was located to the east of Mound 2 (see NHRE ID: 2423). However, subsequent geophysical survey across the suspected barrow revealed it to be nothing more than a natural rise. If an argument is followed that barrow cemeteries frequently grew out of earlier large single or paired barrows, then the prominent upslope Mound 8 (OS grid HY40782 18741) would be a good candidate as the founding barrow. Of the remainder, differential relationships in terms of both visibility and proximity are apparent (see Section 6.5). For instance, Mounds 1 (HY40588 18702) and 2 (HY40621 18705) are positioned c. 32m apart across the slope, while Mounds 5 (HY40759 18558) and 6 (HY40754 18558) are closely set together at the base of the slope being less than two metres apart. In contrast Mound 4 (HY40709 18627) is an isolated barrow situated upslope of Mounds 5 and 6 (Figs 6.4 and 6.5). From these varying positions it would seem that both spatially and topographically, the Varme Dale barrows are interesting examples of different expressions of relatedness being played out in situating the dead.

Just to emphasise the point that frequently the placement of barrows (and burials) is predicated on strategies for establishing, exhibiting and materialising direct social relatedness to the distant mythical past (cf. Garwood 2007, 46), Mound 2 was found to overlie a series of burnt ash 'midden' deposits of Early Neolithic date (Richards *et al.* 2016c, 230–2). These contained large amounts of charred cereal grains including 2-grained einkorn wheat (*Triticum monococcum*) and naked barley (*Hordeum distichum/vulgare* var. *nudum*), together with linseed (*Linum* sp.) and hazel nut (*Corylus* sp.) (Wagner: Appendix 22), and in being dated to 3770–3620 cal BC (GU-10629) and 3770–3630 cal BC (GU-10628) (Table 6.9), they represent the, so far, earliest Orcadian Neolithic cereal agriculture (see Griffiths 2016, 297–301). It is intriguing that it is consistently Early Neolithic settlements which are selected at both the Knowes of Trotty and Varme Dale to provide the focus of the cemetery, which would seem to crystalise Mizoguchi's comment regarding the 'strategic manipulation of the memory traces of past

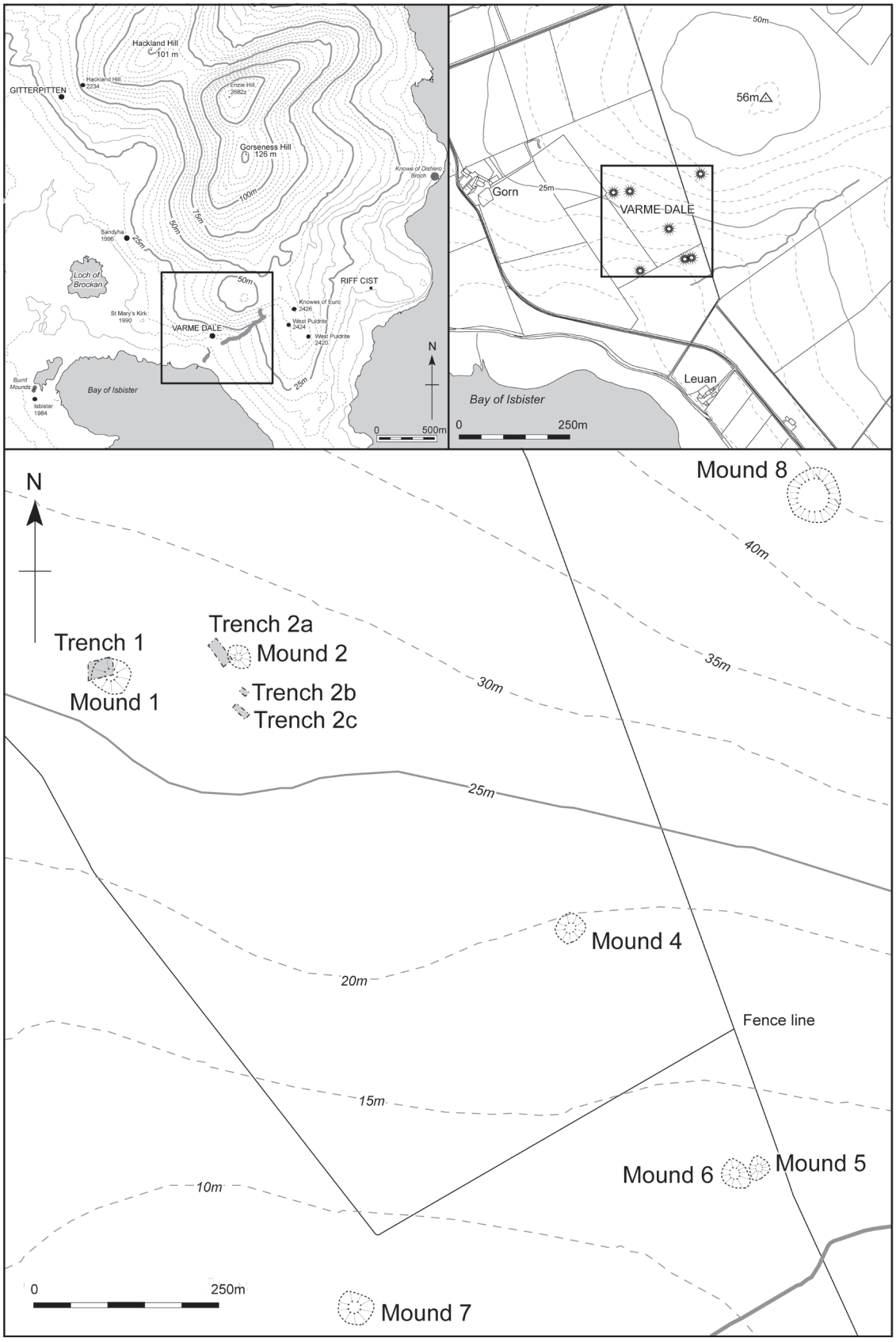


Fig. 6.4 Location map showing the spatial organisation of Varme Dale barrow cemetery, Rendall, West Mainland.

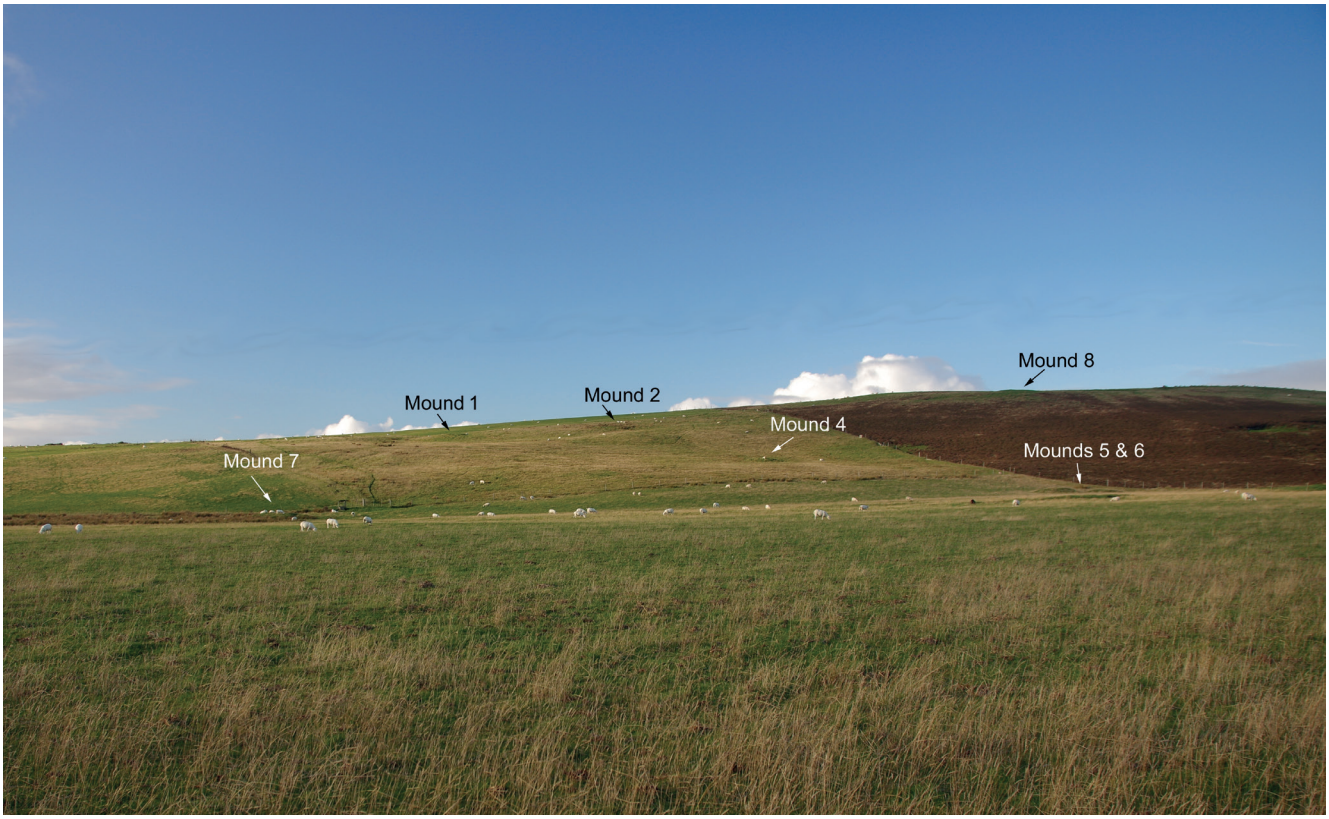


Fig. 6.5 View of Varme Dale barrow cemetery from the south.

actions' (1993, 233). But in this example, as with Knowes of Trotty, surely there cannot be anything approaching a direct memory, not least as there may well be a degree of replacement population by this time.

The superimposed relationship of a Bronze Age cemetery overlaying Early Neolithic settlement physically fused the past, present and future in determining the location of Mound 2 and subsequent barrows within the Varme Dale cemetery. Yet, how does this affordance relate to other priorities such as visibility, which is frequently suggested to be determinant in the situation of Bronze Age barrows and barrow cemeteries? This tension would seem to be particularly pertinent at Varme Dale due to the restricted panorama of barrows situated the southern slopes of Gorseness Hill. This intriguing issue will be discussed further in Section 6.7; however, resolution may take the form of sequence. The higher, false-crested position of Mound 8, in contrast to the lower placed barrows is far more visible over a wider area (see Fig. 6.58). This location achieves a number of potential objectives. First, it is in a high position. Second, it overlooks and to some degree alludes to the earlier Neolithic settlement. If this is a founder barrow, then it also acts to provides a reference for the lower, less visible mounds in the Varme Dale cemetery. Here, the question of anticipation is once again raised. Was this larger barrow constructed as an intended precursor to an expanding barrow group?

6.2.1 Excavating Varme Dale

In 1998, Mounds 1 and 2 were chosen for excavation as they were in the worst condition due to disturbance from rabbits and livestock. For example, Mound 1 was riddled with rabbit burrows, and badly eroded, and the stone slabs of two cists were actually visible within the mound prior to excavation (Fig. 6.6). Mound 2 had also suffered from erosion, which had virtually exposed a section through the mound. Prior to excavation, gradiometer survey was carried out which identified very high readings from Mound 2, with clusters of higher readings running from the south-west quadrant for c. 10m (Fig. 6.7). In contrast, Mound 1 had a very weak magnetic signal. Also carried out as a component of the fieldwork was a magnetic susceptibility survey which correlated with the results of the gradiometer in giving particularly high readings close to Mound 2. Subsequent excavation revealed that this was related to deposits of burnt material underlying the mound.

6.2.2 Mound 1

Mounds 1 and 2 were set in fairly close proximity, c. 25m apart, assuming an elevated position on the south-facing hillside.



Fig. 6.6 At Varme Dale, rabbit burrows and surface disturbance had revealed the top of cist (2007) in Mound 1. In the background Mound 2 is visible under excavation.

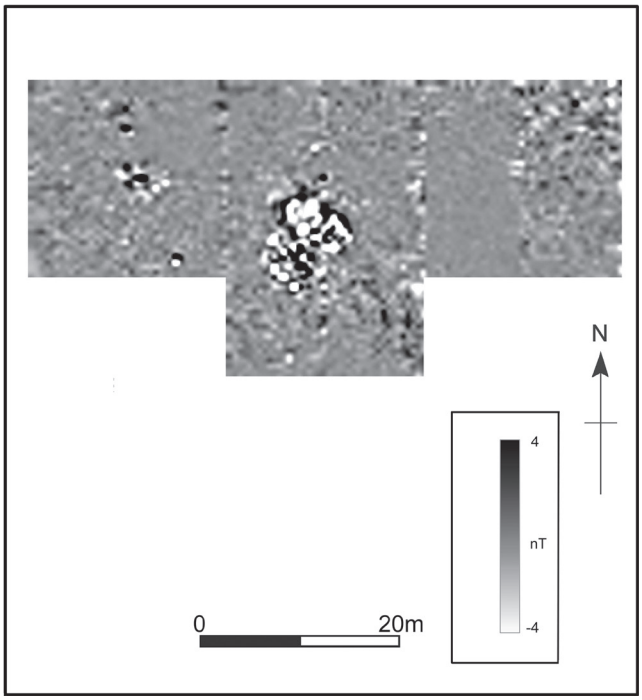


Fig. 6.7 Gradiometer plot of Varme Dale Mounds 1 (left) and 2 (right). Note the magnetic disturbance around Mound 2.

Of the two, the former had the most extensive rabbit burrowing (Fig. 6.6) and when investigated in 1998 its size was very diminished from that recorded by the Royal Commission investigators in 1936, in being c. 10m in diameter and c. 0.4m high. A broken (Early Neolithic) leaf-shaped arrowhead was recovered from a rabbit burrow in the centre of the mound (Fig. 6.8; Table 6.3; Wickham-Jones: Appendix 18). To assess the level of surviving stratigraphy and archaeological deposits the north-west quadrant of Mound 1 was deturfed to reveal the extent of damage. Within this quadrant, a smaller area 5 × 2m (Trench 1) was selected

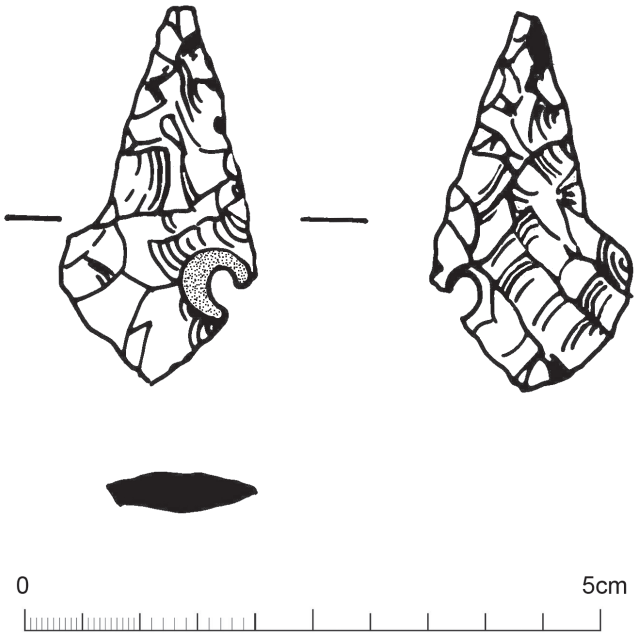


Fig. 6.8 Broken leaf arrowhead from rabbit burrow in Mound 1.

for further excavation, being positioned to allow the two visible cists which had partially collapsed, to be recorded in section. Although the burrowing rabbits had clearly caused massive damage, surprisingly enough stratigraphy remained to chart the sequence of mound development (see Fig. 6.9).

A free-standing cist (2007) was constructed on the old land surface (2012) within an area of open grassland, consisting of upright slabs forming a rectangular box c. 0.75 × 0.50m, which was oriented north-north-east–south-south-east (Figs 6.9 and 6.10). The cist was typically supported by external angled slabs leaning against each upright (Figs 6.9, 6.11 and 6.12). On the old ground surface patches of burning and burnt material (2013) may well indicate a replication of the pyre events undertaken on pre-barrow surfaces at Linga Fiold. What is less certain at Varme Dale is whether similar turf-stripping episodes occurred around the areas that would come to be occupied by the barrows, giving elevated remnant turf platforms or 'islands' encircled by exposed natural till.

After the cist was constructed, a cremation deposit was placed inside. On excavation this was represented by dark brown–black burnt material (2016) that contained 160.4g burnt bone, and 0.04g of *Corylus avellana* charcoal. Above this a mixed orange–brown silty clay (2014) fill, which was disturbed mound material that had fallen into the empty upper area of the cist, contained 66.7g of burnt bone and 0.5g of charcoal (Wagner *et al*: Appendix 22). The cremated bone represented a minimum of two individuals, an adult male and an older juvenile (Table 6.1; Roberts: Appendix 2). Accompanying the cremations were the cremated remains of an immature sheep or goat and burnt worked

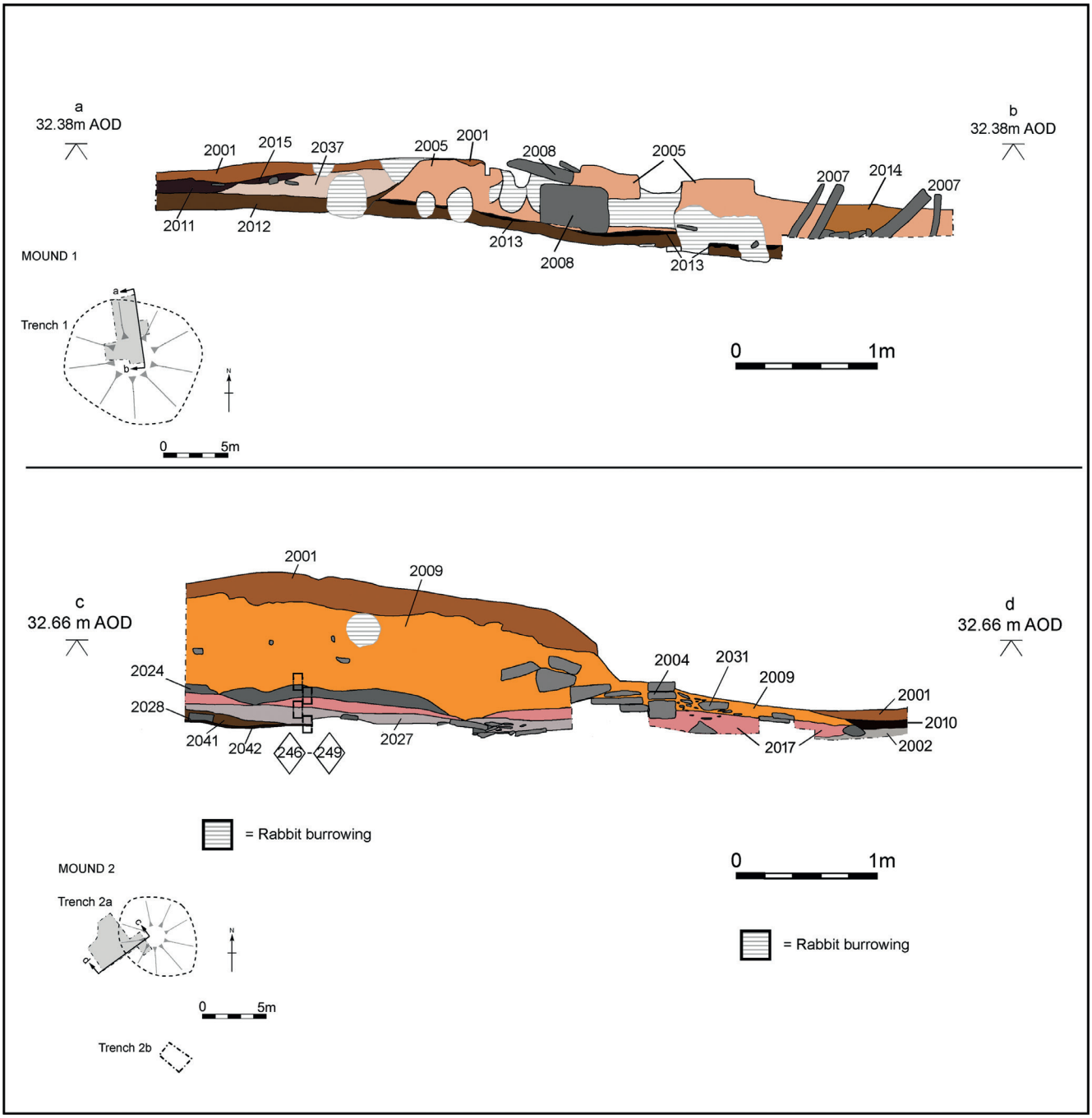


Fig. 6.9 Section drawings of Mound 1 (top) and Mound 2 (bottom).

bone, which may have been remnants of some form of fixing for holding a wrapping around one of the deceased (cf. Cooper *et al.* 2019, 239). A fragment of crab claw was also recovered from the cist fills. The sheep/goat and crab, mixed in with the human bone, are possibly the remains of feasting associated with the cremation or burial rituals. The complete absence of cramp in the cremation deposit is distinctive in comparison with similar deposits, for instance from Linga Fiold (Chapter 5). This demonstrates that bone fragments were carefully picked out of the pyre soon after cremation.

A second cist, (2008), had subsequently been constructed, c. 2.5m to the north of the primary cist (Fig. 6.10). Four upright slabs had been placed to form a rectangular box, c. 0.79 × 0.51m, oriented north–south (Figs 6.11 and 6.12). The east and west slabs were larger and thicker than the north and south slabs, which were slightly inset. The cist stood c. 0.38m high and was covered by a capstone.

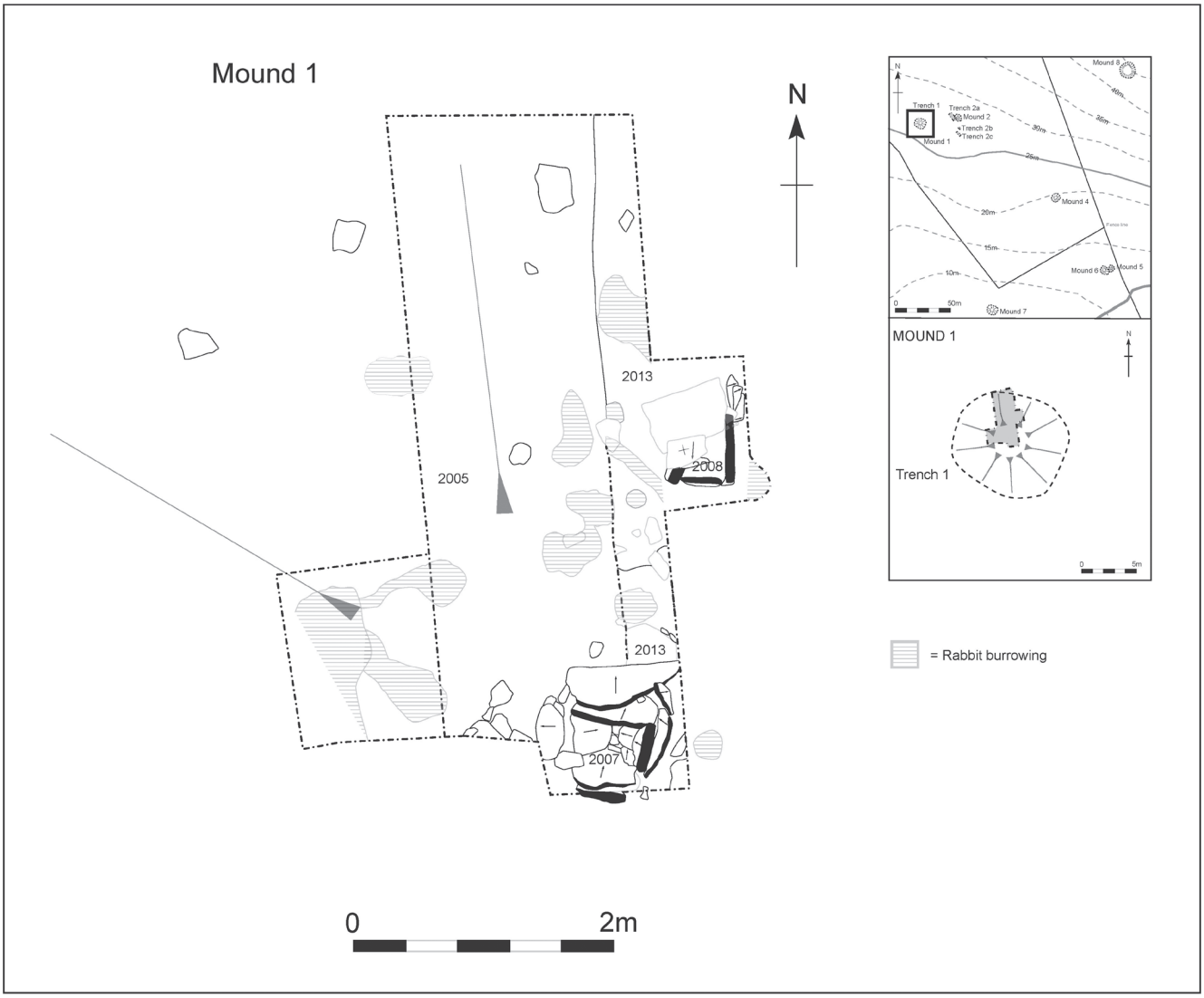


Fig. 6.10 Plan of excavation trench, Mound 1.

Unlike cist (2007) no supporting slabs were present. Instead, the structure appears to have been built as part of the primary mound construction (2005). The amount of time that elapsed between the building of the two cists is unknown, but it does provide some supporting evidence that in some cases the free-standing cists at Varme Dale, West Puldrite and elsewhere (e.g. Linga Fiold Mounds 1, 4, 8 and 9), could have stood fully exposed for considerable time before being covered by a mound. Once again, the question arises as to whether barrow building was an anticipated sequence (Petersen 1972; Barrett 1988; Woodward 2000, 23–58) that 'fundamentally changed the nature of the place, marking an end to one type of activity' (Last 2007b, 172).

Once built, the secondary cist (2008) was filled with light orange–brown burnt material (2026) containing the cremation deposit. The cremated bone (501.3g) represented a middle-aged adult, possibly male. There was also 0.06g of *Corylus avellana* (hazel) charcoal mixed in this fill. Excavation revealed a brown clay loam (2025) directly over the cremation deposit that contained many stones and burnt material, including 0.22g of charcoal, but no cremated bone. The upper cist deposit, (2020), also consisted of brown–black burnt material, which was spilling out from under the lid over the northern side slab. This fill contained 10g of burnt turf but no cremated bone. The lack of cremated bone amongst the burnt material in the upper fills reveals two things: the careful extraction of cremated bone from the pyre material, and the deliberate sequential deposition of different types of pyre material within the cist. It is also worth noting that of the two cremation deposits, only the multiple burial within the primary cist (2007) contained animal bone, as occurred at Gitterpitten (Section 6.3).

The mound was immediately built up around and over the cist (2008) and also covered the pre-existing cist (2007). The extensive rabbit burrows had caused a mixing of the mound material with the overlying topsoil as well as removing some of the buried land surface around the exterior of the barrow. Surviving to c. 0.42m high, the primary orange–brown silty clay primary mound material was overlain by what appeared to be the remains of a buried soil (2012); a turf-line that had formed over the primary barrow. Beyond the main area of rabbit disturbance, this dark brown layer of silty loam (2012) was seen to run down the primary mound material and thickened as it extended beyond the barrow (Fig. 6.9). The presence of a soil forming over the primary barrow indicates that a substantial period of time ensued before the mound was substantially enlarged by an extensive capping deposit of grey–beige silty clay (2037).

Over this secondary mound material (2037), traces of a tertiary capping of light brown silty clay (2015), c. 0.03–0.15m thick, were discovered in parts of the northern area of Mound 1 (Fig. 6.9). The final episode of enlargement heightened the barrow by at least c. 0.20m (probably much more) and increased its diameter by over 2m. However, this may be a severe under-estimate of the magnitude of the enlarged barrow as a dark peaty layer (2011), up to c. 0.20m thick, directly underlay the topsoil, and may be the remnant of a further turf layer covering the mound. There was no evidence of a kerb associated with any of the periods of mound construction.

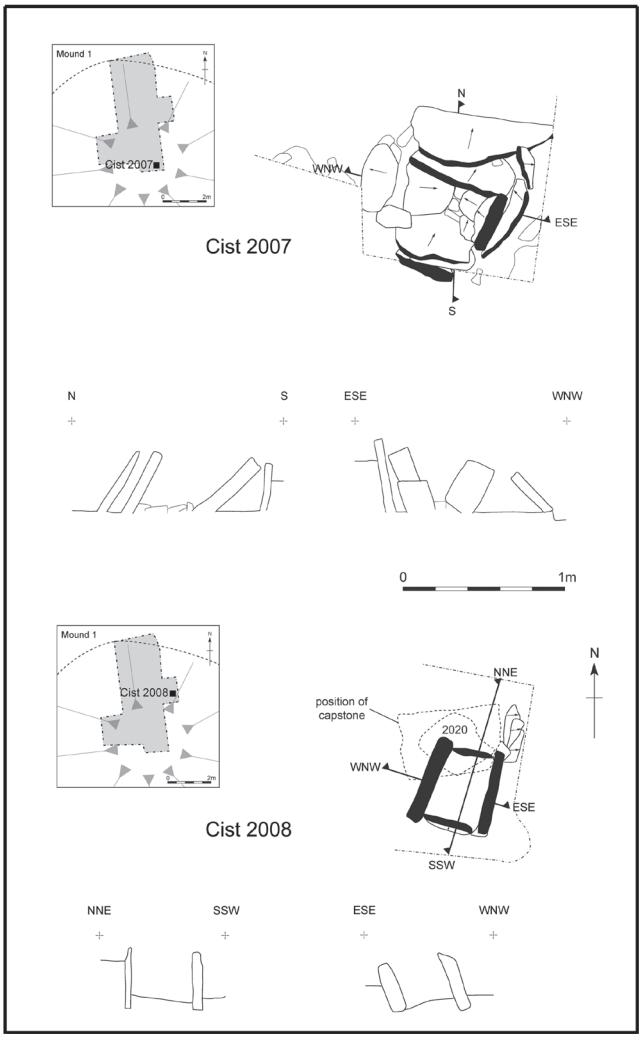


Fig. 6.11 Details of the two Mound 1 cists: cist (2007) (top), and cist (2008) (bottom).



Fig. 6.12 Cist (2007) was supported by angled slabs leaning against each side.

Table 6.1 Varme Dale: cremation and cist details.

Mound	*Feature*	*Fill*	*Charcoal (g)*	*Burnt turf (g)*	*Cremated bone (g)*	*Age*	*Sex*
1	2007	2014	0.5		66.7	Adult	Male
		2016	0.6 *Corylus avellana*		160.4	Older juvenile	Unknown
1	2008	2020 2025	022	10		Adult	Male?
		2026	0.06 *Corylus avellana*		501.3		



Fig. 6.13 Cist (2008) showing cremated bone in basal deposit; this cist was supported by mound material demonstrating it was erected concurrently with the construction of the primary barrow.



Fig. 6.14 Mound 2 from the north-west; the kerb stones were probably derived from an adjacent ruined Early Neolithic stone house. The early fourth millennium cal BC burnt deposits, including stone blocks, can be seen running beneath the barrow in the foreground.

6.2.3 Mound 2

Of the two barrows investigated Mound 2 appeared to have suffered less from rabbit burrowing and stood to c. 0.75m at its highest point and was c. 8m in diameter. Despite having a smaller diameter than Mound 1, Mound 2 was far more structurally sophisticated in having a well-built kerb around its perimeter, part of which was visible prior to excavation due to erosion through cattle damage. However, what makes this barrow extremely interesting is that as noted earlier it was erected on top of Early Neolithic midden deposits and this early phase of the site has been published in detail elsewhere (see Richards *et al.* 2016c). For the investigation of Mound 2, the north-west quadrant was selected for complete excavation with the trench extending out beyond the barrow. The central area was also examined by extending the section.

6.2.3.1 Varme Dale Mound 2: two thousand years earlier

Mound 2 had been constructed over a series of burnt deposits, which in some areas covered a remnant buried soil (2002). Soil micromorphological analysis (Carter: Appendix 24), indicated that the burnt sediments were mainly deposited on a bare surface, from which the topsoil had been stripped, indicating either deliberate removal or considerable erosion. There was no indication that the deposits had been burnt *in situ* but were midden deposits relating to nearby Early Neolithic habitation. The first layer laid down was a thin sooty soil (2042), c. 0.03m deep, which was overlain by a c. 0.10m-thick deposit of baked clay (2041), and a layer of ashy soil (2027), c. 0.13m thick. These deposits were interspersed with stone blocks and slabs (2028), most of which also showed clear signs of burning. A broken flint flake (SF 107) was recovered from the top of the ashy layer (2042) among stonework (2028) (Table 6.3; Wickham-Jones: Appendix 18). From the burned clay layer (2041) charcoal (*Salix* sp.) produced a date of 3770–3620 cal BC (GU-10629) and from the ashy layer (2027) a date of 3770–3630 cal BC (GU-10628) (Table 6.2). Overlying this was a 0.12m layer of grey clay (2024), containing some charcoal and iron stains, which appeared to be redeposited soil used to cap the burnt deposits, prior to the construction of the mound. The early fourth millennium cal BC dates provide a more understandable context for the leaf arrowhead discovered in nearby Mound 1 (Fig. 6.8).

The soil analysis also indicated that the pre-barrow burnt deposits were derived from several separate external burning episodes. No bone was discovered in the sediments, but there were fragments of charcoal; specifically, *Corylus avellana* and *Salix* sp. from (2041) and (2027), and a small amount of cramp (Wagner *et al.*: Appendix 22). A discrete patch of yellow clay (2033), c. 0.50 × 0.45m in extent, underlay the burnt soils, containing a possible bark fragment.

To the west of Mound 2, the burnt soils extended out from beneath the kerb (Fig. 6.15). The lowest layers (2022) and (2034) comprised a fine black sooty soil and dark burnt material respectively (Fig. 6.14). These layers almost certainly correspond to layers (2042) and (2041) respectively, which were present at the centre of the mound (see Fig. 6.9), which underlay (2017/2029), a deposit of burnt soil or turves, incorporating cramp (SF 108), associated with a spread of burnt stones (2018). It is difficult to know whether two completely different events are represented by the different deposits. For example, it is quite possible that the lower layers (2041)

Table 6.2 The radiocarbon dates from Varme Dale (VD98).

Lab code	*Material sampled*	*Mound*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
AA-53157 (GU-10628)	Charcoal: (*Salix*)	2	2027	Ashy layer below Mound 2	4890±40	3770–3630
AA-53158 GU-10629	Charcoal: (*Salix*)	2	2041	Burnt clay layer below Mound 2	4875±45	3770–3620
GU-11384	Cremated human bone	1	2026	Lowest fill of secondary cist 2008	3125±45	1500–1290
GU-11385	Cremated human bone	1	2016	Fill of cist 2007, central to mound	3280±45	1690–1440

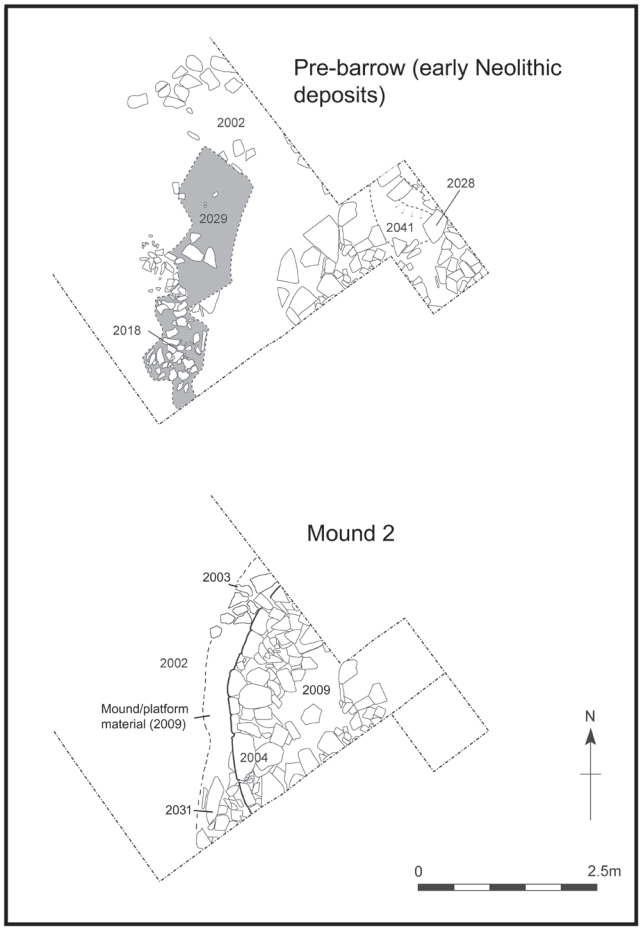


Fig. 6.15 Plans showing pre-barrow Early Neolithic deposits (top) and subsequent Mound 2 (bottom).



Fig. 6.16 The haphazard flagstones (2028) encountered beneath Mound 2 may well be displaced masonry from a fourth millennium cal BC house.

and 2014) are ash dumps associated with the Early Neolithic activity, while the covering material relates to a cremation pyre on the sealed turf-line beneath the barrow (Carter: Appendix 24). The larger flagstones (2028) also situated beneath the barrow resembled building stones and may well be the displaced and re-used remnants of a mid-fourth millennium cal BC stone house (Figs 6.15 and 6.16). Here it is worth noting that the dwellings associated with the early dates obtained from cereals in these pre-barrow ashy deposits would almost certainly have been of timber construction (Griffiths 2016, 298–9). Consequently, Early Neolithic occupation at Varme Dale possibly follows a similar trajectory of construction (timber to stone) to that present at Wideford Hill

settlement (Richards and A.M. Jones 2016, 38–40) and Ha'Breck, Wyre (Thomas and Lee 2012).

6.2.3.2 Varme Dale Mound 2: the round barrow

Some 2000 years after the Early Neolithic occupation at Varme Dale ceased, an earthen round barrow was built over the old occupation and midden deposits in the second millennium cal BC (Table 6.2). Upon excavation, near the centre of the barrow, the side slab (2038) of a cist was partially exposed in the section at the south-west end of the trench. However, this was not investigated further due to time constraints, and because it seemed to be in no danger from erosion. The exposed cist slab stood at least 0.38m high, and a grey-brown silty soil was contained behind it (2039) which may have been the cist fill. The cist appeared to be free-standing and supported by mound material (2009), in a similar manner to the secondary cist in Mound 1.

Unlike Mound 1, a masonry kerb (2004) encased Mound 2. It was well built, with the stones meticulously laid and wedge stones were employed to level the masonry to compensate for the sloping ground surface. The kerb survived to four courses high in places, standing c. 0.25m in height (Figs 6.14 and 6.17), and as noted above consisted of probably re-used building stones. A layer of large slabs (2031) on the exterior of the kerb to the western side had been placed against the kerb, possibly as a paved area or revetment where the ground sloped away more steeply.

The kerb was clearly constructed prior to the mound, resting directly on the burnt deposits (2017). The barrow material was orange–brown glacial clay (2009), which in its truncated form stood up to c. 0.7m at the centre of the mound (Fig. 6.9). Curiously, a thin layer of the redeposited glacial clay mound material extended beyond the kerb which could be a foundation layer or make-up for a paved platform surrounding the barrow (2031) (see Figs 6.8 and 6.14). In the northern part of the trench, a spread of stones (2003), was interpreted as collapsed kerbing, which was covered by a dark peaty layer that was possibly remnants of a secondary turf capping to the mound, but this remains inconclusive. To the south of Mound 2 two small trenches were excavated (2b and 2c) to investigate magnetic anomalies shown on the gradiometer survey. The effects could have been caused by burning or occupation, but no features were encountered in either trench.



Fig. 6.17 Varme Dale: detail of kerb (2004) encasing Mound 2.

Mound 4 lies downslope of Mounds 1 and 2, above the closely paired Mounds 5 and 6, while further to the west at the base of the hill is Mound 7 (Figs 6.4 and 6.5). Given the results from environmental sampling this is an area where a mixed agricultural economy was being practised as indicated by the presence of arable weeds and ruderals (Wagner *et al.*: Appendix 22). This provides some evidence to indicate that settlement, contemporary with the barrow cemetery, was situated in fairly close proximity. Indeed, the barrows overlook a level area of sheltered land that runs down to the seashore, an ideal situation for settlement. This occurrence would certainly fit a broader model of Middle Bronze Age burials becoming a much closer component of everyday life (Barrett *et al.* 1991, 214–26; Barnatt 1996b; 1999; Woodward 2000, 61; Owoc 2001, 201–3; Bender *et al.* 2007; Johnston 2021, 92–8).

6.3 Seven Knowes of Gitterpitten, Rendall, West Mainland (HY 3928 2072)

To the north-west of Varme Dale is the once six mound cemetery of Sandyhall or 'Sandyha' which today is represented by just a single barrow adjacent to the road (Figs 1.5 and 6.1; RCAMS 1946, 82) that also included a probable unobtrusive, accessible cist (Hedges 1980, 56–7). Further north-west, on the western side of Hackland Hill, are the Seven Knowes of Gitterpitten. Together they sit on a level shelf forming part of the lower slopes of the south-west face of Hackland Hill, Rendall (Fig. 6.1). Apart from Mounds 5 and 6 at Varme Dale, these seven small mounds are unlike any of the other barrow groups examined in the project in being arranged in an extremely compact group. Although closely set, the spatial organisation of the cemetery could be described as comprising two parallel lines of barrows

Table 6.3 Worked flints from Varme Dale (VD98).

SF no.	*Mound*	*Context*	*Context description*	*Dimensions (mm)*	*Description*
Unstrat	1	1	Topsoil – from rabbit burrow in centre of mound	32 × 17 × 3	Flint, retouched flake, inner, broken, tip missing, bifacial leaf point (broken leaf arrowhead)
107	2	2042	Ashy layer below barrow	14 × 10 × 3	Flint, flake, inner, burnt, broken: tip missing

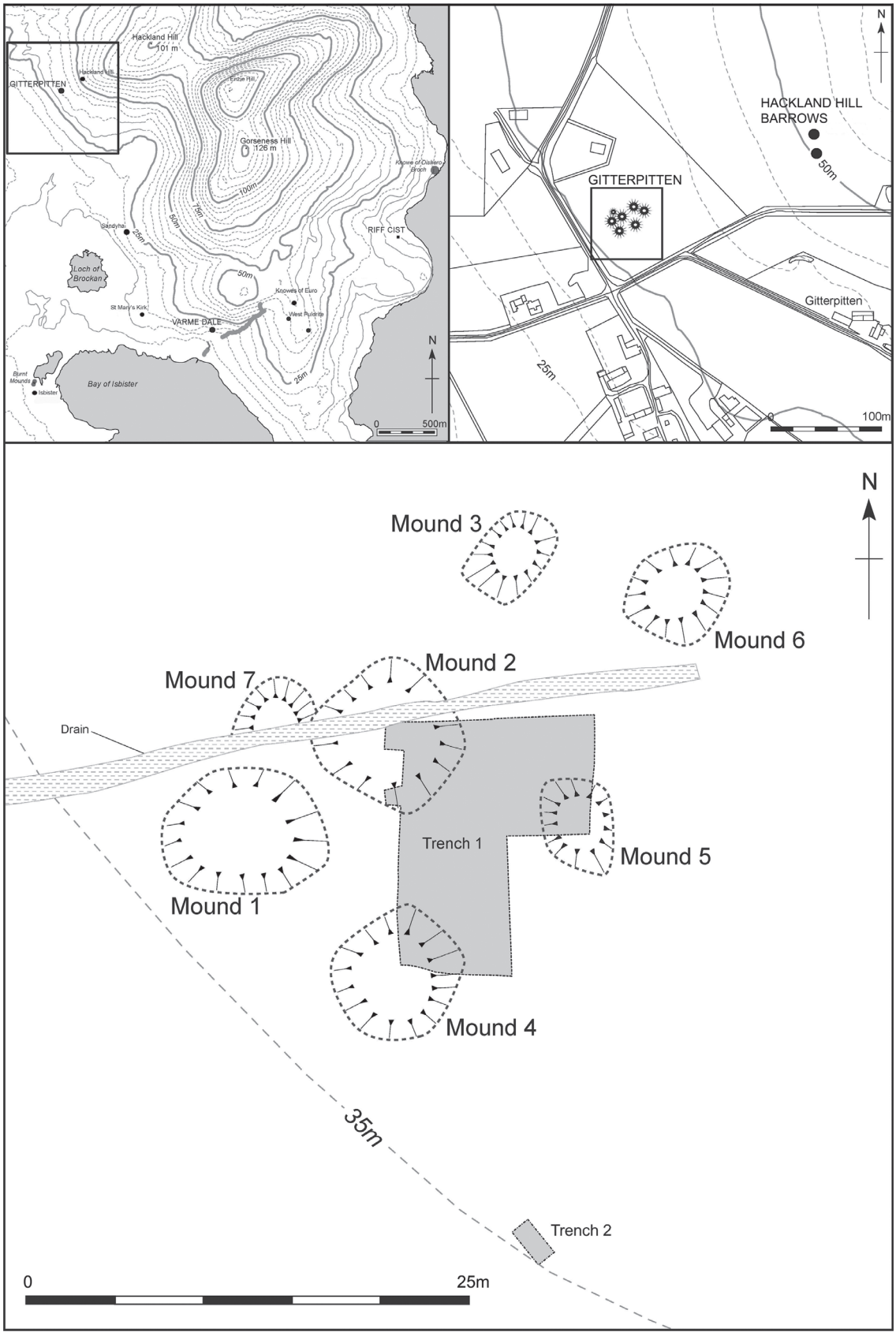


Fig. 6.18 Location map showing the spatial organisation of the Seven Knowes of Gitterpitten.

orientated south-west–north-east. In this scheme, Mounds 1, 7, 2 and 3 form the northern linear arrangement and Mounds 4, 5 and 6 the southern (Fig. 6.18).

Another feature that makes this group of barrows interesting is the presence of two further substantial mounds on Hackland Hill (NHRE ID: 2234), located c. 200m upslope of the Seven Knowes (Fig. 6.19). These are much larger barrows measuring c. 10m in diameter by c. 1.0m high and c. 8m diameter by c.0.8m high respectively and assume a far more prominent position in the landscape. Because the two larger barrows are so badly truncated through intermittent ploughing, it is difficult to know if they have ever been excavated; certainly there is no record or visible sign of intrusion. Consequently, the pair of Hackland barrows are undated and their temporal distance from the Seven Knowes remains unclear. Given the notion of larger founder barrows in conjunction with their elevated, false crested position, it seems likely that the two Hackland barrows are earlier. This accords with the organisation of barrows noted above at nearby Varme Dale with the larger, higher Mound 8 being separated by at least c. 150m from the lower barrows.

A further question involves proximity and visibility since not only is there a distance of c. 200m between the Hackland barrows and the Seven Knowes, but the latter group are much smaller and far less prominently situated. It seems probable that the Seven Knowes were deliberately placed below the two Hackland barrows which would have provided a visual reference. In this respect, a description of the Seven Knowes as lying in the shadow of the Hackland barrows would provide a more accurate portrayal of their association and inter-relationship (see Fig. 6.60).

In 1998, all the Seven Knowes were visible as very low mounds, but each was suffering extensive damage from cattle poaching and rabbit burrows. A subsequent gradiometer survey also identified the low barrows apart from Mound 7, with Mound 4 having the strongest magnetic signal. This was a product of the burnt material subsequently found within the body of the mound, together with the surrounding pits containing cremated bone and pyre debris. Overall, the magnetic signatures were weak and diffuse which, on excavation, was discovered to be the result of layers of colluvium partially covering the site.

Given the proximity of the mounds it was decided to open a single elongated L-shaped trench taking in segments of Mounds 2, 4 and 5 (Fig. 6.18). However, on removing the topsoil it quickly became apparent that apart from the very



Fig. 6.19. View looking down at the Seven Knowes of Gitterpitten from the two large Hackland Hill barrows upslope to the east.

tops of the mounds (see Fig. 6.9), the entire area was covered by a much thicker soil (1002). This layer appeared from field observation to be hillwash sealing the features associated with the mounds, but soil micromorphology indicated that the soil (1002) was more likely to be merely a deeper layer of topsoil, formed after the mounds had stabilised (see Fig. 6.25). A series of thin layers (1070), below the deeper soil (1002) were identified through soil micromorphology to be colluvium from the mounds. This wash of upper mound material probably formed fairly rapidly after the barrows were constructed. Beyond the barrows, this 'wash' overlay a loamy soil (1049), very similar in appearance to (1002) which micromorphological analysis identified as the pre-mound old land surface which was essentially a stable

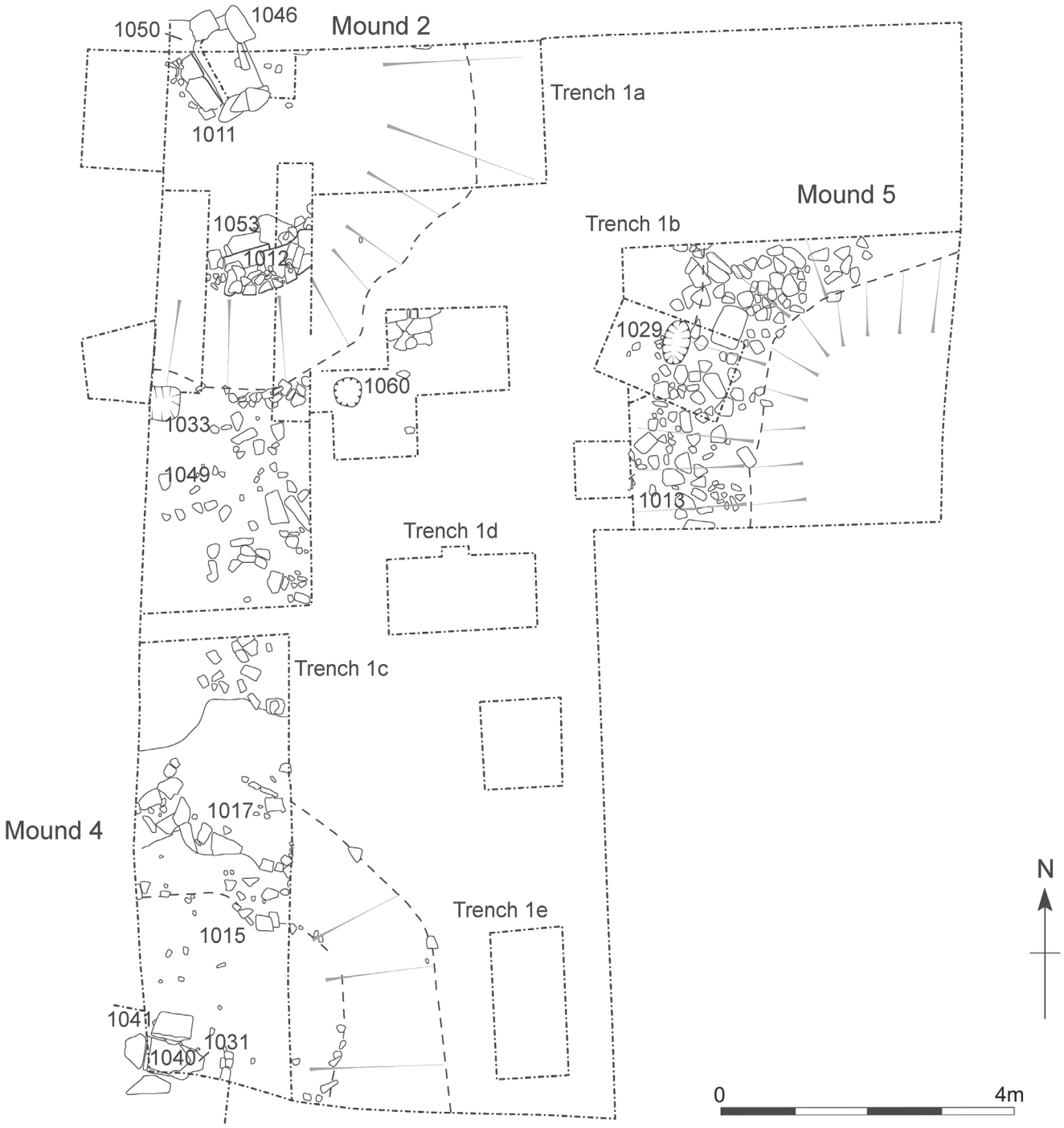


Fig. 6.20 Trench 1 showing the primary barrows and associated features, and the sub-areas targeted for complete excavation.

soil horizon that may have included a degree of hill-wash (Carter: Appendix 24). Clearly, downslope soil movement had been an ongoing process since the Neolithic period as several of the barrows had been constructed on the c. 4–7cm thick old land surface (1049).

In response to the substantial build-up and depth of soils, particular areas within the Trench 1 were targeted for complete excavation (Fig. 6.20), while to the south a second small trench (Trench 2) was excavated to investigate magnetic anomalies found through gradiometer survey. The trench was excavated down to natural, but no features were located.

6.3.1 Mound 2

Mound 2 measured c. 6m in diameter and c. 0.45m high and was the most northerly of the excavated mounds in the group, and excavation was limited to the southern quadrant (Figs 6.20 and 6.22). Despite the depth of topsoil and colluvium, the barrows had suffered extensively from years of cultivation which had not only reduced their height but had damaged the internal features. The central cist in Mound 2 had suffered plough damage and only survived to a height of c. 0.16m. The damage was extensive with the capstone having collapsed on to the upper fill (1054), while the side slabs had slumped and shifted (Fig. 6.21). Despite the extensive level of destruction to the barrow, it remained possible to trace its constructional history.

The upstanding cist (1011) was erected on a basal slab set on the ground surface (1049), in a similar manner to that seen within Mound 8 at Linga Fiold (Fig. 5.79). It was orientated north-west–south-east and measured c. 1.20 × 0.65m. Once constructed the cist was filled with a cremation deposit; the primary, lower fill (1055) was a dense black–grey ashy soil c. 0.08m deep and comprised the main cremation deposit of 831.7g of calcined bone (Fig. 6.23). At the edges of this deposit the clay appeared bright red creating a halo effect.



Fig. 6.21 View of the damaged central burial cist in Mound 2.

Above this was a more mixed orange–brown cremation deposit, c. 0.10–0.12m deep containing 324.4g of cremated bone in a silty clay matrix (1054). The two fills combined contained 1156.1g of burnt bone, the largest amount from any cremation deposit on site, which represented the remains of a mature adult male individual (Table 6.5; Roberts: Appendix 2). The cremated bone was dated to 1880–1520 cal BC (GU-11390), and *Salix* sp. charcoal from the same deposit to 1390–1110 cal BC (GU-10626) (Table 6.4). Here we see a substantial discrepancy in radiocarbon dates obtained from cremated bone and associated charcoal from the same deposit (see discussion in Griffiths: Appendix 28).

The stone kerb (1012), c. 6–7m in diameter, that surrounded the upstanding cist appeared to have been constructed at the same time as both stood upon or cut into the old land surface (1049). The kerb had been built on a foundation of large slabs (1053). It was nicely faced to the exterior being built of fine drystone masonry, which originally stood five courses high (c. 0.35m). However, on excavation it was found to be virtually destroyed with only a short section remaining (Figs 6.22 and 6.24). Apart from defining the internal area with the upstanding cist in the centre, the kerb also functioned as revetment for the orange-brown glacial clay mound (1046) (Fig. 6.25).

The barrow was substantially enlarged, being covered by a layer of thin sandstone slabs (1003). This situation mirrors that observed by Melia Hedges at Knowe 2, Knowes of Quoyscottie (Fig. 6.61), where she states that 'the knowe was capped with unburnt stones of small size and irregular shape' (1977, 135). At Mound 2, on excavation these stones appeared in a thick silty clay layer (1004) which provided the final capping of the barrow (Fig. 6.25). That a significant amount of time elapsed between the primary barrow and later capping is hinted at by a build-up of peaty material (1047) around the periphery of the primary mound material (1046) (Fig. 6.25). One fragment of burnt long bone, probably human, was found within the final capping (1004) of the barrow.

Around the exterior of the barrow, an external platform of large flagstones (1021) projected c. 1.7–2.5m from the kerb. During excavation broken stone mattocks (SF 17) and (SF 22 - conjoining with SF 12 from Mound 5) that could have been displaced from the kerb were incorporated in this platform (Clarke: Appendix 16; Fig. 6.35). In places, the flagstone platform was firmly bedded on foundation layers of small stones (1047) and clay (1048), which appeared to underlie the kerb masonry, demonstrating that they were part of the primary mound. Pottery sherds SF 20 and 21 were recovered from (1047), part of the base of a vessel GPV5 (see Table 6.9; MacSween: Appendix 11).

6.3.1.1 Mound 2: associated pits

Two pits (1033) and (1060) lay directly under the platform material and given their stratigraphic position would seem

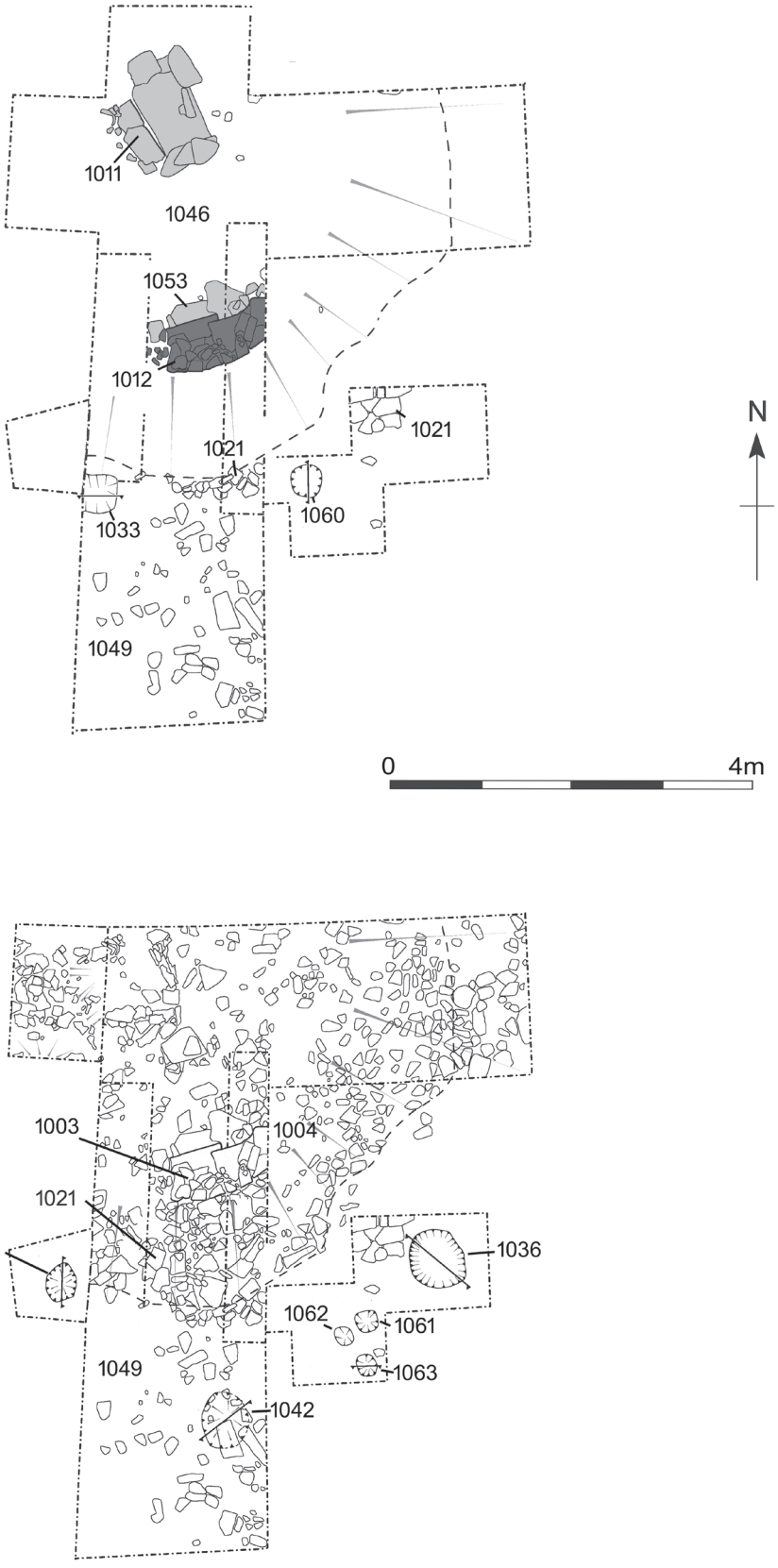


Fig. 6.22 Plan of Mound 2 showing its development through time; initial mound, kerb and central cist (top), and later enlargement and associated cremation pits (bottom).

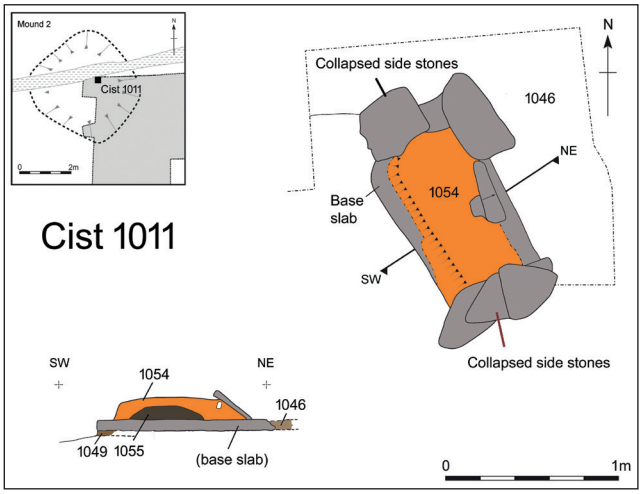


Fig. 6.23 Plan and section of Mound 2 central cist.



Fig. 6.24 View of Mound 2 from the south. Note the five courses of masonry creating a flush outer surface to the kerb.

Table 6.4 The radiocarbon dates from Gitterpitten (GP98).

Lab code	*Material sampled*	*Mound*	*Context*	*Context description*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
AA-53156 (GU-10626)	Charcoal (*Salix*)	2	1055	Cremation deposit in central cist (1011)	2995±40	1390–1110
AA-53155 (GU-10625)	Charcoal (*Salix*)		1031	Cremation deposit	3315±40	1690–1510
AA-53153 (GU-10623)	Charcoal (*Salix*)		1018	Cremation deposit in pit (1039) NW of Mound 5	2985±35	1320–1110
AA-53154 (GU-10624)	Charcoal (*Salix*)		1023	Cremation deposit in pit (1028) NE of Mound 4	2550±35	810–540
GU-11387	Cremated human bone		1024	Cremation deposit in pit (1036) SE of Mound 2	3210±45	1610–1390
GU11388	Cremated human bone		1027	Cremation deposit in pit (1033) S of Mound 1	3440±45	1890–1620
GU-11389	Cremated human bone		1018	Cremation deposit in pit (1039) NW of Mound 5	3400±45	1880–1520
GU-11390	Cremated human bone		1031	Cremation deposit	3430±45	1880–1610
GU-11392	Cremated human bone		1022	Cremation deposit in pit (1029) WNW of Mound 5	3235±45	1620–1410
GU-11390	Cremated human bone	2	1055	Cremation deposit in central cist (1011)	3390±50	1880–1520

to pre-date the primary barrow. The former contained a cremation deposit, while the latter was filled with pyre material but no cremated bone. Pit (1033), measuring c. 0.46 × 0.43m, was not fully revealed due to the baulk. In shape, it was sub-rectangular with rounded corners and was cut through the old land surface (1049) and contained a grey–brown clay silt fill (1027) which included 362.4g of burnt bone from an adult individual (Table 6.5), 0.2g of charcoal, and a single sherd of pottery (SF 15). The second pit, (1060), was circular, c. 0.40m in diameter and c. 0.15m deep, with vertical sides and a flat base. It was filled by ashy grey–black silty clay (1059), containing burnt pyre material including 200g burnt turf and 2.1g of charcoal, but no cremated bone (see Table 6.6).

Through time, Mound 2 attracted cremation burials around its periphery. Accepting the restrictions of the excavation trench, certainly to the south and east a series of pits was dug for the deposition of cremations or pyre material (Fig. 6.22; Table 6.6). No direct stratigraphic relationship between the pits and mounds could be established, although each pit cut the old land surface (1049). Hence, it is reasonable to assume that, due to their location surrounding

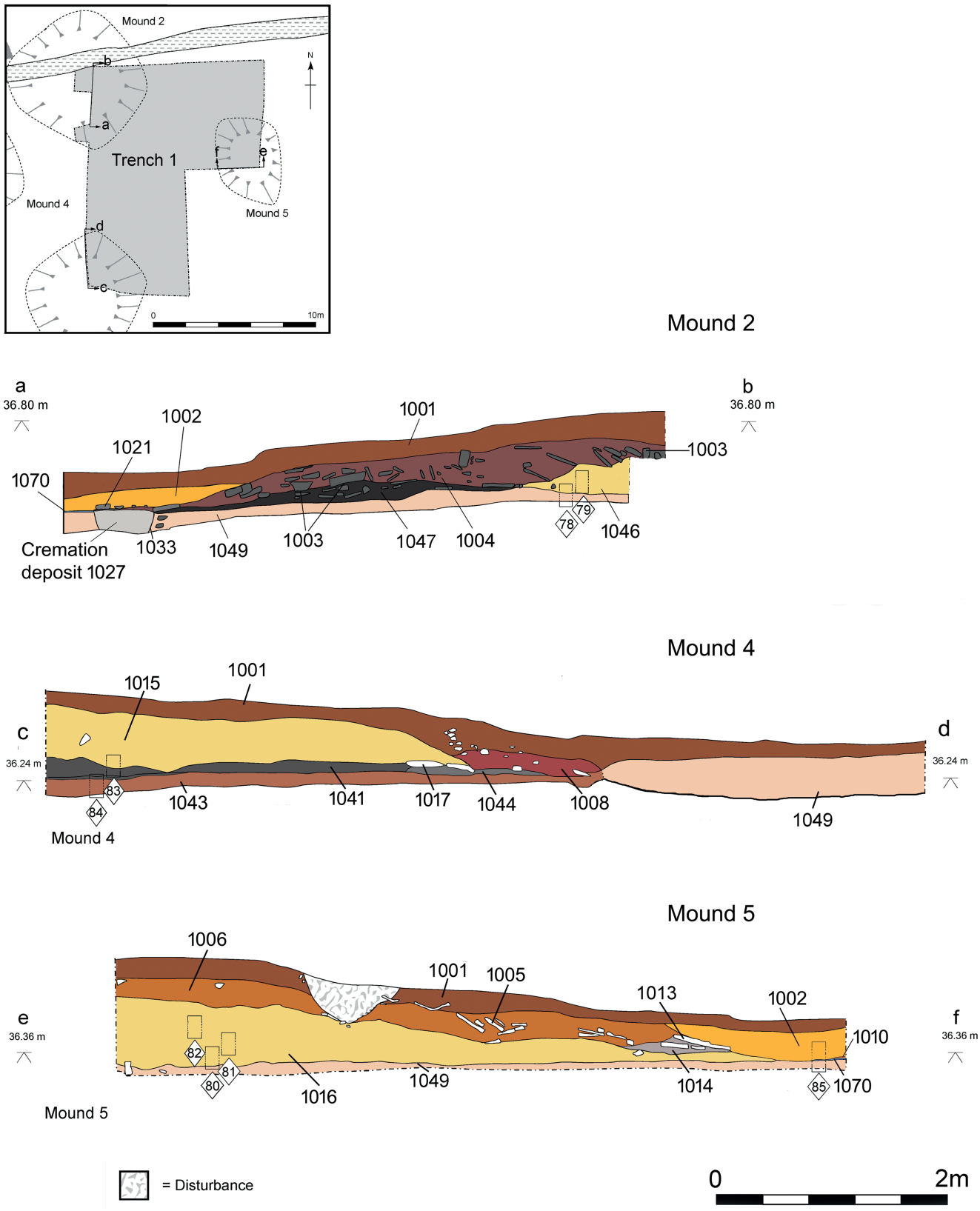


Fig. 6.25 Section drawings through Mounds 2, 4 and 5.

Table 6.5 Cremated human remains from Gitterpitten.

Mound	*Fill/layer*	*Feature*	*Type*	*Total wt (g)*	*No. ind*	*Age*	*Sex*
2	1026	1042	Pit – scoop	1.9	1	Unknown	
2	1027	1033	Pit	362.4	1	Adult	
2	1054	1011	Cist	324.4		(Same as below)	
2	1055	1011	Cist	831.7	1	Middle-mature adult	?Male
2	1057	1062	Pit – scoop	0.2	1	Unknown	
2	1004		Layer	Unknown		1 frag. long bone – unknown	
4	1023	1028	Pit	51.8	1	Adult	
4	1030	1037	Pit	461.7	2	Adult Infant	Female
4	1031	1040	Cist	565.2		(Same as below)	
4	1032	1040	Cist	454.7	3	Adult Adult Younger child	Male
4	1015		Mound	Unknown		1 frag. long bone – unknown	
5	1018	1039	Pit	78.9	1	Adult	
5	1022	1029	Pit	52.9	1	Probable adult	
5	1024	1036	Pit	72.3	1	Older juvenile	

Table 6.6 Gitterpitten: details of pits associated with Mound 2.

Pit	*Description (m)*	*Fill*	*Description*	*Cremated bone (g)*	*Pyre material (g)*	*Artefacts*
1051	Subcircular, c. 0.40 diameter, with almost vertical sides & a slightly curving base	1052	Black silty clay with rare small stone inclusions		127 burnt turf 4.6 charcoal.	
1036	Oval, c. 0.70 × 0.50, with steep sides & rounded base.	1024	Dark brown–grey to purple–grey silty loam with rare small stone inclusions	72.3 older juvenile individual	1.4 charcoal 3.0 burnt turf 0.6 cramp	
1042	Circular, c. 0.70 diameter, with steep sides & slightly rounded base	1026	Black silty clay,	1.9	0.7 charcoal	
1061	Circular, 0.30 diameter, with vertical sides & a slightly rounded base.	1056	Grey–black silty clay	1.5g	3.54 charcoal 342 burnt turf 0.2 cramp.	
1062	Shallow oval scoop, c. 0.30 × 0.25	1057	Grey–black silty clay	0.2g	Burnt material noted	
1063	Circular scoop, c. 0.30 diameter, with steep sides & a flat base.	1058			Burnt material noted: the subsoil at the bottom of the cut was slightly reddened, suggesting that the material was still hot when placed in the pit, or that burning took place *in situ* & this feature was a pyre site.	Pottery sherd [Sample 102]

the barrow, they continued the burial practices occurring in pits (1033) and (1060). There is evidence that the pits containing cremations were marked as a large beach pebble remaining *in situ* was set upright c. 0.25m west of cremation pit (1036), supported by a sandstone slab (Fig. 6.26). Details of the pits associated with Mound 2 are presented in tabular form below (see also Tables 6.5 and 6.6).

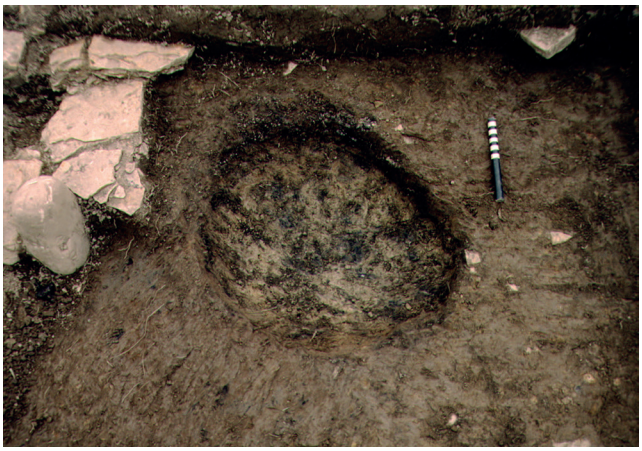


Fig. 6.26 Cremation pit (1036) fully excavated, note the large upright beach pebble on the left marking this burial pit.

6.3.2 Mound 4

The southernmost barrow of the cemetery is Mound 4, measuring c. 6.24m in diameter and surviving to a height of c. 0.3m. The excavation trench was positioned to examine the north-east quadrant of Mound 4 (Fig. 6.20). Although truncated, a sequence of construction could be reconstructed. As with Mound 2, the first act was to erect a central cist (1040), orientated west-north-west–east-south-east, on a large basal slab. This was built directly on an old ground surface, a dark brown silty clay (1043), basically the same as the old land surface (1049) encountered further to the north. Unfortunately, this cist had suffered extensive damage with only three of the four side slabs remaining (Fig. 6.27). The original dimensions of the cist are difficult to ascertain, but on excavation it measured c. 0.80 × 0.42m, and stood c. 0.20m high, although the side slabs had partially collapsed. Given the absence of supporting slabs leaning against each side it seems this was not completely free-standing as seen in the centre of Mound 2. Instead, once the cist had been assembled it was surrounded by a c. 1.0m-wide deposit of grey ashy clay (1041), up to 0.12m in depth (Figs 6.28 and 6.29). This may well have been the pyre material, together with burnt soil/turves collected and heaped up around the cist, both encasing and supporting it (Fig. 6.28). This burnt

Table 6.7 Gitterpitten: contents of cists and pits (by sample/small find).

Mound	*Feature*	*Fill/layer*	*Sample/SF (Sp=spit)*	*Type*	*Cramp/ Fuel ash slag (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Bone (g)*	*Burnt clay & artefacts*
2	1011	1054	86	Cist		0.1		44.2	
			87			0.8		34.9	
			88					91.6	
			89					27.5	
			92					30.4	
			93					24.2	
			94					59.2	
			95					12.4	
						Total: 0.9		Total: 324.4	
2	1011	1055	90 – Sp 1	Cist				426.3	
			96			0.15 *Salix*		279.4	
			91					126	
								Total: 831.7 = 3 individuals (both fills)	
2	1033	1027	27 – Sp 1	Pit		0.2		162	Pot 1 sherd SF 15 GPV1
			28						
			55 – Sp 1					71.8	
			56 – Sp 2					58.4	
			97					21.1	
								49.1	
								Total: 362.4	

(Continued)

Table 6.7 Gitterpitten: contents of cists and pits (by sample/small find). (Continued)

Mound	*Feature*	*Fill/layer*	*Sample/SF (Sp=spit)*	*Type*	*Cramp/ Fuel ash slag (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Bone (g)*	*Burnt clay & artefacts*
2	1036	1024	18 – Sp 1	Pit		0.2		0.9	
			19			0.31			
			20 – Sp 1			0.1		1	
			21 – Sp 2					9.5	
			22 – Sp 2					1	
			23 – Sp 3			0.1		4.5	
			24 – Sp 3			0.2			
			25 – Sp 4			0.2		1.1	
			26 – Sp 4		0.6	0.09	3		
			34 – Sp 1					2.3	
			35					3.7	
			36					3.9	
			37 – Sp 2					12	
			38 – Sp 2					10.7	
			39 – Sp 3					5.6	
			40 – Sp 3					4.3	
			41 – Sp 4					0.9	
			42 – Sp 4					3.9	
						Total: 1.2		Total: 72.3	
2	1042	1026	53 – Sp 1	Pit		0.7		1.5	
			61					0.8	
								Total: 2.3	
2	1051	1052	70	Pit		4.6	127		
2	1060	1059	104	Pit		2.1	200	0.46	
			105						
2	1061	1056	99	Pit/	0.2g	2.64	342		
			103	Post-hole		0.9			
						Total: 3.54			
2	1062	1057	100	Pit		Observed			
2	1063	1058	102	Pit/ pyre site		Observed			Pot 1 sherd SF 102 GPV3
4	1040	1032	63 – Sp 1	Cist		0.02		139.3	
			64 – Sp 2					180.6	Pottery [63]
			69 – Sp 2					134.8	GPV4
								Total: 454.7	
4	1040	1031	*65 – S*p 1	Cist			253	131.3	
			66 – Sp 1					322.8	Pot 3 sherds
			71A			0.88	42	9.1	SF 66 GPV2;
			72					1.2	pot [65] GPV7
			73				7	2	
			74		0.8g			34.2	
			75				198	14.3	
			77					50.3	
								Total: 565.2	
4	1037	1030	43 (all fill)	Pit		0.06 *Salix* sp		311.4	
						0.03 *Alnus*			
			44			*glutinosa*			
						Total: 0.09		40.4	
			SF 13 (top)					109.9	
			SF 14 (top)					Total: 461.7 = 2 individuals	

(Continued)

Table 6.7 Gitterpitten: contents of cists and pits (by sample/small find). (Continued)

Mound	*Feature*	*Fill/layer*	*Sample/SF (Sp=spit)*	*Type*	*Cramp/ Fuel ash slag (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Bone (g)*	*Burnt clay & artefacts*
4	1028	1023	2 – Sp 1	Pit		0.43	43	12.6	
			3 – Sp 1					26.7	
			4 – Sp 2					0.3	
			5 – Sp 2					4.1	
			6 – Sp 1					1.6	
			7 – Sp 1					3.9	
			8 – Sp 2					0.7	
			9						
			12		3.2				
			13		0.2				
					Total: 3.4			Total: 51.8	
5	1039	1018	11	Pit	some				
			49 – Sp 2					14	
			50 – Sp 3					19.5	
			51 – Sp 3					12.2	
			52 – Sp 3					14.7	
			57 – Sp 1					3.7	
			58 – Sp 2					?	
			59 – Sp 3					10.6	
			60 – Sp 3					4.2	
								Total: 78.9	
5	1029	1022	10 – Sp 2	Pit	4.2			6.8	
			14					3.5	
			15					4.6	
			16			0.04	107	3.5	
			17					2.9	
			29 – Sp 2					8.6	
			30 – Sp 2		6.2			6.3	
			31 – Sp 3					4.7	
			32 – Sp 4					8.3	
			33 – Sp 5					3.7	
					Total: 10.4			52.9	
Ext	1038	1034	45	Pit					
			46			Frag. *?Corylus avellana*			
			47						



Fig. 6.27 The damaged cist (1040) at the centre of Mound 4.



Fig. 6.28 Central cist of Mound 4 with encircling ashy clay (1041).

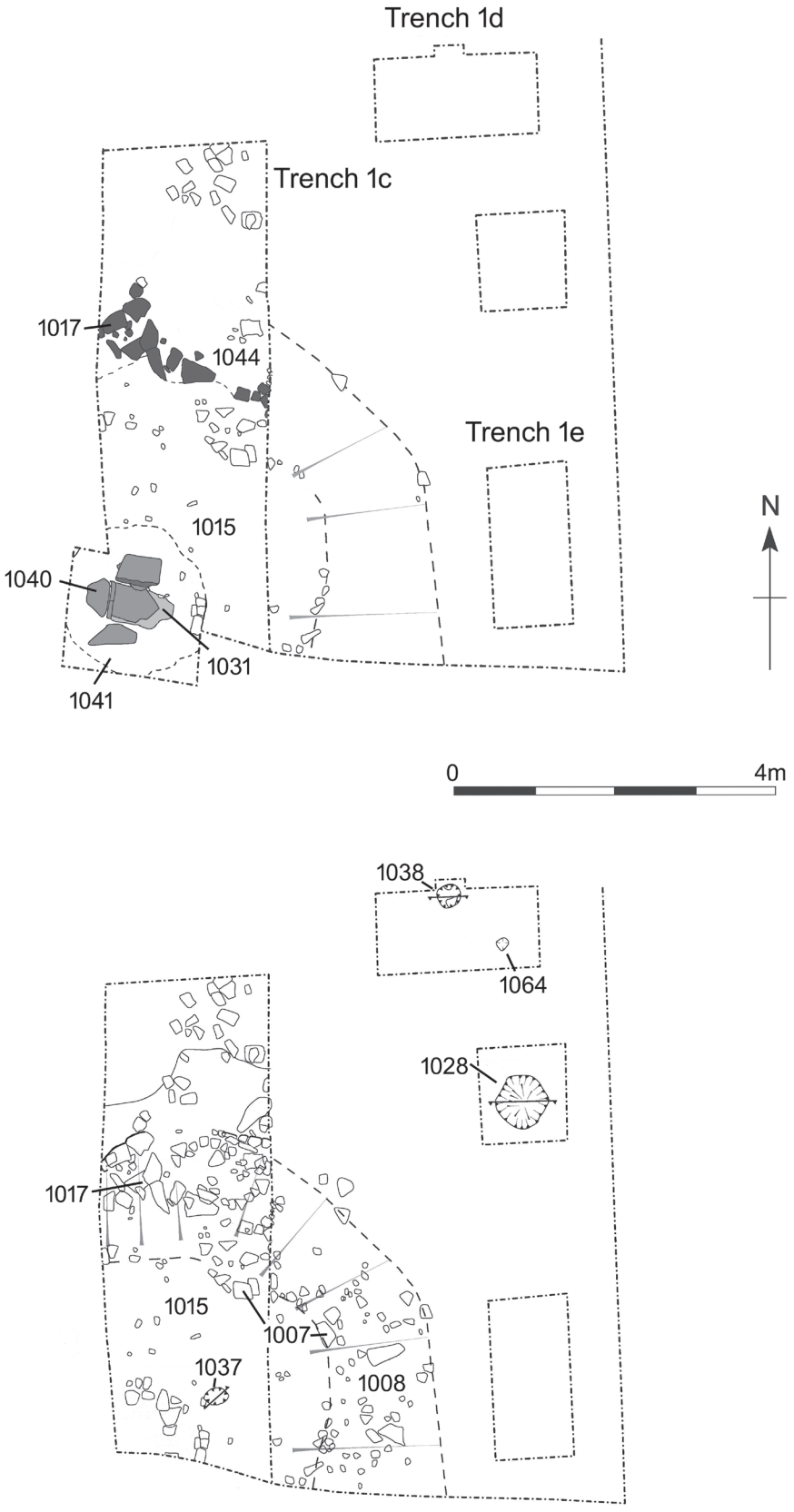


Fig. 6.29 Plan of Mound 4 showing its development through time; initial mound and central cist (top), and later enlargement and associated cremation pits (bottom).

material levelled off into a low platform running out to butt up against the clay (1044) which was associated with encircling kerbing or platform. This reveals an integrated construction process with cist, mound and kerb being built in a single episode.

Originally, the central cist had held a cremated burial deposit, but the contents had become displaced when the cist was damaged. Nonetheless, two distinct fills were observed; an upper (1032) comprising 454.7g of cremated bone and 0.02g of charcoal (*Salix*) mixed with mound material (which was a result of the cist damage). The deposit (1031) beneath this was less contaminated with mound material and also contained burnt bone (565.2g), as well as 0.88g of charcoal, 500g of burnt turf, 0.8g of cramp, and 3 sherds of pottery (SF 66). The cremated bone represented a multiple burial of a minimum of three people, an adult male, one older juvenile and a young child (Table 6.5; Roberts: Appendix 2). Burnt bone from an adult sheep or goat accompanied the human cremations, being another example of cremated animal and human bone being deposited together.

Traces of flagstone paving or walling (1017), set in a compact mid- to dark-grey clay (1044), were partially revealed c. 3m beyond the central cist (Fig. 6.29). This ruinous paving and masonry are probably remnants of kerbing running around the mound making the initial barrow c. 6–6.5m in diameter. The main body of the barrow lay directly over the pyre debris and turves (1041), being composed of a compact yellow–orange–brown silty clay (1015), almost certainly a combination of soil and glacial clay scraped up in the locality (Fig. 6.25). As this mound material contained several pot sherds (SF 09) and a burnt human long bone fragment (SF 10), it suggests a mixing of cremation pyre debris with the soil and clay scraped up to make the mound. Here then both the cist supporting material (1041) and overlying main mound material (1015) both incorporated pyre debris to varying degrees. Just as was hinted at Mound 2, and was present at Knowe 2, Knowes of Quoyscottie (Fig. 6.61; Hedges 1977, 135), once Mound 4 was formed it was covered with a spread of thin sandstone slabs (1007) that was best preserved on the north-east slope overlying clay (1015).



Fig. 6.30 Cremation deposit (1030) in pit (1037) included two individuals (adult female and an infant) and was the final burial inserted into the top of Mound 4.

At some time after the barrow was constructed, a cremation pit (1037) was dug into the top of the mound material (Figs 6.29 and 6.30). The pit was circular, c. 0.30m in diameter and c. 0.14m deep with steep sides and a flat base. It was filled with an ashy deposit (1030), which included 0.09g of charcoal and 461.7g of cremated bone representing a minimum number of two individuals: an adult female and an infant (Table 6.5). This cremated bone in this pit was noted to be very closely positioned and may well have been deposited in a bag.

It is possible that Mound 4 was later enlarged. All around the edge of the barrow beyond the supposed remnant of kerbing (1017) was a spread of dark brown silty clay (1008). This material ran up over the lower skirt of barrow material (1015) to the point where it was truncated by recent ploughing (Fig. 6.25). Therefore, it may represent the slumped remnants of a final covering of the barrow and if this is correct Mound 4 would have had a rough diameter of c. 8–9m in its final form (Fig. 6.25).

6.3.2.1 Mound 4: associated pits

Two extremely truncated pits, and a small post-hole were discovered to the north-east of Mound 4 (Table 6.8). The two pits (1028) and (1038) both contained cremation deposits (see also Section 7.4.5). In being less than a metre away from cremation pit (1038), the small post-hole (1064) is best interpreted as a marker for the burial (Figs 6.29 and 6.33).

6.3.3 Mound 5

Just over 10 m to the north-east of Mound 4 stood Mound 5, being c. 7.20m in diameter and c. 0.6m high. Excavation of this barrow was restricted to the north-west quadrant. Curiously, despite the centre of the barrow being investigated, no cist or burial was discovered. This absence provides another parallel with Knowes of Quyscottie, where Knowe 4 'contained no primary burial' (Hedges 1977, 136).

Like Mound 4, this barrow appeared to be of unitary construction with mottled yellow and brown clay (1016) being heaped up over an old land surface (1049). As with other mounds at Gitterpitten, this material was a combination of surface soil mixed with redeposited glacial clay which had been scraped up, presumably from nearby (Fig. 6.25). As usual, the mound material was encased by a stone kerb (1013), which was ruinous in the area examined. However, enough remained to see that it had been built on levelled clay mound material running around the outer perimeter demonstrating that the kerb was subsequent to the primary mound, as opposed to the two other barrows examined at Gitterpitten where the kerb accompanied the central cist in

Table 6.8 Details of pits associated with Mound 4.

Pit	*Description (m)*	*Fill*	*Description*	*Cremated bone (g)*	*Pyre material (g)*
1028	Sub-circular pit, c. 0.6 diameter: c. 0.05 deep but very truncated. Vertical sides & rounded base	1023	Burnt stones, charcoal & burnt soil, cramp	51.8	3.4 cramp 0.43 charcoal 43 burnt turf
1038	Circular pit, c. 0.32 diameter, c. 0.05 deep but very truncated. Steep sided & round base	1034	Black ashy silty clay. Large stone flat in base.	Adult	Charcoal (frag. *?Corylus avellana*) Cramp Burnt turf
1064	Circular stake or small post-hole, c. 0.10 diameter, heavily truncated with a depth of c. 0.03	1035	Orange–black silty loam, with 1.38g charcoal.		

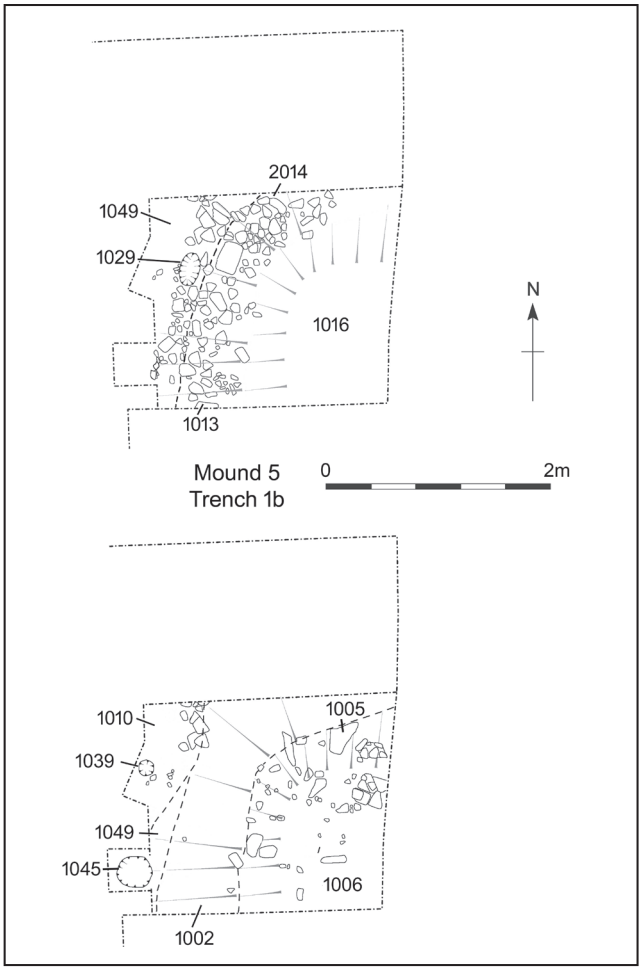


Fig. 6.31 Plan of Mound 5 showing its development and associated pits.

being built before the mound material was deposited (Fig. 6.29). Although ruinous, the displaced kerb (1013) was formed by small to large irregular sandstone slabs within a sticky clay matrix (1014) (Figs 6.25, 6.31 and 6.32).

Although far from clear, a pit (1029), seemed to pre-date the outer kerb. This was oval, measuring c. 0.47 × 0.32m, and was c. 0.10m deep with steep sides and a flat base.



Fig. 6.32 Collapsed kerb running around Mound 5. This was added after the clay barrow was constructed.

The fill, (1022) consisted of a burnt black ashy deposit containing 52.9g of cremated bone probably from an adult individual (Roberts: Appendix 2). Also present were 0.11g of charcoal, 107g of burnt turf and 10.4g of cramp (Tables 6.5 and 6.7). Just as occurred at Mounds 2 and 4, a thin layer of stone slabs (1005) set within a silty clay matrix (1006) overlay the entire mound. Some of the Mound 5 stones had slipped downslope over the kerb.

6.3.3.1 Mound 5: associated pits

Two pits were located beyond Mound 5 to the west (Fig. 6.31). First, an oval-shaped pit (1039), c. 0.55 × 0.42m, cut old land surface (1010), and was overlain by ancient topsoil (1002). The pit had steep, almost vertical sides and a flat base, and was slightly truncated. It had a black ashy fill (1018), containing 78.9g of cremated bone, representing at least one adult individual, and some cramp. The second pit (1045) located c. 0.95m further south was almost circular, measuring c. 0.60 × 0.57m, with vertical sides and a flat base. Stratigraphically, it cut old land surface (1049) and was filled with a black ashy silty deposit (1019) of sorted pyre debris which contained no bone or cramp.

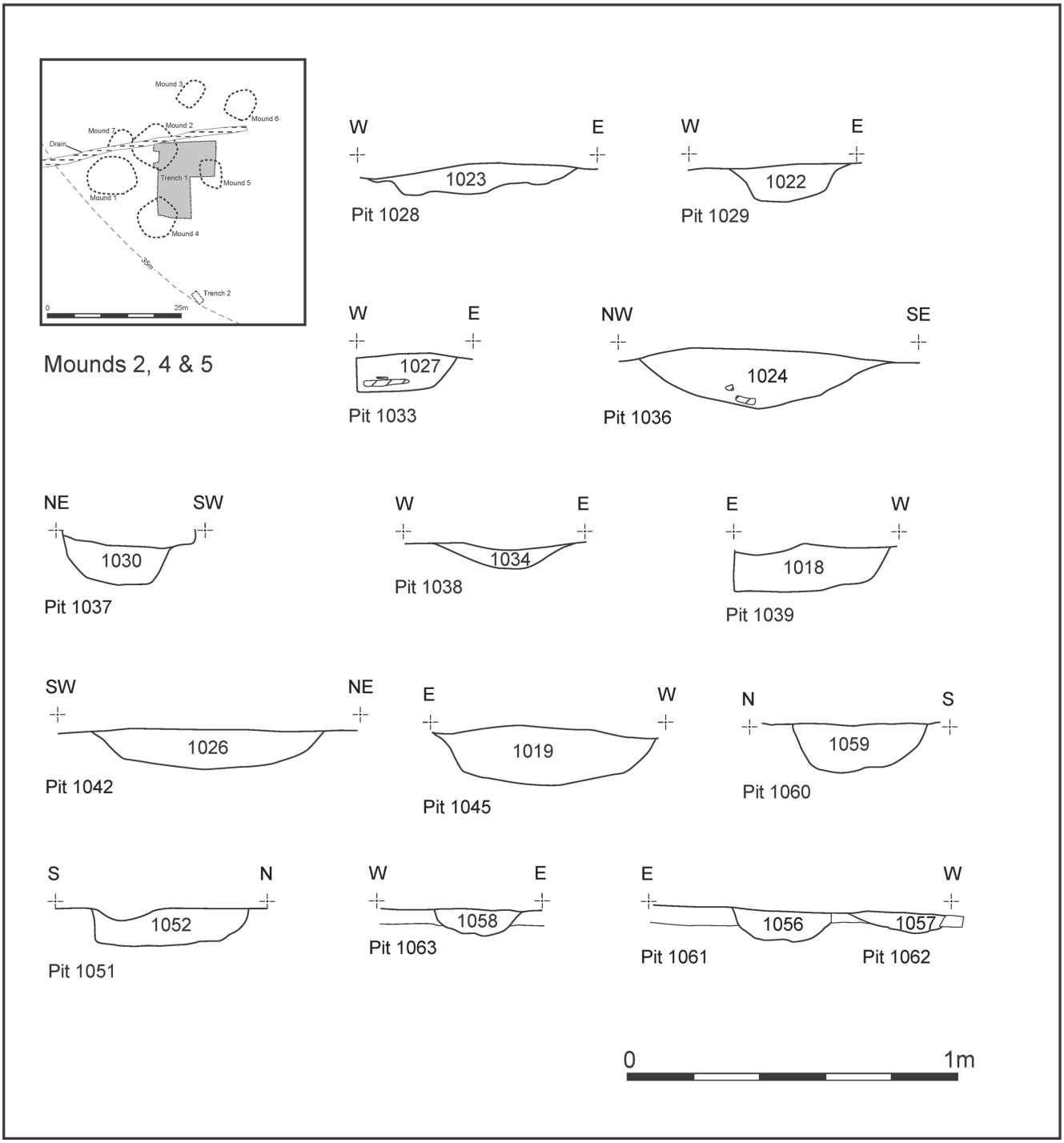


Fig. 6.33 Section drawings of pits and post-holes at Gitterpitten.

6.3.4 The material assemblage from Gitterpitten

Sherds from seven vessels were recovered from the excavated areas at Gitterpitten (Table 6.9). Apart from Vessel 6, found mixed with the barrow material of Mound 4 (1015), which has a flat rim, all the sherds are undecorated being from the body or the flat part of a base. The flat rim, which is the only diagnostic sherd from the entire assemblage, indicates that at least some of the vessels are similar to those from Linga Fold. But in this instance, although no sherds were thin-sectioned, there was no obvious employment of steatitic clay or crushed steatite used as filler in the Gitterpitten pottery assemblage (MacSween: Appendix 11).

Table 6.9 Pottery from Gitterpitten.

SF or Sample no.	*Context*	*Vessel*	*Description*	*Thickness (mm)*
SF 15	Fill 1027 of pit 1033	1	Very thick sherd. Probably from the flat part of a base. The clay is fine sandy clay with c. 90% angular rock fragsm partly reduced (grey/brown).	23
Sample 66	Basal fill 1031 of Mound 4 central cist	2	3 body sherds, probably from the same vessel. The exterior surface is finished with a wet-hand smoothing. The fabric is fine sandy clay with c. 70% well-crushed frags, reduced (grey) with oxidised surfaces (buff). Both surfaces are sooted.	11
Sample 102	Fill 1058 of pit 1063	3	Sherd from the flat part of a base. The fabric is very fine sandy clay with c. 20% rock frags, oxidised (red).	13
Sample 63	Upper fill 1032 of Mound 4 central cist	4	2 body sherds. The fabric is fine sandy clay with c. 70% well-crushed rock frags, reduced (grey) with oxidised surfaces (buff). Both surfaces are sooted. Poss. part of Vessel 2.	11
SF 20 & 21	Layer 1047 beneath secondary clay enlargement of Mound 2	5	2 sherds from the flat part of the base. The fabric is fine sandy clay with c. 80% well-crushed rock frags, reduced (grey) with an oxidised interior surface (red). The exterior surface is sooted.	n/a
SF 9	Mound 4: barrow material 1015	6	Sherds from a flat-rimmed vessel. The exterior has been given a wet-hand smoothing. The fabric is fine sandy clay with c. 70% angular rock frags, reduced (grey) with oxidised surfaces (buff).	12
Sample 65	Basal fill 1031 of Mound 4 central cist	7	Body sherd. The exterior surface is smoothed. The fabric is fine sandy clay with c. 40% angular rock frags, oxidised (red/buff).	12

Table 6.10 Stone Tools from Gitterpitten.

SF no.	*Mound*	*Context*	*Type*	*Description*	*Dimensions (mm)*
2*	2	1004	Ard point	Tabular piece of fine-grained micaceous sandstone. Very weathered over the whole piece destroying most evidence of wear traces. The working end is pointed & the butt end flaked to a curved outline. The cross-section is flat. Remnant areas of smoothing on pointed end.	L 335; W 85; Th 40
3	2	1004	Flaked stone bar	Tabular piece of fine-grained micaceous sandstone. Weathered on 1 face & on break. Broken across width. Sides taper towards surviving squared end. Flat cross-section.	L 165; W 93; Th 28
4*	2	1004	Flaked stone bar.	Tabular piece of fine-grained micaceous sandstone, broken across width. Parallel sides. Surviving end is diagonally squared. Flat cross-section. Possible indication of hafting by patches of smoothing & a slight notch on either side at 120mm from unbroken end.	L 270; W 100; Th 26
5*	5	1006	Flaked stone bar.	Tabular piece of fine-grained micaceous sandstone. Broken across width. Parallel sides. Surviving end curved. Flat cross-section. Some traces of smoothing & striations on either face at curved end indicating use wear.	L 140; W 99; Th 19
11*	4	1008	Flaked stone bar.	Tabular piece of fine-grained micaceous sandstone. Broken across width. Sides taper towards surviving squared end. Flat cross-section. Poss. traces of smoothing & rounding of an edge at 170mm from squared end may be traces of hafting.	L 180; W 85; Th 29
12 & 22*	5 & 2	1021 & 1047	2 refitting flaked stone bar frags	Tabular piece of fine-grained black micaceous sandstone. SF 22 is weathered over the whole piece whilst SF 12 remains quite fresh. Broken across width. The sides taper very slightly towards broken end. The surviving end (SF 22) is curved. Flat cross-section. There are patches of smoothing on the curved end, but these may be caused by weathering rather than use wear since they do not continue on SF12.	L 225; W 102; Th 30
17	2	1047	Flaked stone bar.	Tabular piece of fine-grained micaceous sandstone. Weathered on surviving face. Broken across width & most probably 1 face removed by shearing across bedding plane. Parallel sides. Surviving end is curved.	L 160; W 90; Th 28
23	2	1047	Flaked stone bar.	Frag.: tabular piece of fine-grained micaceous sandstone. Broken across width & 1 face sheared off along bedding plane. The surviving end is pointed & the cross-section thick.	L 143; W 79; Th 33

* illustrated (Fig. 6.35)

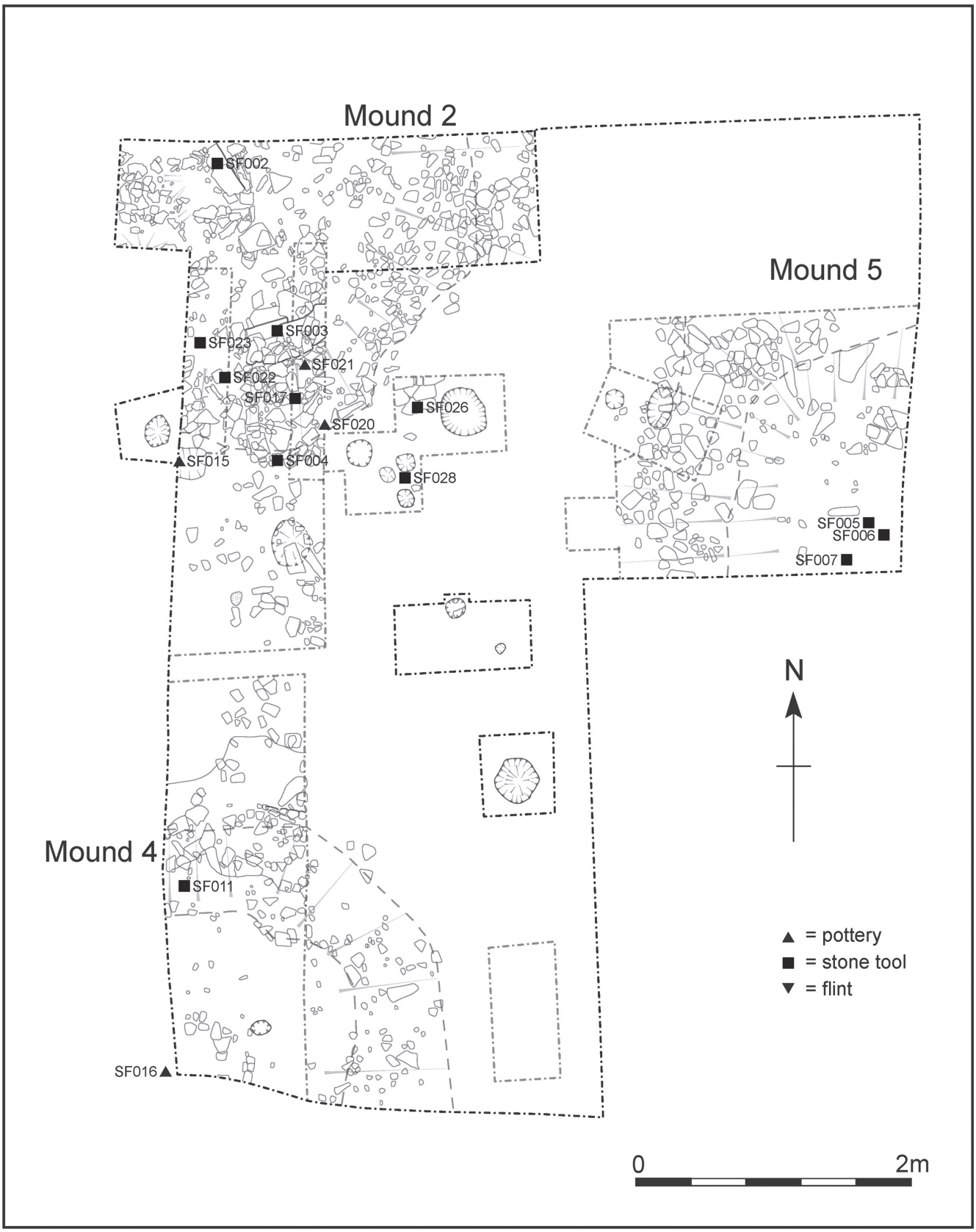


Fig. 6.34 Finds distribution at Gitterpitten.

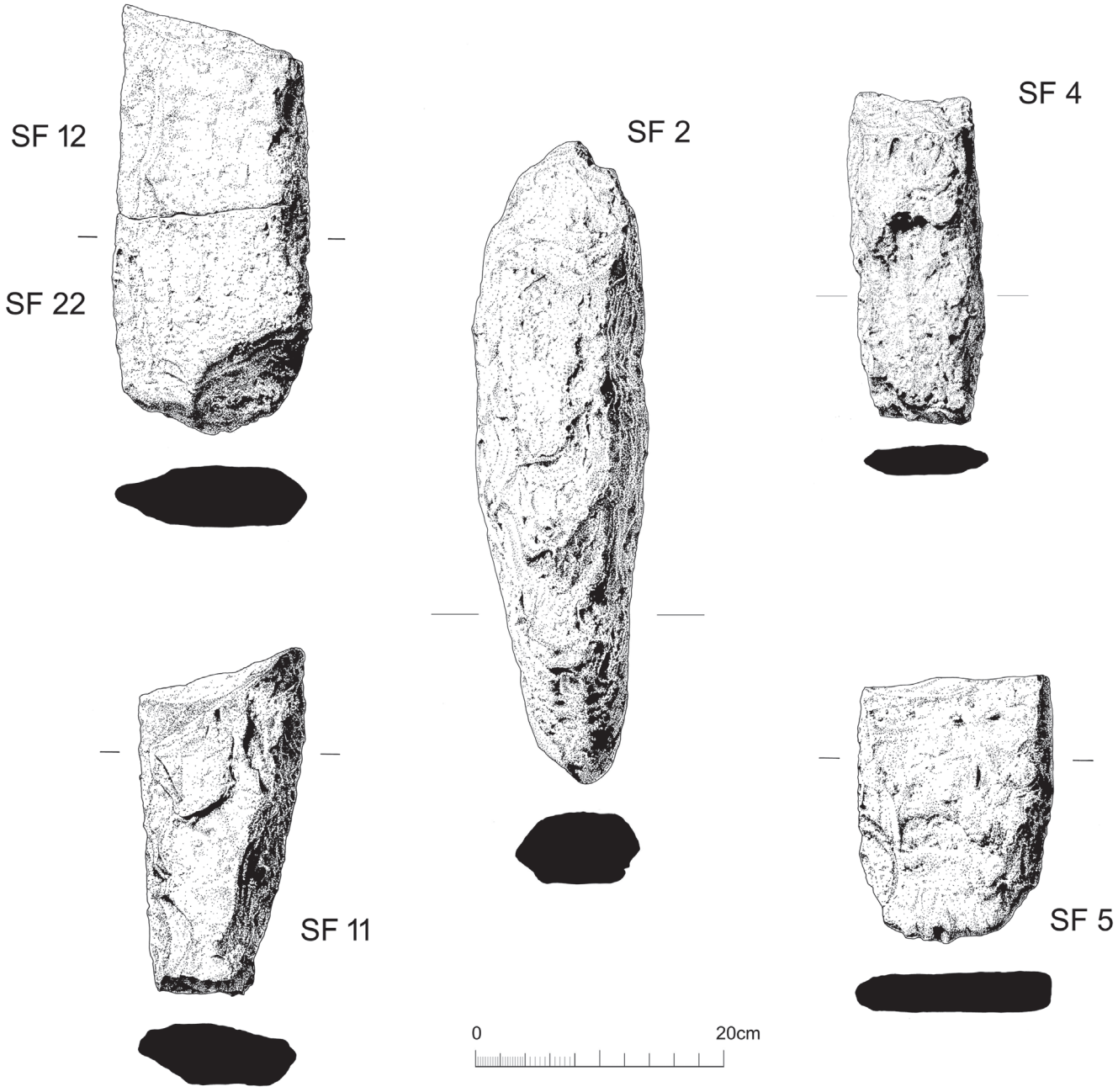


Fig. 6.35 Selection of stone tools from Gitterpitten (see Table 6.10).

It is clear that the stone tool assemblage (Fig. 6.35; Table 6.10), continues the trend recognised in the last chapter (see Section 5.13), of the close association of mattocks (flaked stone bars) and ard points with the kerbs and edges of the mounds. The high proportion of mattocks to ard points is another feature shared with Linga Fold where only two ard points were present amongst some 50 flaked stone bars (Clarke: Appendix 15). This contrasts with other sites such as Knowes of Quoyscottie (Hedges 1977) and Holland (Neil 1981) where, although there are only a few stone artefacts present, ard points are more common. At Gitterpitten the assemblage is simply composed of flaked blanks whilst at Linga Fold there were also a number of other cobble tools and stone discs present, though these were more closely associated with deposits in cists and activity on the platform around Mound 7 (Section 5.9.4; Table 5.32).

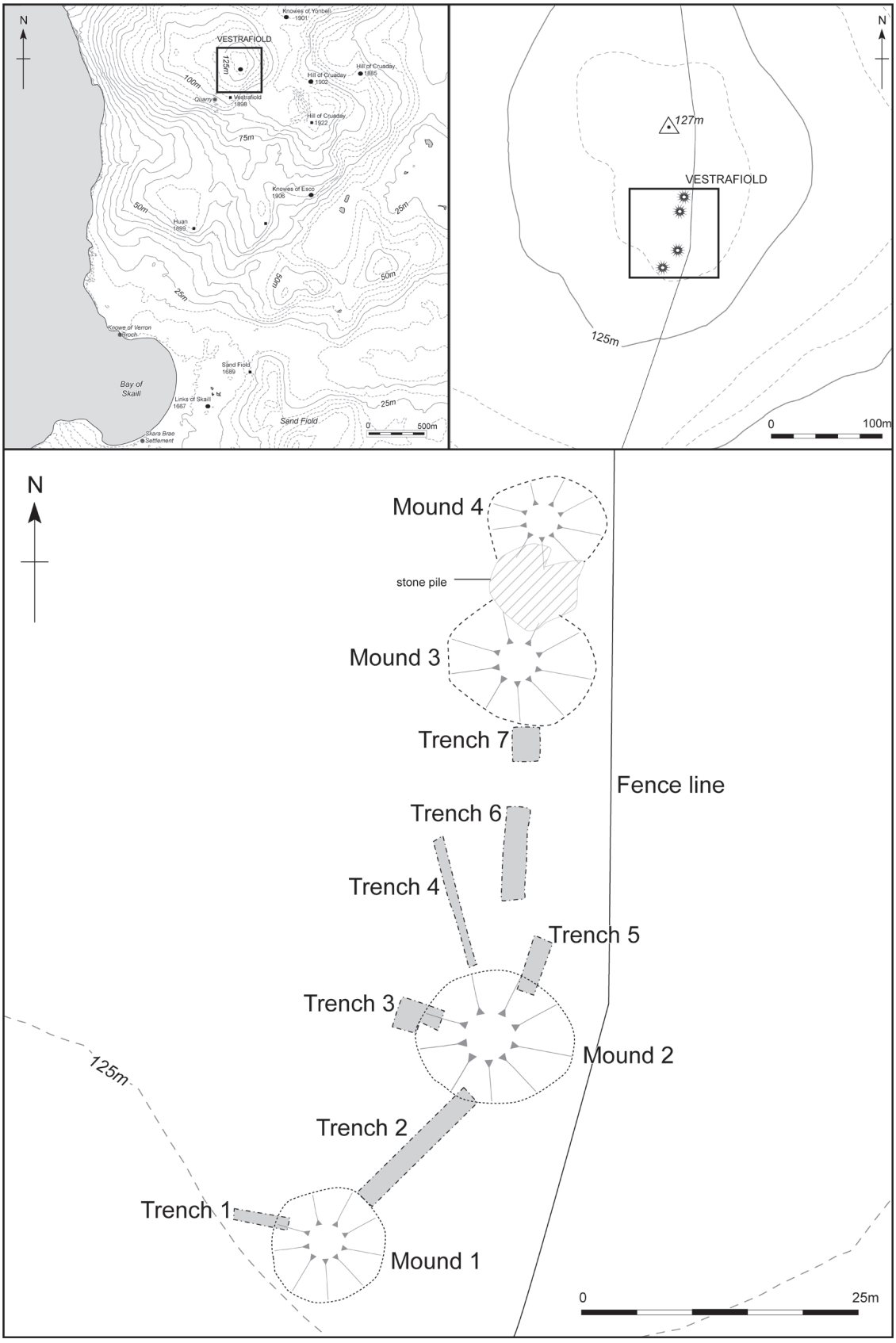


Fig. 6.36 Location and site plan of Vestra Fiold showing trench locations.

6.4 Vestra Fiold, Sandwick, West Mainland (HY 2416 2210)

The final barrow cemetery discussed here is Vestra Fiold, Sandwick, where a linear group of four standing mounds run downslope to the south of the hill summit having spectacular views over western Mainland, and the Hills of Hoy (Figs 6.36 and 6.39). Mr J.M. Corrie, the Royal Commission investigator, visited the barrow cemetery in July 1928 reporting that:

> About 700 yds [640 m] S. E. of the summit of Vestra Fiold, just over 400 ft. [122m] above sea level, are four mounds, all of them still very well defined, standing almost on a line from N. to S. No 1, the most southerly of the group, has a diameter of approximately 26 ft. [7.9m], and rises to about 3 ft. [0.9m] at the E. side, where the hillside dips somewhat, but is noticeably lower towards the W. The outer margin is plainly marked by a kerb of stones. No. 2, a short distance to the N. N. E. is about 35 ft. [10.7m] in diameter, and is approximately 5 ft. [1.5m] high on the S. side and about half as much on the N. The outer margin is again indicated by stones, although less clearly. No. 3 stands not far N. N. W. of No. 2, and has an average diameter of about 60 ft [18.3m]. A tall modern cairn or landmark has erected on the top, and there has been excavation on the N. E. side. No 4, which has a diameter of 30 ft. [9.1m], is at no great distance N. N. W. of No. 3. It has been partially stripped on the top. (RCAMS 1946, 259)

Today, the four barrows arranged in a linear formation remain sizeable, seemingly little damaged by ploughing as has occurred at so many barrows since Mr Corrie visited in the 1920s and 1930s. However, Mounds 1, 3 and 4 are currently covered by very substantial quarried sandstone blocks together with piles of smaller shattered stones. Mound 2 has no such stones on the top, but several large slabs are present on the northern side of the mound. This material would appear to have been added since the 1928 visit as it is not mentioned by Mr Corrie (RCAMS 1946, 259).

Further downslope to the south-west is the Vestra Fiold quarry which was the source of some of the monoliths forming the Stones of Stenness and Ring of Brodgar (Richards *et al.* 2013a) (Fig. 6.37). Further downslope to the east of the quarry, a third millennium cal BC long mound is situated adjacent to an easterly scarp (Richards *et al.* 2013b). Of greater relevance to this study is the extraordinary 'megalithic' enclosure located west of the quarry (Fig. 6.38). Today, only a short stretch on the eastern side of the enclosure remains of the massive upright stones set within an earthen bank that once ran around its entire circuit. Although not evident today, when the enclosure was visited by Corrie in 1928, an internal small mound with upright stones projecting from the centre (probably part of a central cist) was visible (RCAMS 1946, 269). What makes this enclosure noteworthy in relation to the barrow cemetery is the presence of large amounts of cramp. Writing in 1936, J. Graham Callander notes that near the large enclosure at Vestra Fiold 'there were great quantities lying on the surface, some of the masses being used as copestones on a garden wall' (1936, 445). This supports George Marwick's 1892 observation that 'a great deal of fire had been used in the vicinity of the [Vestra Fiold] quarry, the ground being in some places covered with ashes and vitrified bones' (Muir and Irvine 2014, 71). The significance of such large quantities of 'ashes' and cramp being present, together with the consistent association of this material with second millennium cal BC cremation deposits, will be discussed further in the following two chapters.



Fig. 6.37 View of the Vestra Fiold megalithic quarry from the south, the barrow cemetery is visible at the top of the hill to the right.

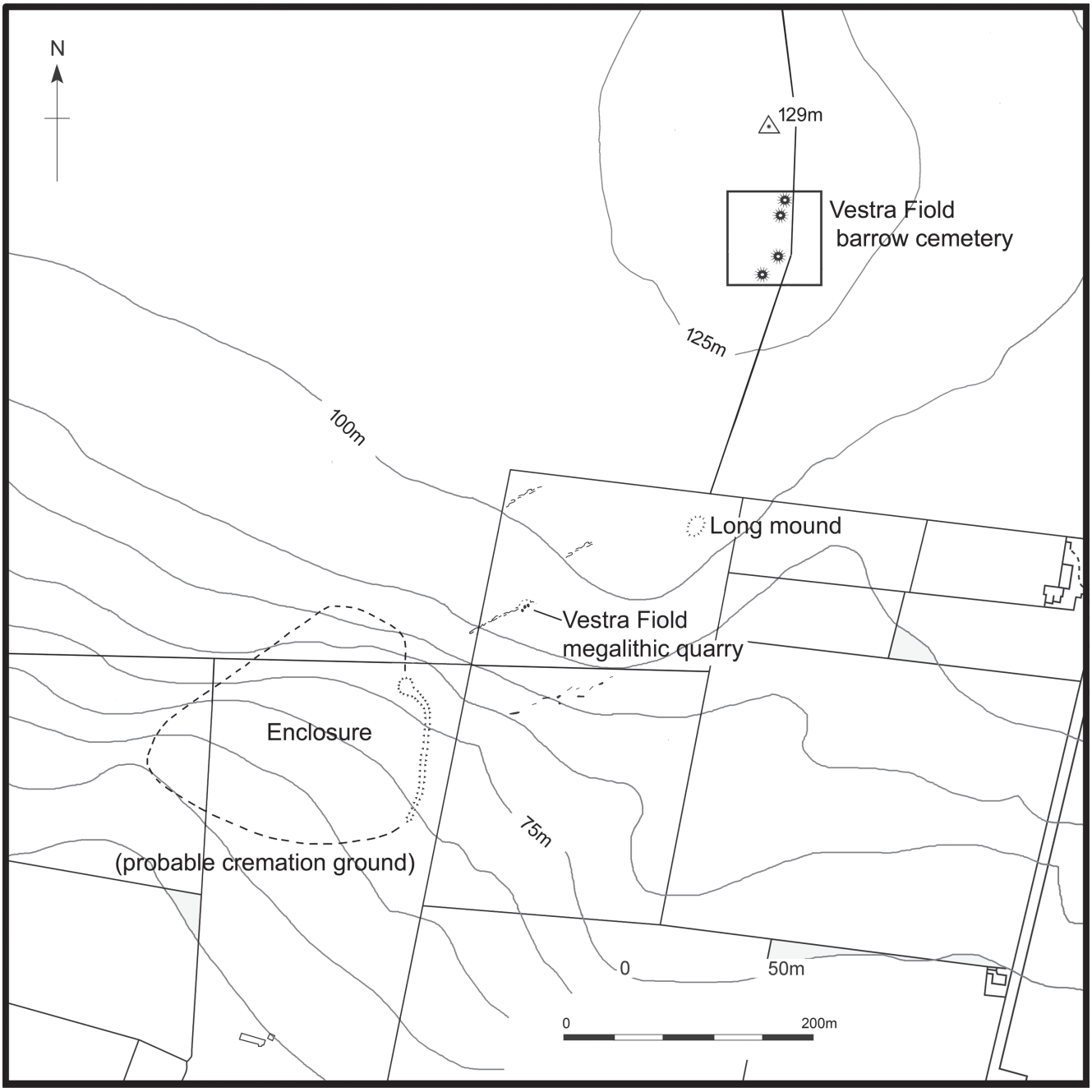


Fig. 6.38 Plan of Vestra Fiold barrow cemetery in relation to the megalithic quarry and enclosure.

6.4.1 Investigating Vestra Fiold barrow cemetery

Geophysical survey was carried out prior to excavation, although the piles of stone meant that total coverage was impossible. The gradiometer survey revealed that most of the mounds, where it was possible to obtain readings, produced only slight magnetic effects. The strongest signals clustered around and over the western side of Mound 2. A linear feature, with high magnetic values, ran from the western side of the survey area to a stone pile between Mounds 2 and 3. Subsequent information indicated that the anomaly was caused by a ferro-concrete World War 2 underground tunnel!

A low linear bank-like feature was visible on the surface, running north–south *c*.10m to the north-west of Mound 2. This was investigated using resistivity methods. A low resistance anomaly was located alongside the possible bank. A trench (Trench 4) was excavated across this feature, which proved to be geological, the result of undulations in the bedrock.



Fig. 6.39 The spectacular view looking south across Skaill Bay towards Hoy from Vestra Fiold with Mound 2 in the foreground.

General survey of the barrows was hampered to a large degree by the presence of the large stones. Nonetheless, it was clear that of all four barrows, Mound 4 had suffered the most from stock damage. A positive consequence of this damage was the identification of a possible kerb or platform on the east side of the mound, which disappeared under a heap of stones. Overall, the piles of large stones made most of the mounds impossible to excavate given the time constraints. Consequently, excavation concentrated on investigating the outer edges of Mounds 1 and 2 for possible kerbs, and the area between the barrows (Fig. 6.36).

6.4.2 Mound 1 (Trench 1)

Mound 1 measured c. 9m in diameter, seemingly a metre larger than was recorded by Mr Corrie for the 1946 Royal Commission inventory (see above), but it remains the smallest barrow in the cemetery. As mentioned earlier, this barrow was covered by a heap of large stones and smaller shattered stones (3002). The turf lay between and below some of the stones indicating that certainly the larger ones were a later addition, consistent with their not being present during the 1928 visit (RCAMS 1946, 259). But the kerb that had been noticed at that time was evident in 1998 on the south-eastern side of the barrow, and it was to investigate this component that a 6m by 1m trench (Trench 1) was excavated immediately to the west of Mound 1.

Immediately below the turf and topsoil (3001), glacial clay subsoil and bedrock was encountered, except at the eastern end of the trench, against the mound. Here, a stone kerb (3005) was discovered beneath what appeared to be slippage from the barrow. The truncated masonry kerb was formed of substantial stone blocks, faced to the exterior (Fig. 6.42). Only one or two courses of kerbing remained standing to a height of c. 0.23m, and the base course appeared to be set into a silver–grey clay (3004) which was interpreted as the podsolised buried old land surface. Abutting the outer face of the kerb, a c. 0.20m-deep layer of dark brown stony silty clay (3003) extended outwards (west) for c. 0.75m, where it ended abruptly with a relatively straight edge (Fig. 6.40 and 6.41). The layer contained no obvious charcoal, but many fragmented stones.

6.4.3 Mound 2 (Trenches 2 and 5)

Mound 2 also appeared to be larger than noted by Mr Corrie in being c. 13m in diameter and 1.2m high (RCAMS 1946, 259). A few large stones protruded through the turf, some loose.

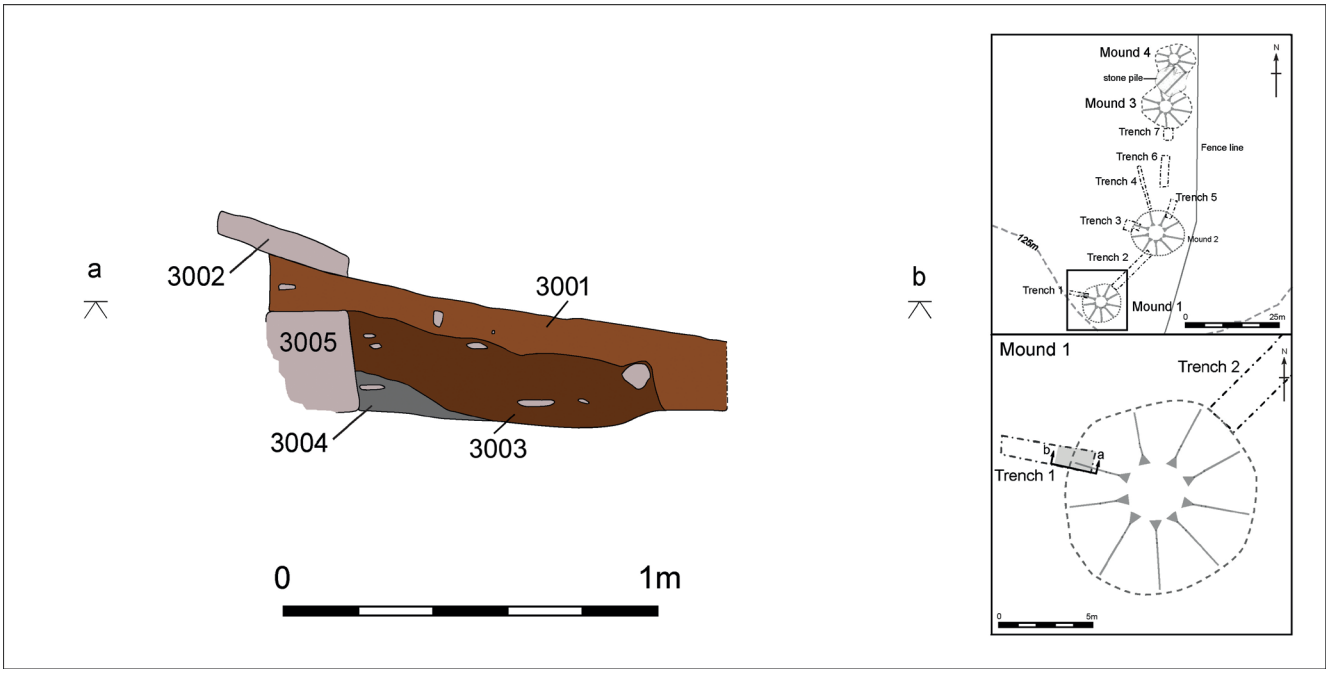


Fig. 6.40 North-facing section of Mound 1 kerbing, Trench 1.

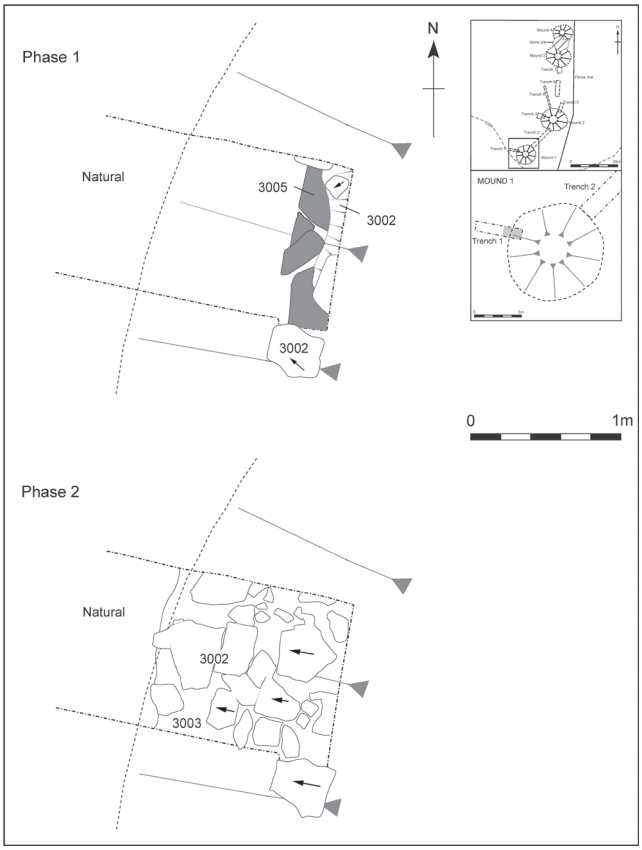


Fig. 6.41 Plan of Mound 1 kerbing and overlying slabs.



Fig. 6.42 Vestra Fiold, Mound 1, view of kerbing from west.

Two large stones had been laid on the north side of the mound but none on the top. The mound had suffered considerable rabbit damage. The kerb hinted at by Mr Corrie was not evident in 1998, so two trenches were laid out to investigate and uncover any kerbing remaining at the base of the mound (Fig. 6.36). Trench 2 measured 14 × 2m and ran between Mounds 1 and 2. No features were found within the trench, with the turf and topsoil directly overlying glacial clay and bedrock, as in Trench 1, Mound 1. The trench was extended 1.50m north-eastwards into the base of Mound 2, revealing brown–grey clay (3006) that formed the bulk of the mound, with a thin lens of yellow stony clay (3015) within it. The mound material overlay a layer of silvery grey clay (3014)

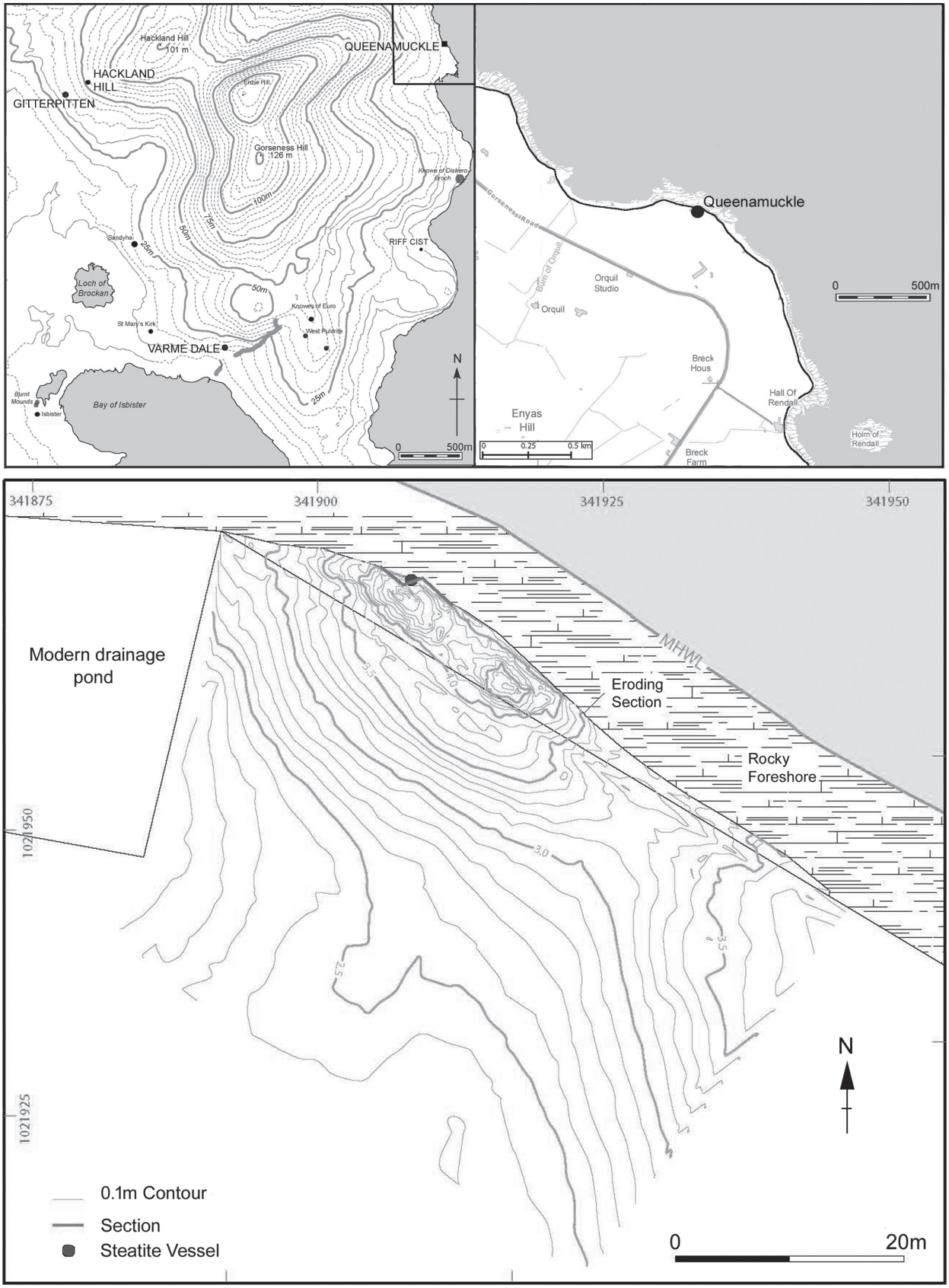


Fig. 6.43 Location and topographic survey of the eroding Queenamuckle cairn (Sam O'Leary).

which was similar to that revealed in the Mound 1 trench and is probably part of the same buried turf-line.

The second trench (Trench 5) measured 4 × 2m being positioned to investigate any kerbing at the north-east edge of the barrow and extended north eastwards towards the fence line. Only the south half of this trench was excavated fully. This revealed a series of buried deposits underlying the topsoil (3001) at the edge of the mound. These consisted of thin dark peaty clay layers (3007), (3009) and (3011), with a high organic content, generally around 1–2cm thick, interspersed with grey–brown clay layers (3008) and (3010) with degraded stone inclusions, around 8cm thick. This possibly represents a series of buried soils overlain by thin turf lines, overlying the natural glacial till. These layers appeared to run under the mound material (3006).

The third trench (Trench 3) was 3 × 2m and situated immediately west of Mound 2. This was extended (1.5 × 1.5m) into the barrow to investigate a magnetic susceptibility anomaly. Unfortunately, no features or areas of burning were found with turf and topsoil directly overlying natural bedrock and glacial clay at the exterior of the mound. Further trenches (6 and 7) were positioned between Mounds 2 and 3 but in each case the topsoil directly overlay glacial clay and bedrock and no features or areas of burning were recorded.

The barrows are situated just south of the summit of Vestra Fiold hill, a position that has extensive views to the south and east in particular (see Fig. 6.57). To obtain a clearer picture of the local environment, column samples were taken through the west-facing section of Trench 5 for pollen analysis. Overall, the material was very uniform throughout the column and Detrended Correspondence Analysis produced inconclusive results, so a contiguous sample is assumed. Poaceae dominated the entire sequence with *Calluna* being present in significant quantities between 5% and 15%. Arboreal pollen is seen as a rare type as are many of the herbaceous species. However, some indicators of arable agriculture were present including *Artemisia* and Brassicaceae, often associated with cultivation. Also, *Plantago lanceolata*, strongly associated with anthropogenic activities is present at a constant rate throughout the profile. Other herbs present are *Acris*-type, *Filipendula*, *Saxifraga granulata*, *Gallium*-type, Rosaceae and *Potentilla*-type, although again all herbs with the exception of *Plantago* are represented in very low frequencies. *Polypodium* and *Pteridium* spores indicate that a fern community may be growing in the locality, possibly indicating rough pasture as may be expected on the hillslopes (Wagner *et al*.: Appendix 22).

6.5 Queenamuckle cairn, Rendall, West Mainland (NY 4191 2197)

L. Dunbar

While taking a walk along the foreshore at Queenamuckle, Rendall, east of Hackland Hill (Figs 6.1 and 6.43), Giles Carey and Christopher Gee noticed some form of stone structure eroding from the low cliff (Fig. 6.44). Closer inspection revealed the structure to be a degraded cairn partially covering an almost complete steatite vessel. Mr Davies had also seen the eroding urn and Regional Archaeologist Julie Gibson was duly informed who, in turn, notified Inspector of Ancient Monuments Kirsty Owen at Historic Environment Scotland. A team from AOC were duly dispatched to excavate the site.

The cairn was located just to the north of the fairly dense area of barrows and barrow cemeteries surrounding Hackland Hill, Rendall (Figs 6.1 and 6.2; Sections 6.1–6.3). In being situated 200m north of Queenamuckle Farm, the burial cairn was positioned on the seashore, overlooking a cobble beach immediately beyond the fence line of a pasture field (Fig. 6.43). When visited the cairn was clearly undergoing severe coastal erosion being virtually half-sectioned. It was revealed in a cliff face up to 2.1m high exposing topsoil and soft sediments over stonework in the upper 1.0m of the section overlying glacial clay and bedrock (Figs 6.44–6.46). The steatite vessel was also visible.

A close contour topographic survey covering an area of 50 × 50m was conducted of the inland area surrounding the eroding cairn (Fig. 6.43). The results of the survey revealed an adjacent cairn to the south-east which corresponds with an entry in the late nineteenth century Ordnance Survey Name Book which records that during land improvement works cists were found within an enclosure, along with two mounds to the north. No sign of an enclosure was found but the two cairns mentioned are almost certainly the two eroding today. The survey also indicated that each cairn would have originally measured between c. 8m and c.10m in diameter with coastal erosion responsible for the loss of more than half of each of the cairns, with more of the south-eastern cairn lost. Indeed, there was very little remaining of the south-eastern cairn.



Fig. 6.44 View of the eroding Queenamuckle cairn as seen by Mr Davies (Lindsay Dunbar).

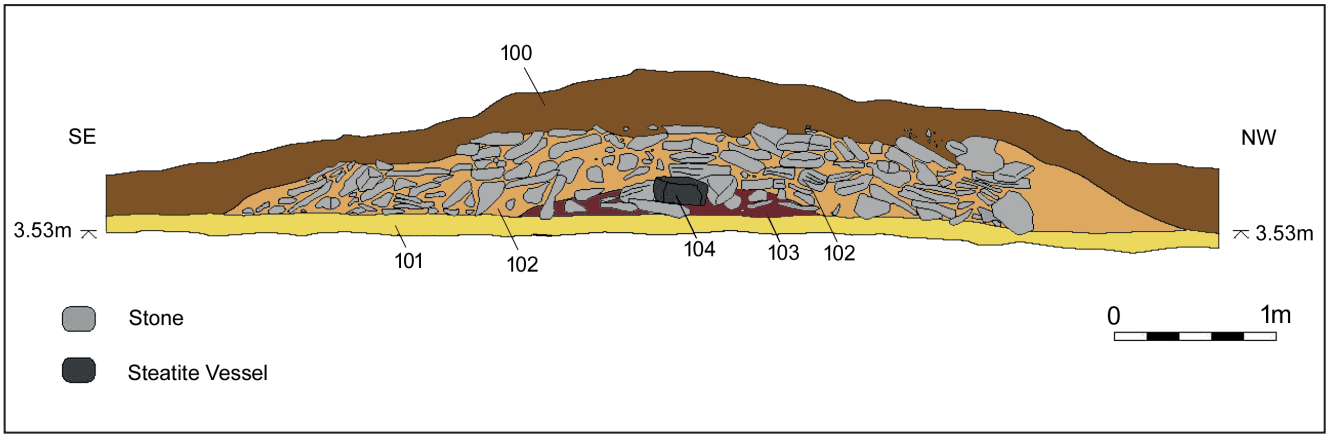


Fig. 6.45 North-east facing section drawing through the eroding Queenamuckle cairn (Jamie Humble).



Fig. 6.46 Queenamuckle cairn north-east facing section after cleaning (Lindsay Dunbar).

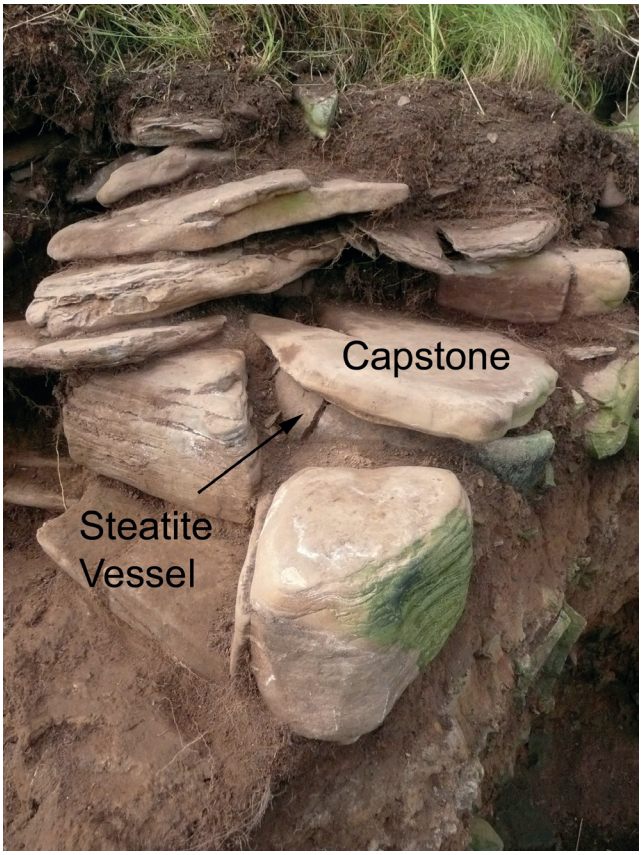


Fig. 6.47 The steatite vessel was packed around by stones and covered by a 'capstone' (Lindsay Dunbar).

Subsequent excavation revealed, below the topsoil (100), a clearly truncated heap of stone slabs and water-worn pebbles in a silty soil matrix (102) that formed the remnants of the north-western cairn. The truncated body of the cairn measured c. 6m in width and c. 0.6m in height (Figs 6.45 and 6.46). The stonework forming the cairn had seemingly been collected from the foreshore and from the appearance of their position had been carefully stacked both flat and on edge around the steatite vessel. A single flat 'capstone' had been placed directly over the rim of the vessel (Fig. 6.47). The consequence of such tight stone packing was the steatite vessel had cracked at certain points around its body (Fig. 6.48). It was quite clear once the capstone was removed that the vessel contained a cremation deposit, and due to its cracked body was uncovered, supported and removed to be subsequently excavated in the AOC conservation laboratory.

As part of the investigations the cliff section was cleaned and recorded revealing a substantial dark brown, charcoal rich layer (103) sandwiched between the base of the cairn and glacial till. This deposit also contained fragments of cremated bone and was dated to 1626–1496 cal BC (SUERC-67544) (Table 6.11). Beneath this burnt deposit the upper surface of the glacial till was seen to be scorched thereby demonstrating *in situ* burning. Because the excavation was limited to the minimum intervention possible the extent of the *in situ* burning was not fully established but the remains identified in the section suggested an area at least c. 2m in diameter. As was described in the previous chapter, many of the barrows at Linga Fiold had evidence of cremation pyres beneath the mounds and

Table 6.11 Radiocarbon dates from Queenamuckle (Rendall, west Mainland) and Quarrel Geo (South Ronaldsway) cairns.

Site name	*Lab code*	*Material sampled*	*Context*	*Radiocarbon result (BP)*	*Calibrated date range (cal BC; 95% confidence)*
Queenamuckle	SUERC-67544 (GU-40945)	Cremated skull frag.	*In situ* pyre material (103)	3273±32	1626–1496
Quarrel Geo, central cist	SUERC-1198 (GU-11496)	Unburnt human bone: Adult 3	Cist fill	3465±45	1890–1680
	SUERC-1199 (GU-11497)	Unburnt human bone: Infant (SW corner)	Cist fill	3305±35	1690–1510
	SUERC-1200 (GU-11498)	Unburnt human bone: infant (mid-S side)	Cist fill	3215±40	1540–1400



Fig. 6.48 Once the capstone was removed the steatite vessel was seen to contain cremated bone (Lindsay Dunbar).

the deposit and burnt sub-soil beneath Queenamuckle cairn would appear similar.

6.5.1 The human remains

R. Ives

At Queenamuckle, the steatite vessel containing burnt bone and ash were considered to represent a primary cremation burial. Heat scarring of the subsoil beneath the ash and burnt material layer (103) suggests that the cremation event occurred *in situ* with the cairn subsequently erected over the pyre site, consistent with the evidence obtained at Linga Fiold cemetery (Chapter 5). Burnt bone was hand-retrieved from the two contexts, the *in situ* pyre material (103) and steatite vessel fill (104). Prior to osteological analysis the cremated material was wet-sieved, air-dried and hand-sorted to remove any extraneous matter (e.g. stones and coarse components) from the residue.

The burnt bone was hand-sorted and identified into regions of the skeleton comprising the cranium, axial skeleton, upper limb and lower limb (Ives: Appendix 10). The weight of each region was compared to the total weight of the cremation to gauge the fragmentation and preservation of the skeleton following cremation and burial. Identification of individual bone elements was recorded where possible to help determine the minimum number of individuals (MNI) present (Table 6.14). The maximum size of bone fragments was also recorded. Variation in the colour of burnt bone reflects the degree of oxidation of the organic component and reflects the temperature reached during cremation (Table 6.15).

The cremation burial from Queenamuckle comprised a small amount of human bone, with a total weight of 128g (Table 6.13). Although the burnt bone was heavily fragmented, a large proportion measured >10mm (50.8% of the total weight) and contained a number of identifiable fragments (26.6% of the total weight of the sample) (Table 6.14). The identified bone comprised one fragment of the left petrous temporal bone, one complete distal hand phalanx, one fragment of ulna shaft, one fragment of distal radius, three fragments of sacrum, three rib fragments and 24 cranial fragments. Two fragments of dentition were also recovered, one molar root and one molar cusp.

Table 6.12 Age-at-death categories used in the analysis of human remains.

Age category	*Age range*	*Description*
1	Perinate	Intrauterine – neonate
2	1–6 months	Early post-natal infant
3	7–11 months	Late post-natal infant
4	1–5 years	Early childhood
5	6–11 years	Late Childhood
6	12–17 years	Adolescent
7	18–25 years	Young adult
8	26–35 years	Middle adult A
9	36–45 years	Middle adult B
10	46+ years	Mature adult
11	Adult	18+ years
12	Sub–adult	<18 years

Table 6.13 Queenamuckle burnt bone weights and percentage distribution by fraction.

Total (g)	*10mm (g)*	*% total weight*	*5mm (g)*	*% total weight*	*2mm (g)*	*% total weight*	*Max. frag. (mm)*
128	65	50.8	48	37.5	11	8.6	30 × 20

Table 6.14 Queenamuckle identified bone fragments and percentage distribution.

Identified (g)	*% total weight*	*Skull (g)*	*% total weight*	*Axial (g)*	*% total weight*	*U. limb (g)*	*% total weight*	*L. limb (g)*	*% total weight*
34	26.6	25	19.5	6	4.7	3	2.3	0	0.0

Table 6.15 Colour variation of cremated human bone (after McKinley 2004).

Colour	*Implication*
Brown/orange	Unburnt
Black	Charred, c. 300°C
Blue/grey	Incomplete oxidation, up to c. 600°C
White	Fully oxidised, >c. 600°C

Bones of the cranium, axial skeleton and upper limb were all incorporated into the cremation burial. While there were no duplicate elements, it was not possible to identify a large number of fragments. With this caveat, it is likely that the burnt bone represents the remains of one adult individual (age categories are summarised in Table 6.12). This age was indicated by the fusion of epiphyseal plates of the distal hand phalanx and distal radius. It was not possible to determine a more specific age-at-death or sex for the remains. There was no evidence for pathological changes on any of the fragments.

The colour of the burnt bone was recorded as mainly white with some dark grey fragments (Table 6.15). This reflects the level of oxidation of the organic component. The white colour of the burnt bone from Queenamuckle indicates that an efficient cremation pyre had been utilised prior to collection and burial (McKinley 2004; Ives: Appendix 10).

Overall, the cremated bone derived from the pyre deposit (103) and within the steatite vessel was identified as human and represented one adult individual, although the high degree of fragmentation precluded any estimate of sex or a more specific age-at-death. The burnt bone was mostly white or dark grey in colour indicating cremation had taken place on an efficient pyre which was able to reach temperatures over 600°C.

6.5.2 The steatite vessel

D. McLaren

The large, substantially complete but broken, steatite vessel was clearly visible in the eroding cairn material in the cliff face when it was first noticed by Giles Carey and Christopher Gee. During the subsequent excavation it was block lifted to enable the *in situ* contents to be excavated under laboratory conditions. This investigation has revealed that the vessel is incomplete with the fragmentation of the body seemingly occurring post-deposition due to the weight of the overlying capstone. Interestingly, the vessel had been substantially repaired and reworked prior to its final use as a funerary container (Fig. 6.49).

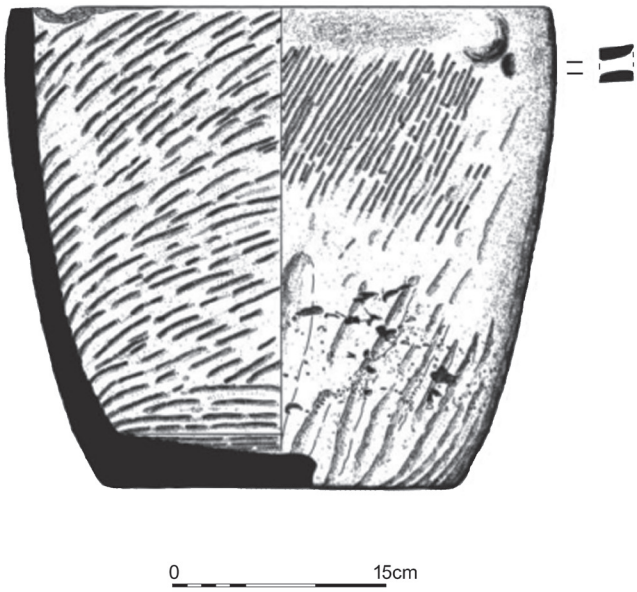


Fig. 6.49 Drawing of the steatite vessel (Jamie Humble).

The use of steatite vessels as funerary urns is not confined to a single period of prehistory, but most examples are Early to Middle Bronze Age in date, to which the Queenamuckle example conforms (see also Section 5.8.1: Sharman: Appendix 13; Sharman 2009). The urn was almost certainly manufactured on Shetland and represents an import to Orkney, demonstrating the contact between the Orkney and Shetland islands during the Bronze Age. As an example of a rare and prized commodity, made on Shetland but put to use on Orkney, the Queenamuckle urn displays evidence of extensive efforts to repair and maintain its form prior to deposition in association with cremated human bone.

Over 30 such vessels have been found in funerary contexts in Orkney although most were recovered during antiquarian and early twentieth century investigations (see Section 8.6). The Queenamuckle urn affords an important opportunity to examine such an artefact excavated by modern methods and provides an avenue to build understanding of the manufacture and use of steatite funerary urns in Bronze Age Scotland.

Prehistoric steatite urns are found to vary considerably in shape, size and treatment, making it difficult to classify the vessels by form and, therefore, date (Sharman 2009, 43). Typically, they are flat-bottomed and irregularly sub-oval or four-sided in shape (Callander 1931, 101). Orkney funerary vessels generally conform to two main types: wide, open-mouthed bowl or tub-shaped vessels with upright or gently flaring sides, tapering to a flat base, and narrower, jar-shaped vessels with swollen upper bodies, constricted necks and narrow mouths, whose lower bodies taper more steeply to the base (Sharman 2009, 43). The Queenamuckle urn (Fig. 6.49) is consistent with the first group, being a somewhat lop-sided, wide mouthed, sub-ovate bowl or tub with a plain flat rim which is 312–420mm in external diameter (262–382mm internal diameter) and a rounded exterior which tapers quite steeply to a flat re-worked base, originally around 245mm in external diameter. The urn survives to a height of 335mm as 18 joining sherds representing approximately 85% of the circumference at the rim and c. 65% of the base and lower portion of the urn.

The stone is a pale to mid-blue–grey micaceous steatite, which is not a rock type native to Orkney but is abundant in Shetland while more limited sources are known in the west of the British Isles. Prehistoric steatite artefacts found on the Orkney Islands and Fair Isle almost certainly derive from Shetland, the closest and most abundant source. Rare earth element analysis of a sample of the Queenamuckle urn (Jones 2016) confirms that the steatite is consistent with a provenance on Shetland and is most likely to have been produced from outcropping rock in the Cunningsburgh area or the islands of Fetlar or Unst.

On discovery, the urn was found in an upright position, *in situ*, encased by the stone slabs of the funerary cairn on all sides (Figs 6.47 and 6.48). A capstone sat directly on top of the rim of the vessel and, over time, the pressure and weight of the capstone and overlying cairn had caused the vessel to shatter and many vertical fractures ran down the body of the pot from the rim. However, once the vessel had been fully excavated in the laboratory, it was apparent that although significant damage had occurred post-deposition, the urn had been broken and repaired prior to its use as a funerary vessel. The pattern of breakage, repair and reworking indicates two distinct episodes of modification to the urn. The base and a portion of the lower body had been reshaped after breakage and at least 35% of the base and corresponding lower area of the steeply angled body were not present at the time of excavation. At the time of deposition, the urn may have been a composite vessel, such as that discovered beneath Mound 6 at Linga Fiold (Fig. 5.39; Section 5.8.1; Sharman: Appendix 13) or it may have been deposited in an incomplete state.

Like the Linga Fiold, Mound 6 steatite vessel, the exterior surfaces of the Queenamuckle urn are coated in carbonised accretions (less than 1mm thick) and the body shows signs of damage as the result of burning, indicating that it was placed directly into a hearth or the pyre prior to its final deposition. The surviving exterior surface of the base has discoloured to a pinkish buff as the result of exposure to high temperatures but is devoid of any accretions or staining which have been cleaned off during the later reshaping of the urn. The interior also displays evidence of prior use in the form of a distinct band of staining and discolouration, concentrated on the lower 200mm of the inner surfaces, as well as discontinuous encrusted residue in patches directly above the angle of the base and lower body. This suggests initial use of the urn as a cooking vessel, similar to the funerary urn from Loth Road, Sanday (SF 19; Sharman 2007, 23) or those from settlement contexts including Tofts Ness, Sanday (Smith 2007). Like the bottom of the vessel, the interior of the base has also been cleaned of residue, likely as a result of later reshaping.

The first episode of breakage leading to repair appears to have occurred as the result of the rim of the urn fracturing vertically at a point immediately adjacent to a protruding, dense, natural inclusion in the stone. The person who made the vessel clearly attempted to smooth this clast down as much as possible, but it remains a noticeable ‘bump’ on an otherwise smooth exterior. The damage was subsequently repaired by piercing the body immediately adjacent to either side of the fracture, which allowed the break to be bound and secured by sinew or rope. Only one half of this repair now survives; the rim fragment with the second perforation was not present at the time of burial and is now lost. The fact that this initial damage occurred after use on the hearth and not during manufacture is confirmed by the fact that the perforation cuts though the sooting on the exterior of the vessel. Subsequent smoothing and damage to the edge of the rim adjacent to the perforation indicates that the organic material used to bind the fragments rubbed against the stone over a long enough period to result in softening of the surface in this area. The opposing rim edge has also seen damage. It has been abraded smooth to a shallow concentric facet, but it is unclear when in the life of the object this damage or wear occurred; it may have been the result of prising the roughout from the outcrop during manufacture.

A second episode of breakage appears to have taken place, possibly as the result of the urn being dropped, or simply from its cracking on the hearth following a natural flaw in the stone. Regardless of how it occurred, the damage took the form of an oblique crack across the base, extending

upwards on opposing sides of the vessel. This crack subsequently resulted in approximately 35% of the base and lower portion of the urn breaking off. Significant spalls adjacent to the break on the internal face of the opposing sides of the urn were detached and lost. This damage was severe, almost catastrophic and, without significant repair, would have prevented the urn from being used to hold anything. It is difficult to see how the upper portion of the vessel could have remained substantially intact without being supported.

While the horizontal edges of the break in the upper portion of the urn appear moderately crisp, the broken edges of the base and angle with the lower body have been abraded to reshape. These edges have been tooled to straighten and make more even, and then abraded, perhaps with sand scouring, to smooth.

The modification to the break edges of the base indicates considerable effort to salvage the vessel. However, with so much of the base missing it still would not have been an effective container. In this state, it would not have been capable of being used as a cooking vessel on the hearth and with so much of the base being lost, it is difficult to see how it could have effectively held the cremated human bone that was deposited within it. Even if the bone had been held in a bag, basket or other organic container prior to being placed in the urn, it is difficult to determine how this was achieved without the risk of it escaping through the considerable gap in the base (see McLaren: Appendix 14).

6.5.3 The Queenamuckle burial cairn

L. Dunbar

The eroding cairn at Queenamuckle appears to be part of at least a pair of burial mounds c. 50m north of a group of cists reported to have contained ashes (and almost certainly cremated bone). These were found during late nineteenth century land improvements in close vicinity to the two mounds as entered in the late nineteenth century Ordnance Survey Name Book (RCAMS 1946, 86; NHRE ID: 2691). Although the number of cists discovered is unrecorded, they are mentioned to have been positioned on a mound or platform making this a likely cist cemetery (see Section 8.3.1).

Excavation was restricted to examining the section and investigating and recovering the steatite urn. The cairn was clearly built around the urn which was positioned upright with a covering capstone. The urn burial was positioned above ground as opposed to being placed in a cut pit as was the case at Linga Fiold Mound 6 (Section 5.8.1). There was no indication of further burials but given the limits of the excavation this must be provisional. The Queenamuckle urn contained no definitive evidence for the presence of multiple individuals though this cannot be discounted given the small, fragmentary nature of the skeletal material recovered. However, the balance of probability is that a single adult had been cremated. While no artefacts or cramp were found at Queenamuckle there was clear evidence of pyre debris in the form of ash and charcoal fragments. Unfortunately, the charcoal present was too small and damaged to allow identification (Jackaline Robertson, pers comm.).

As opposed to inhumation, it is only through cremating the body that allows its material form and structure to be almost entirely broken down. Thus, the change from inhumation to cremation, or rather the introduction of cremation, represents as Sørensen and Rebay (2008) so nicely capture in recognising this as a shift 'from substantial bodies to the substance of bodies'. This process has several consequences, first it destroys the body and allows the dispersal of small parts of the dead; secondly the production of a new materiality in the form of cramp (Chapter 7 and Section 8.4) and, of particular interest here, the ability to contain the substances of the deceased within a carefully crafted container. Such a container has potentially great significance, as exemplified by the different forms of Bronze Age cremation urns (e.g. Cowie 1978; Gibson 1978; Longworth 2009; Sheridan 2004; Wilkin 2013), and there can be little of such significance as the shaped steatite urns derived from Shetland (Sharman 2009) and the relational networks in which they emerged and reproduced (see discussion in Section 8.6). This is because when burial occurred within a steatite urn it was not merely in a container procured from Shetland but enabled the dead to be encased in the actual materiality or 'stuff' of that place. This facilitated the fusing of two places in the context of burial.

Finally, the situation of the two cairns on a natural rise just above the foreshore is an interesting location that will be further discussed in Section 6.7. Suffice to note that Quarrel Geo, South Ronaldsay (Section 6.6 below) assumes a similar coastal position and together with other Bronze Age burial mounds, such as the extensive barrow or cairn cemetery on Brough Ness, South Ronaldsay (Fig. 1.2), provides clear evidence that a number of burial mounds were positioned to be visible from a seaward direction.

6.6 Quarrel Geo cairn, South Ronaldsay (ND 4633 8323)

R. Simison and R. May

Of all the burial sites discussed in this volume, the setting of the Quarrel Geo burial cairn is undoubtedly the most spectacular, being part of a large number of burial mounds running along the southern cliff top – a windswept and barren landscape. Of all these mounds, in being situated on a small promontory along the southern coast of South Ronaldsay (Fig. 6.50), this is one of the most dramatic locations with the cairn having been built a mere 5m back from the cliff edge (Fig. 6.51). There can be little doubt that this situation was chosen to both reference and be highly visible from the sea. Unsurprisingly, from the cairn there are extensive

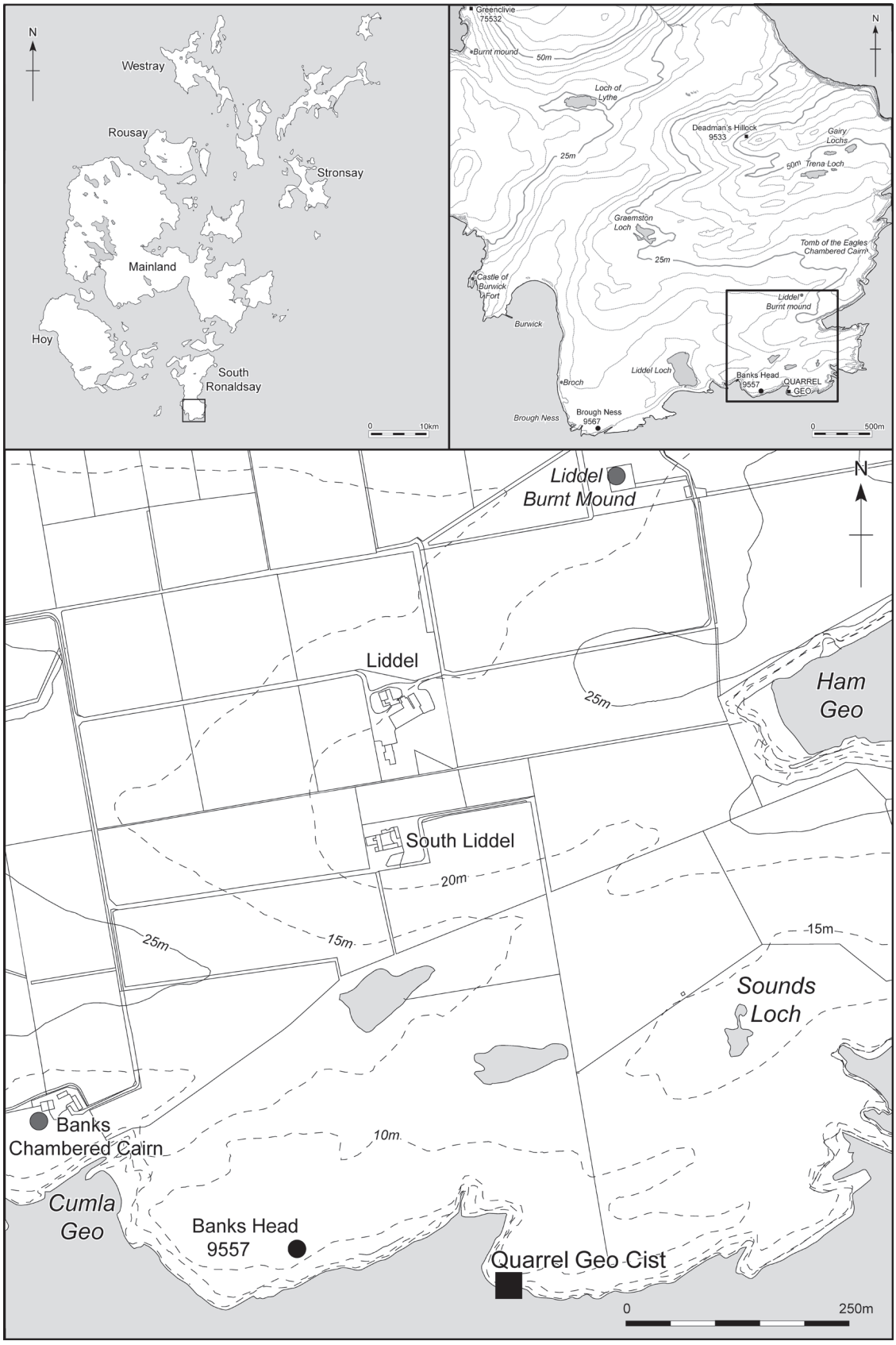


Fig. 6.50 Location map for Quarrel Geo cist and cairn.



Fig. 6.51 Quarrel Geo is situated in a dramatic position on high cliffs overlooking the Pentland Skerries and the northern coast of Caithness; the cairn can be seen as a slight rise on the tip of the headland.



Fig. 6.52 Quarrel Geo under excavation by Ronnie Simison (left) from the south-south-west (upper), and human skeletal material on cist basal slab from south-west (lower). Note the vertical flakes and small upright slabs either side of the basal slab (John Hedges).

views across the Pentland Firth to the south with the coast of Caithness clearly visible in the distance, a reference which was clearly of great import to the builders. A similar sized burial cairn and adjacent cist (opened in the past) lie in close vicinity, c. 45m inland to the north (Fig. 6.55). To the west is the Banks Head barrow cemetery, which has been badly damaged by years of cultivation and unrecorded excavations. Additional burial cairns are present all along this stretch of coastline, as well as the two Neolithic chambered cairns of Isbister (Hedges 1983) and Banks (Lee 2011, 138), and the substantial but damaged Bronze Age cemetery to the west on Brough Ness (ND 445 829) which originally would have been extremely impressive and one of the largest round barrow cemeteries in Orkney (Fig. 1.2; Wilson and Moore 1997, 58–9). Taken together this clustering of burial monuments is unusual and impressive, as are the atypically high numbers of burials within the two Neolithic chambered cairns.

Quarrel Geo burial cairn was examined by Mr Ronnie Simison over several years in the early 1980s (Fig. 6.52 top). In size it is quite small, measuring c. 8m diameter and c. 0.6m high. On excavation the mound was found to consist of coursed stone slabs, stone blocks and chips of stone in an earth and clay matrix. At the centre was an unusual 'cist' or rectangular chamber, orientated almost east–west (slightly north of west–south of east). Unfortunately, on excavation the cist structure was found to be truncated and disturbed, being c. 1.8m in length, and c. 0.7m wide, but standing to only c. 0.2m in height (Figs 6.53 and 6.54). Interestingly, it strongly resembles the nearby cist measuring c. 1.6m long by c. 0.85m wide, that has been previously opened and remains visible today c. 47m to the south (Fig. 6.55).

The central cist was represented by a substantial *in situ* basal flagstone. At the time of excavation, it was considered that the cist lacked the typical box-like construction, instead being formed by coursed blocks of stone. However, it is clear from the presence of small vertical slivers running along the side of the basal flagstone that originally the cist was typically composed of four upright stones (see Fig. 6.52 lower). The upright cist slabs would have either faced the

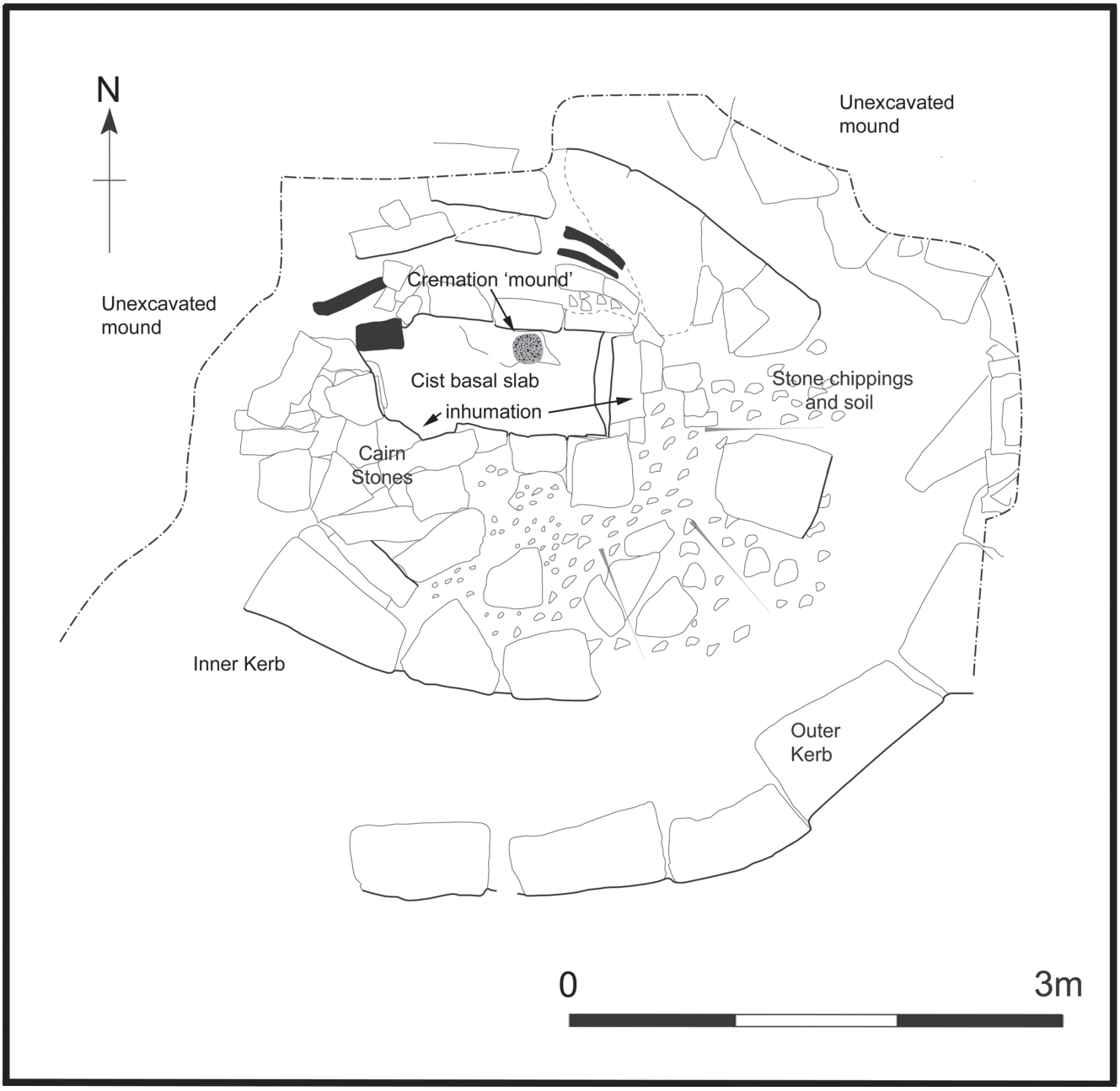


Fig. 6.53 Excavated area plan of the Quarrel Geo cist and cairn.

surrounding masonry or alternatively been demolished and replaced by a larger stone-built chamber.

Beyond the cist and masonry was a yellow–brown silty clay containing small stones which in turn was encased by a stone kerb having a diameter of c. 3.2m. The kerb took the form of a ring of substantial stone blocks (unfortunately missed in the east–west section drawing: Fig. 6.54). At a later time, possibly associated with the final sealing of the central cist, an outer skin of kerbing was constructed increasing the cairn to a diameter of c. 6m. Between the inner and outer kerbing was another spread of yellow clay with stone chips. While the outer kerb was clearly more substantial comprising large rectangular blocks laid horizontally, it was only totally exposed in the south and south-east of the excavation trench (Fig. 6.52 upper).

Disarticulated human bones, consisting of an adult male individual and two neonates were found within the cist, some within the main cist box, others on a side 'step' in the eastern side of the cist. Subsequently, a cremation deposit of a possible adult female was inserted along with a third neonatal skeleton. Judging from photographs taken during the excavation some bones of the adult inhumation were

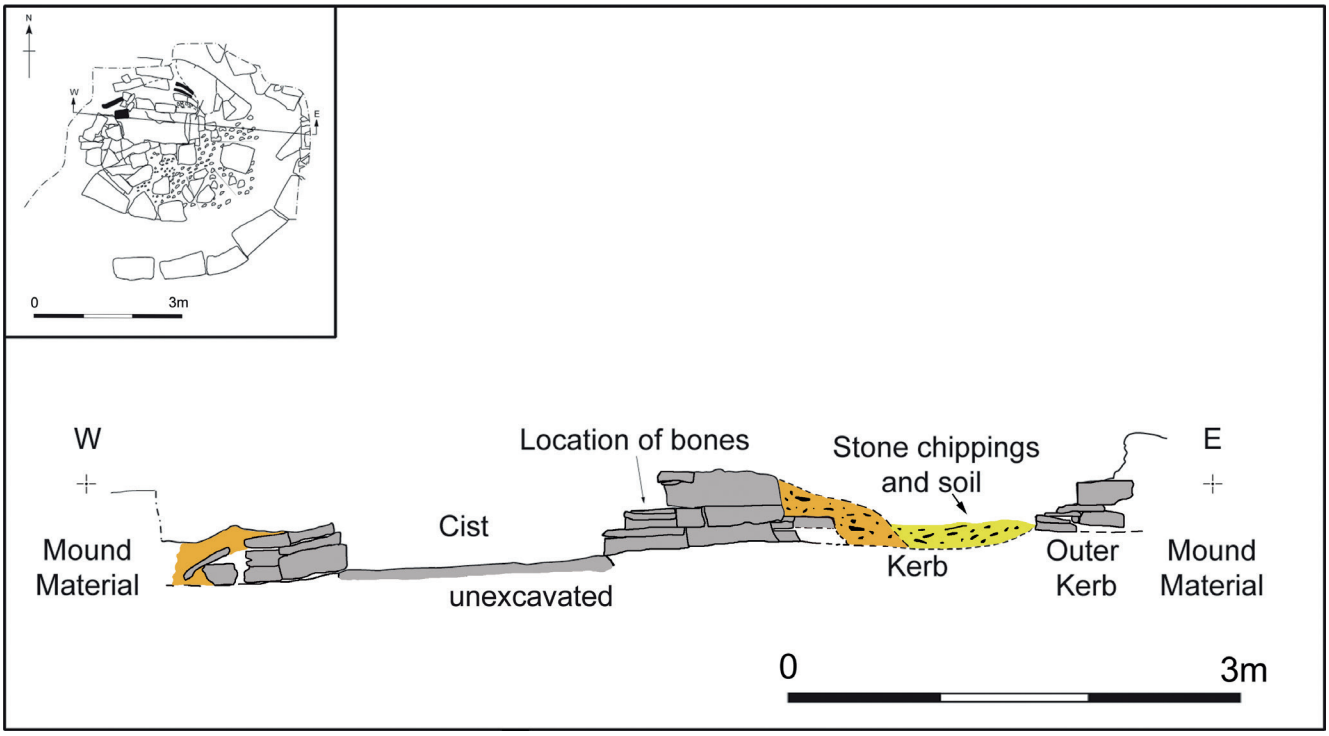


Fig. 6.54 East–west section through the Quarrel Geo cist and cairn.



Fig. 6.55 A previously opened cist of virtually identical size and construction to the central cist in Quarrel Geo lies c. 47m to the north.

articulated, and the burial appeared to have been laid in the southern area of the cist. The series of dates ranging from 1890–1680 cal BC (SUERC-1198) for the adult (probably primary) to 1540–1400 cal BC (SUERC-1200) for the infant burial (mid-south side) deposited in different areas of the cist structure indicate continued access to the cist over a substantial period of time before that was completely encased within the final cairn represented by the outer kerb (Fig. 6.56; see Table 6.11).

6.6.1 The Quarrel Geo burials

D.H. Lorimer and S.E. King

The unburnt adult bones found in the burial mound at Quarrel Geo, South Ronaldsay appeared to be part of a single disturbed inhumation (Lorimer and King: Appendix 4). When uncovered the burial appeared to be extended with the feet to the north-east and was identified as a male over 25 years of age and about 5 ft 9 in. [1.75m] in height (Fig. 6.52 lower). In addition, there were three full-term or neonatal skeletons – two with the inhumation and one with the cremated bones. An unburnt infant's skull was also found on top of a small, cremated pile (see below).

Generally, the adult bones were broken and abraded and the condition poor, but the neonatal and foetal skeletons were well preserved, although incomplete. Unburnt foetal bones and the unburnt head of a mid-rib, one metacarpal and two phalanges were found among the cremated remains, probably representing a degree of post-depositional mixing.

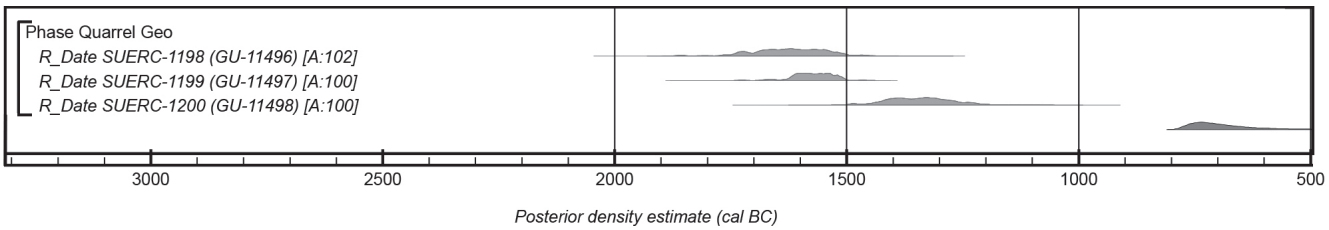


Fig. 6.56 Radiocarbon dates for Quarrel Geo burials.

It is possible that infant and foetal bones may not have merited cremation, but certainly the small bones of the hand probably belonging to the inhumation burial demonstrate post-deposition mixing and inclusions.

The cremation deposit was found at the left side of the adult inhumation burial and two neonatal skeletons. The deposit of cremated bone was in association with the third neonatal skeleton. No grave goods were associated with the deposit. Analysis of the cremated bone was undertaken to determine the number of individuals represented, to assess age and sex if possible, and to make inferences regarding pyre material. The minimum number of individuals represented in the cremation deposit is two, based on the presence of two second cervical vertebrae, each with a complete dens and at least one superior articular facet. All remains appeared to be 'adult' based on size, the presence of permanent teeth and a fragment of an auricular surface of the ilium (which can be used to estimate age). Due to cracking and the small size of the fragment, it was difficult to attribute a specific age category to the auricular surface. However, lack of billowing suggests that the individual was an adult, possibly greater than 25 years (Lovejoy *et al.* 1985). No definite diagnostic features were present to indicate the sex of the remains, although the gracile appearance of several bone fragments (Lorimer and King: Appendix 4) suggests that at least one individual may have been female. No pathological conditions were observed on any of the remains.

A total of 1005.9g of cremated bone was collected which was not attached to cramp (Table 6.16). The majority of this bone was greater than 10mm in size; the largest cranial fragment was 40mm and the largest long bone fragment 62mm in maximum dimension. Most of the cremated bones attached to cramp were also greater than 10mm in size, although all size categories were represented. Cranial fragments were most often identified, followed by the upper and lower limb and the axial skeleton (Table 6.17). However, the greatest percentage of unidentified fragments were from long-bones (Table 6.18). These fragments were often difficult to assign to a specific bone due to small fragment size, lack of diagnostic features or physical alteration during the cremation process (e.g. splitting and curling).

The majority of the cremated bone was calcined white but a small percentage was grey or grey/white (Table 6.19).

Table 6.16 Weight and percentage of human cremated bone in various size categories from Quarrel Geo (S.E. King).

Total weight (g)	*g(%) >10mm*	*g(%) 5–10mm*	*g(%) 2–5mm*
1005.9	813.8 (80.9)	178.5 (17.7)	13.6 (1.4)

Table 6.17 Weight and percentage of identified human cremated bone by skeletal categories from Quarrel Geo (S.E. King).

Total weight (g) identified bone	*g(%) cranial*	*g(%) axial*	*g(%) upper limb*	*g(%) lower limb*
180.9	73.4 (41.0)	24.9 (13.8)	42.3 (23.4)	39.4 (21.8)

Table 6.18 Weight and percentage of unidentified human cremated bone from Quarrel Geo (S.E. King).

Total weight (g) unidentified bone	*g(%) long bone frags*	*g(%) articular surface frags*	*g(%) unidentified bone frags*
825	553.3 (67.1)	38.0 (4.6)	233.7 (28.3)

Table 6.19 Percentage of grey-white bone by context from Quarrel Geo (S.E. King).

Total weight (g)	*g(%) grey/white*
1005.9	58.0 (5.9)

The white calcined appearance of the bone suggests that the individuals may have been efficiently cremated with sufficient time, oxygen and heat to complete the burning process (McKinley 1989). A temperature of over 645°C is the minimum temperature required to obtain calcination during burning (Shipman *et al.* 1984). The small percentage of grey/white fragments of bone may be due to the position of the bones within the pyre, at the base where bone may be deprived of oxygen (Wells 1960) or at the edges where heat may be less intense.

Overall, the deposit mainly consisted of large fragments (>10mm) of cranial and long-bones with very few small bones represented. There were at least two adult individuals in the deposit, the combined weight representing only 62%

of one adult cremation (modern adult collections of cremated bone (>2mm) may weigh 1001.5–2422.5g with an average of 1625.9g (McKinley 1993). These findings may suggest that the cremations took place elsewhere and larger pieces of bone were collected and deposited within the burial mound along with any cramp which was attached.

6.7 Situating cairns and barrow cemeteries in Orkney

with C. Begg

Interestingly, despite being on two different islands, the two cairns, Queenamuckle and Quarrel Geo, are both situated adjacent to the sea; in the case of the former to such an extent that half of the cairn has been lost to coastal erosion. Although Quarrel Geo was built in a more dramatic position at the top of spectacular cliffs (Fig. 6.51), both cairns were clearly situated to reference the sea and would have been highly visible when looking landwards from a boat. In fact, there are a number of burial cairns dotted along the Orcadian coastline such as those accompanying Quarrel Geo along the South Ronaldsay clifftop, including the large Brough Ness barrow cemetery (Fig. 1.2). This is the closest part of Orkney to mainland Scotland and the coastline of Caithness is clearly visible and ever present to the south. In occupying this seashore position, the cairns and barrows (and dead) assume multiple qualities. First, they are set at the 'edge', a position where land and sea meet which has been consistently described as liminal space (e.g. Pollard 1996; Scarre 2002), yet this designation depends to a large degree on land and sea being understood as opposed homogeneous entities (cf. Klooss 2014). A different way to think about this location is one of connection, a place where domains meet and merge (e.g. Helms 1988, 25; Cooney 2003, 326). That this constitutes a more valid ontological condition is demonstrated by the truncated coastal Bronze Age ring cairn at Ramberry Head, St Ola, Mainland, Orkney (Crozier *et al.* 2016). Dated to 1500–1310 cal BC (GU-20480), the Ramberry Head ring cairn was constituted of different materials. The outer ring was made primarily of quarried stone derived inland, while the inner setting juxtaposed outer flagstone (land-stone) with beautifully aligned inner rounded pebbles from the seashore (sea-stone). Not only does this setting illustrate a meditation on different categories of stone which relate to land and sea but also provides a glimpse of second millennium cal BC aesthetics (Fig. 6.57). Returning to Queenamuckle and Quarrel Geo, the latter possesses a central setting similar to Ramberry Head but without the inclusion of sea-rolled pebbles (or if so, it was not noted). Both cairns appear to be constructed of stone slabs which would have been present inland or at the cliff.

In being built at the edge, the cairns also appear to reference 'somewhere else', especially if the ocean is recognised

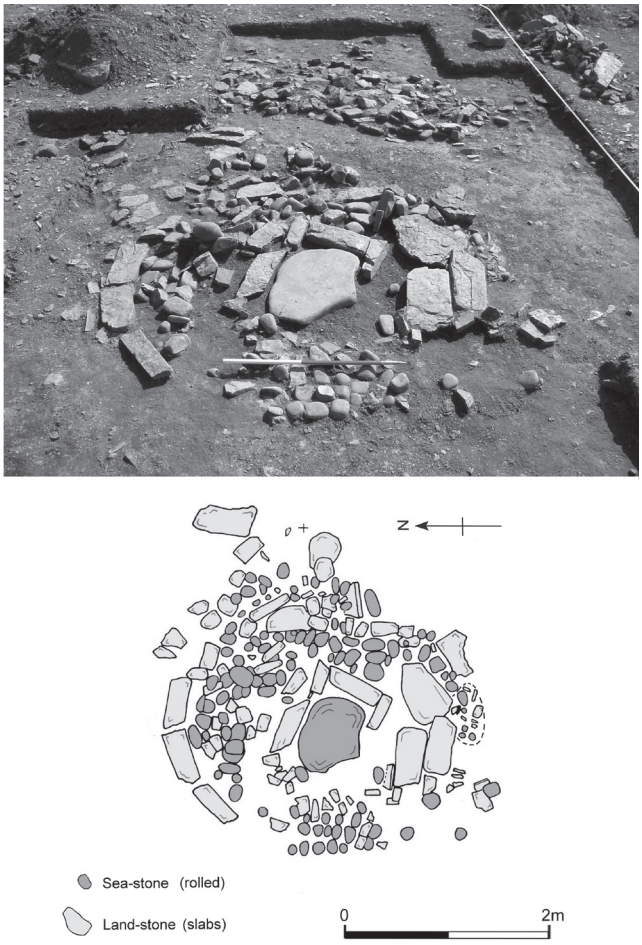


Fig. 6.57 View of the Ramberry Head ring cairn from the west (top); note the concentric ordering of beach pebbles, some set in aligned rows, and sandstone slabs wrapping the central water rounded slab (bottom) (Adrian Challands).

as being more of a conduit than a barrier. For instance, in the case of Quarrel Geo and the adjacent burial cairns, including Brough Ness barrow cemetery, the dead are being buried within monuments clearly signalling a relationship with the sea and mainland Scotland. The Scottish mainland may well have held further significance in terms of origins and homeland especially as aDNA evidence indicates that substantial numbers of people were crossing the Pentland Firth (Moore *et al.* 2022). In being positioned on the east coast of Rendall, the Queenamuckle cairn seems to relate more to inter-island sea routes and passage around the small island of Gairsay, with its dominant hill adorned by a large cairn (NHRE ID: 2683). The sea would have provided the dominant means of moving around the Orkney archipelago, and evidence of plank-sown boats as early as 2000 cal BC (Van de Noort 2003, 413) indicates the potential of wider contact through seafaring beyond Orkney to Caithness, Fair Isle and Shetland. Finally, in terms of visibility, the setting

of the cairns is exceptional in allowing them to be sky-lined not only when viewed from the sea, but also inland positions. This duality of visibility is also a feature of cliff-edge barrows elsewhere (e.g. Christie 1985, 114).

Moving on to the barrow cemeteries discussed in this chapter, each occupies a slightly different topographic position and displays divergent internal organisation. These locations will be examined further to draw out the specific character and situation of each barrow cemetery together with their similarities and differences. In danger of not heeding Ann Woodward's (2000, 20) warning about the difficulties of making any wide-ranging generalisations, it is possible to detect four common trends in the numerous discussions of the landscape position of Bronze Age round barrows across England and Wales. These incorporate four different, but not exclusive locational strategies: visibility, encounter, association and proximity.

First, barrows tend to be situated on ridges or elevated ground and therefore visibility tends to translate into views from below. A subtle use of topography is often employed to enhance visibility, frequently taking the form of false-cresting barrows (e.g. Woodward and Woodward 1989; McOmish *et al.* 2002, 43–8). Here, visibility may relate to views from lower-lying inhabited areas including settlements. This supposition was held over half a century ago by Sir Cyril Fox, when commenting on the Talbenny barrow, Pembrokeshire. Here he was convinced that the false-cresting was 'a matter carefully thought out, and the governing idea may have been that it should be seen on the skyline from the settlement of its builders' (Fox 1959, 59). This may be one reason why 'mounds often lie on elevated ridges, making each site highly visible; and there is also a tendency to false-cresting, which highlights the direction from which it was important to view the monument' (Field 1998, 316). Also, views looking up from routes or pathways running through lower ground could be an equally important concern in barrow placement (e.g. Watson 2001, 213; Tilley 2004; Johnson 2015, 264–5; Tilley *et al.* forthcoming). That 'barrow concentrations of the South Dorset Ridgeway and the Marlborough Downs around Avebury ... regularly follow ridges and crests as over much of Britain' (Healy 2012, 326), may relate as much to being seen when moving along pathways as from occupation sites.

Second, lines of barrows may have been more intimately and closely attached to adjacent pathways. Consequently, they would be experienced directly at close quarters and encountered in an ordered manner. This has equal application to their being alongside prominent routes through landscapes (Johnson 2015, 246–7), or more localised sequential movement through or alongside a linear cemetery (e.g. Garwood 2012, 307–9). This is often interpreted as enabling a recitation of genealogy via movement and progression, because 'the lines of barrows offered physical expressions of lineages and stages for the performance of those lineages' (Johnston 2021, 86). The internal architecture of barrow cemeteries 'might have been employed to evoke specific references to the past, indicating direct lines of mythical ancestors amongst whom the dead were to be placed' (Barrett 1990, 185; see also Garwood 2007).

Third, there is an association between barrow cemeteries and Neolithic monuments, the most well-known example being Stonehenge (e.g. Ashbee 1960, 33; Woodward and Woodward 1996; Tilley *et al.* forthcoming). In fact, barrows, singly and in cemeteries, concentrate around numerous other Late Neolithic henge monuments and stone circles (Woodward 2000, 94–6; Bradley 2007, 166–8), including the Ring of Brodgar (Chapter 8). Even when surrounding such monuments a form of layering can occur. For example, while the Winterbourne Stoke Crossroads cemetery is undoubtedly associated with Stonehenge, it is also aligned on and more intimately related to an earlier Neolithic long barrow (Tilley *et al.* forthcoming). Close association is not restricted to monuments, but traces of earlier habitation are frequently encountered sealed under barrows, including Bronze Age cairns in northern Britain (e.g. Shepherd 1996; Leivers *et al.* 2000, 193–4).

Fourth, close proximity to settlement and farmed landscapes tends to be a feature occurring relatively late in the period of barrow construction during the Middle Bronze Age. In some instances, particular localised barrows are selected for re-use, often in the form of cremation burials inserted into and around the mound (e.g. Barclay 2012, 325). As Ann Woodward states, 'in the Middle Bronze Age it can be demonstrated that settlement and burial become more intimately connected' (2000, 66).

Clearly these locational strategies are not mutually exclusive, but there does seem to be a chronological element in their prevalence, just as there are always spatial nuances and subtleties to the variable organisation of barrows in different cemeteries. In each case topography and ancient places provided the barrow builders with a series of *affordances* which could be exploited through choosing one locale over another (Tilley 2004, 202–3). From this broad-brush approach, and with these strategies in mind, it is worth now examining the three West Mainland barrow groups discussed above in more detail in order to draw out some of the differences and similarities.

Beginning with the line of four barrows near the summit of Vestra Fiold hill (Figs 6.36 and 6.37), the results of pollen analysis indicate that below was a functioning agricultural landscape with a range of subsistence practices (Wagner *et al.*: Appendix 22). The barrows are situated on the southern slope running from the summit in a highly visible position with extensive views that not only cover substantial areas of western Mainland, including Skaill Bay and Skara Brae, but also across the Atlantic Ocean to the west (Figs 6.39 and 6.58). It would seem, however, that it is to the south that this barrow location is directed, as a

group they are perfectly sky-lined when viewed from this direction (Fig. 6.37).

The affordances of these barrows are both extensive and potent; proximity to the long mound with its ancient associations (early fourth millennium cal BC carinated bowl: Richards *et al*. 2013b, 173–4) the megalithic quarry that lies below it to the south-west (Richards *et al.* 2013a), and a crematoria enclosure further south-west (Section 8.4.1). Further to the south lies the abandoned, but still visited, village of Skara Brae (Downes and Thomas 2013). Given their elevated and prominent false-crested location, these barrows plausibly date to the early second millennium cal BC (although no secure dating material was recovered). They were clearly sited to be associated with a range of significant Neolithic sites situated below to the south, the direction from which they are most visible.

The Varme Dale barrow group forms part of a series of barrow cemeteries running around the east, south and west of Gorseness and Hackland Hills (Fig. 6.1). In contrast to Vestra Fiold, the Varme Dale cemetery is more dispersed across the hillside (Figs 6.4 and 6.5), and its affordances are more direct. Several different strategies appear to be at work here, potentially running over a long period of time. In the absence of dating information for the Varme Dale barrows, apart from Mound 1, the likely development of the cemetery seems to incorporate a range of different strategies in barrow placement. The largest and probable founding barrow (Mound 8) was built high up on the south-western slopes of Varme Dale. As a consequence, it is by far the most visible of the group in being false-crested and clearly intended to be seen when viewed from lower ground to the south-west (Fig. 6.4). This is the only barrow in the group that is positioned to be visible on the skyline. The remaining five barrows are spread across the south-west slopes below Mound 8, and because of the enclosing topography these have a very confined and localised bearing. This is an intimate quality that is evident when visiting Varme Dale, despite seeming to have extensive sightlines (Fig. 6.59). The southern aspect of the hillside may be visible from as far away as across the Bay of Firth, but the barrows most certainly are not.

The downslope position of both Mound 1 and especially Mound 2, was clearly influenced by a desire to overlie Early

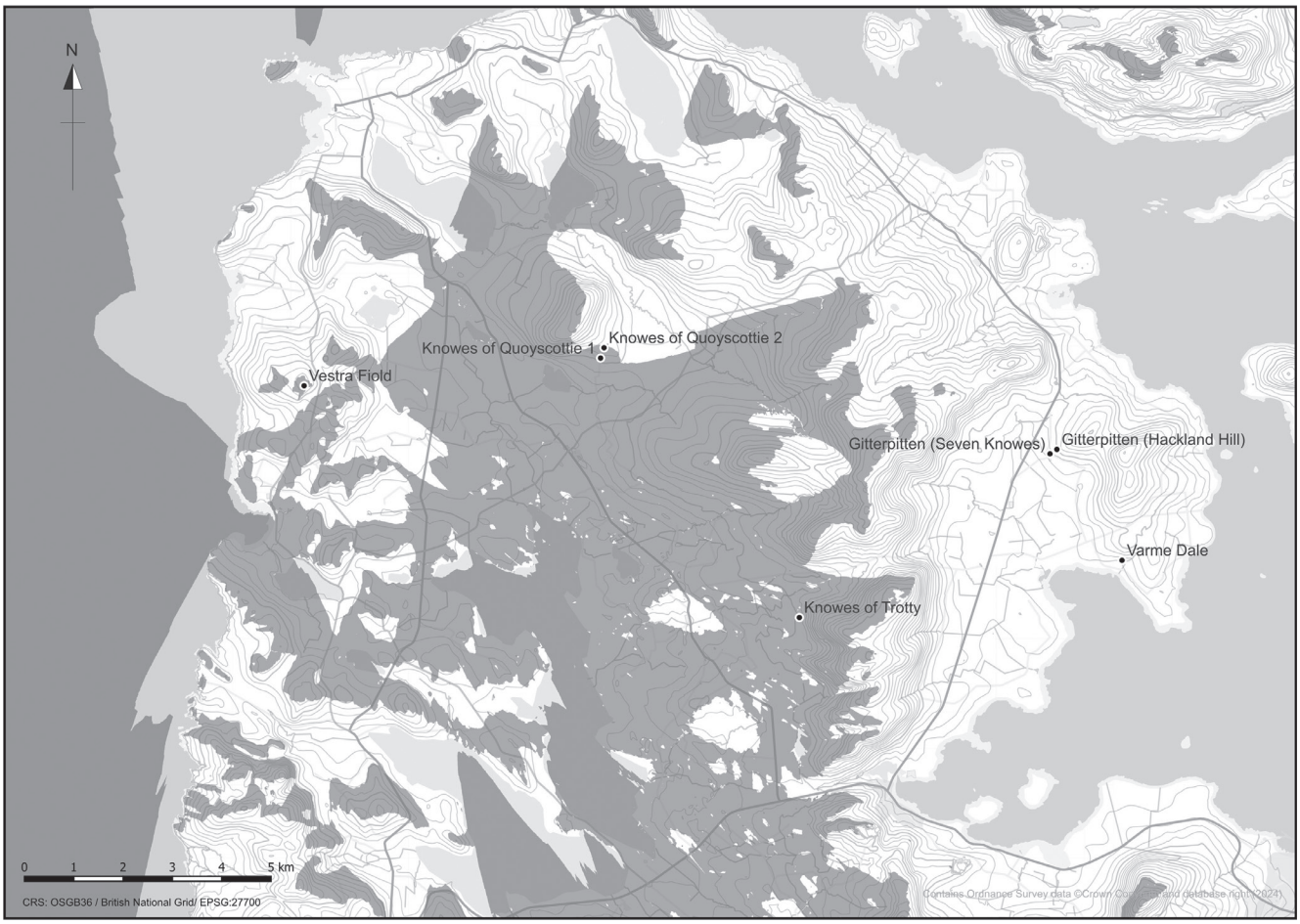


Fig. 6.58 Areas across western Mainland, from which Vestra Fiold mounds are potentially visible. Note that these mounds are clearly visible from the Atlantic Ocean to the west (Crane Begg).



Fig. 6.59 On the map, Varme Dale appears to have extensive views to the south and west, but this is illusory and only the higher Mound 8 can be seen sky-lined from the south-west, the remaining barrows, are only visible when viewed from a very restricted coastal area to the south (Crane Begg).

Neolithic occupation deposits (Section 6.2.3.1; Richards *et al.* 2016c, 230–2). When Mounds 1 and 2 were built, the earlier ruinous settlement would probably have been visible as a differently vegetated mound. In this respect it is interesting that Mound 2 which overlay rubble and deposits from the ancient settlement had a substantial masonry kerb, whereas Mound 1 c. 35m to the west, appeared to have no kerb. Clearly, some of the ruined masonry was redeployed as a kerb around Mound 2, making it wrapped and contained within an ancient materiality; the same may be true of the cist slabs as well.

It will not have escaped attention that the association of a barrow cemetery with Early Neolithic houses mirrors the situation at Knowes of Trotty (Section 4.3). This strategy of direct and material conjunction with a ruinous building from a past that was virtually 2000 years old when the barrows were built was discussed in Chapter 4 (Section 4.8.2). It is worth stressing once again that by the sixteenth and seventeenth centuries cal BC, the Orcadian landscape was littered with the ruins of Neolithic settlements and chambered cairns, many of which had been re-employed as sites for third and early second millennia cal BC cist burials.

Further downslope below Mounds 1, 2 and 8 lies Mound 4, which assumes a curious intermediate position on the hillside and appears quite isolated in being well over 150m away from the upslope barrows. Due to this barrow being unexcavated it is difficult to determine why this particular place was chosen, although it is quite possible that this is also a location of further Early Neolithic settlement, which would resemble the distribution of similar dated houses at Stonehall (Richards *et al.* 2016a). What can be stated is that in comparison to the siting of Mounds 1 and 2, this location was not selected for visibility.

Another small barrow, Mound 7, lies to the south-west on level ground at the foot of the slope, while c. 100m to the east are two closely set small barrows, Mounds 5 and 6 (Figs 6.4 and 6.5). The scale and close proximity of these pair of barrows are reminiscent of the lower barrow

groups at both Quoyscottie and Gitterpitten (see below). Just as with these sites, Mounds 5 and 6 at Varme Dale are only apparent at very close quarters, but their presence is signalled by the mounds sited further upslope, particularly large false-crested Mound 8.

Accepting the absence of a dating sequence at Varme Dale, we may be seeing a temporal shift in the spatial organisation of barrows as they run downslope. This is also consistent with their diminishing scale towards the bottom of the hillside, culminating in the lowest and smallest Mounds 5 and 6, being situated amongst what would surely have been the inhabited and worked land running along the coastline. This shift replicates the manner in which the dead are placed in closer proximity to the living in the latter half of the second millennium cal BC more broadly across the Britain Isles (Barrett *et al.*1991; Barnatt 1996b; 1999; Woodward 2000, 61; Owoc 2001, 201–3; Bender *et al.* 2007, Johnston 2021, 92–8). Bradley and Fraser consider if there was an even closer link between the living and dead where individual barrows 'could even have been built in the image of the house' (2010, 30). Whether this represents a strategy attached to land claims amidst heightening competition (Fleming 1998), perhaps establishing closer 'family' barrows (Barnatt 1996a, 52), is difficult to say. Nonetheless, this same pattern is replicated in a far more pronounced manner at both Gitterpitten (Section 6.3) and Quoyscottie (Fig. 6.61; Hedges 1977).

Like Varme Dale, the Seven Knowes of Gitterpitten were erected in open heather-rich scrubland, directly below the two Hackland Hill barrows. In 1929 the latter were reported to be large and well-defined (RCAMS 1946, 82). Unfortunately, this is no longer the case with the southern barrow being virtually flattened. Nonetheless, in the past these were substantial and highly visible mounds which were false-crested on the skyline when looking upslope over a long distance from the north-west and more closely from the south-west. However, both barrows completely lose that prominence when viewed directly from the west, the very position assumed by the lower Seven Knowes. Assuming the two larger and more visible Hackland barrows are of earlier



Fig. 6.60 The Seven Knowes of Gitterpitten appear to have extensive views and can be potentially seen over a long distance, however, this is illusory as they are small low mounds. However, their visibility would have been greatly enhanced if they were covered with pale sandstone slabs (Crane Begg).

date, they could be recognised as founder barrows. However, in this instance they are being used slightly differently by the builders of the Seven Knowes. In such a way that paradoxically emphasises both association and dissociation. This situation perhaps betrays a prohibition or restriction on a close association between the two discrete barrow groups, whilst at the same time promotes an affiliation through proximity. This situation is replicated at Quoyscottie where the closely associated group of four excavated barrows (Fig. 6.61), lie below the Knowes of Cuean (RCAMS 1946, 26–7) which are situated a distance upslope. Indeed, an attempt was made by Hedges to excavate one of the higher Knowes of Cuean, possibly a kerbed bell barrow, but after discovering a broken ard point on the kerb, the fieldwork was abandoned due to bad weather (Hedges 1977, 136).

Returning to Gitterpitten, the position and arrangement of the Seven Knowes are intriguing. The barrows are extremely closely set with Mounds 1, 2, and 7 virtually abutting (Fig. 6.18). They occupy a level shelf which continues for another c. 30m beyond the westernmost barrow before the ground falls sharply away. This is poor siting in terms of visibility since they are quite small barrows set back from a sharp break of slope c. 70m to the west. In this respect they are almost invisible when viewed from afar (Fig. 6.60), being further curtailed by a slightly rising ridge to the south. This low ridge places them out of sight of the Sandyhall or Sandyha' barrow cemetery, where just a single barrow now remains of a cemetery that once numbered at least six substantial mounds (Figs 1.7 and 6.1; RCAMS 1946, 82; Hedges 1980, 56–7).

When Melia Hedges (1977, 135) excavated the badly eroded Quoyscottie group of barrows (Fig. 6.61), she discovered that an unusual layer of stones had once capped Knowe 2. Given the degree of damage and truncation of the barrows, this stone capping may have been more prevalent and present on other mounds. During the excavations at Gitterpitten, a similar eroded and displaced layer of stone slabs was found partially capping the barrows. The presence of a stone capping was unexpected and difficult to interpret at both sites, but one consequence of barrows being covered in stones is that when dry they would have assumed a bright grey-white colouring. This would have substantially enhanced their visibility when viewed from afar. Exactly the same would have occurred at Quoyscottie which is in a similar topographic position (Fig. 6.62).

Each of the three barrow cemeteries examined in this chapter have a different spatial organisation and assume equally divergent landscape settings. The cemeteries at Varme Dale and the Seven Knowes of Gitterpitten include a greater number of barrows than at Vestra Fiold, which



Fig. 6.61 Quoyscottie barrow cemetery shares many similarities with Gitterpitten including being located on a flat shelf and set back from a sharp drop in slope (after Hedges 1977).



Fig. 6.62 Quoyscottie: whilst the barrows positioned upslope (also similar to Gitterpitten), are visible over a broad area the excavated group of barrows is not. This diagram shows the extent of visibility but, in reality, the lower grouping is difficult to see from just a few hundred metres, however, this would have been substantially enhanced if they appeared as 'white' stone-covered mounds (Crane Begg).

inclusively is situated in a false-crested position to be seen over long distances from the east, south and west (Fig. 6.58). This is also a feature of a single barrow at Varme Dale (Mound 8) and the pair of elevated barrows on Hackland Hill, each of which may have been founder barrows. The lower barrows at Varme Dale seem to be positioned for different reasons. Mound 2 is associated with an Early Neolithic house, whereas Mounds 5, 6 and 7 are situated down-slope in closer proximity to a functioning later second millennium cal BC agricultural landscape. As noted above, the Seven Knowes at Gitterpitten have a clear relationship with the Hackland Hill barrows yet maintain a degree of separation which is emphasised by their clustering together further down-slope on the natural platform.

Clearly, in this variation we are seeing the materialisation of two cross-cutting themes. First, in the sequence of construction, variation in spatial configurations of the Varme Dale and Gitterpitten barrow cemeteries betrays changing attitudes and relations with the past. This may be a manifestation of a divergence in what Johnston (2021, 81–7) nicely describes as 'kinwork'. This is basically the practical strategies deployed to create and recreate 'known' kinship networks through manipulating genealogy. In being strategic there is always a degree of anticipation that as cemeteries emerge as settings 'within which future burial rituals had to operate' the architecture and spatial organisation 'will evoke specific references to the past, indicating direct lines of mythical ancestors amongst whom the dead were to be placed' (Barrett 1990, 185).

Just to reinforce this point, the second theme involving strategies of association is also directed towards the deep past, for instance at Varme Dale the association of Mound 2 with an ancient and ruinous settlement is replicated at the Knowes of Trotty (Chapter 4). This is very different from Johnston's (2021, 81–7) notion of kinwork, because it is drawing on and incorporating an entirely mythical past, presumably to support claims to land and status. These different strategies will be discussed further in Chapter 8 in relation to exploring the broader social developments occurring through the second millennium cal BC.

7

Cremating the dead in Bronze Age Orkney

with contributions by D. Alldritt, M.J. Bunting S. Carter, A. Crone, A. Duffy, F. Forrester, J.I. McKinley, K. McSweeney, E. Photos-Jones, J.A. Roberts, R. Tipping and P. Wagner

> We need to find more creative ways to link the world of barrows erected in relationship to the dead with the worlds of the living. (Tilley 2004, 202)

7.1 Burning questions

One of the aims of this research project was to investigate cremation as rite of passage; to ascertain whether we can detect the spacing of events or rites surrounding death physically and temporally and thus determine whether primary and secondary mortuary rites were being performed, and to be able to speak of intangibles such as transformation, re-integration and social attitudes to death and the dead body. Rites of passage, and mortuary rites as transformation, still remain areas which require contextualisation in later prehistory. For instance, Fowler (2013) notes that 'transformation' is an understudied area in Chalcolithic and Early Bronze Age burial practices recognising the notable exception of Barrett (1990; 1994). Indeed, up until recently (e.g. Carr 2021), few archaeologists have sought to situate Bronze Age burial practices explicitly within the context of rites of passage and mortuary rites rather than simply funerary rites (see Barrett 1988; 1994; Chapman 1994; Parker Pearson 1999). However, questions of sequence and affect, with regard to the transformation of the body through the cremation process have recently been examined in detail by Sørensen and Rebay-Salisbury (2023). Here, three stages, not dissimilar to *rites de passage* are outlined of the treatment of the body in Bronze Age cremations throughout northern Europe. First, the period from death to cremation, second the cremation event and, finally, the treatment of the remains (Sørensen and Rebay-Salisbury 2023, 114). As they argue, this breakdown is pertinent in appreciating the potential concerns (with regard to the body) surrounding specific activities and how these are negotiated and addressed in different European contexts. In an Orcadian context, concerns and treatment of the body were identified in Chapters 4 and 5 as being generative in creating the spatial and temporal rhythms manifest in cemetery organisation and architecture (see particularly Section 4.8).

However, it is generally asserted that two-phase mortuary rites are common to almost all traditional societies (see Bloch and Parry 1982; Metcalf and Huntington 1991). The two phases can encompass either primary and secondary burial rites such as the interment of the corpse in Hindu Bali prior to its being exhumed for cremation, or a protracted series of ceremonies around a single burial rite, such as the individual Balinese cremation (described in Downes 1999a) where the deceased was cremated without being first interred. These rites permit a period of separation, or disaggregation, to be followed, after a transitional, liminal period, by re-integration, or re-installation, by which dual process the dangerous nature of the departed soul is made safe by its incorporation into the society of the dead, and the mourners rejoin everyday life. This also fractures the relationships constituting the person in life and, as discussed in Chapter 3, may result in mortuary strategies to mitigate this occurrence.

The time taken over the double funeral allows the community to adjust to the death of a member (Bloch and Parry 1982, 4), and beliefs in an afterlife that can mean there is an emphasis on the fate of the soul rather than the physical remains of the dead (see Downes 1999a; Carr 2021). Here, ancestors can reside or be commemorated in a number of ways and in locales in addition to, or other than, where the physical remains are deposited. The location of events in space and time involved in secondary burial rites was considered by Barrett (1988; 1994) and he contrasted the funeral

rites of inhumation and cremation. For Barrett the 'dead are created out of the treatment of the corpse, which in the case of inhumation involves its preparation, transportation to the grave, and deposition ...', the deposition or burial being the 'final act' which 'marked the place ... of death'. Cremation rituals are suggested to be differently structured, with the pyre itself serving to release the deceased from its 'mortal existence', thus initiating the rites of re-integration which were continued or completed at the disposal of the ashes (Barrett 1994, 116–9; Sørensen and Rebay-Salisbury 2023, 136–9).

Results from excavations at Cladh Hallan, South Uist have provided exceptional evidence for mummification, fragmentation and re-assembly of the body (Parker Pearson *et al.* 2005; Parker Pearson 2023) and this research has been pursued in further geographic contexts (e.g. Booth *et al.* 2015; Smith *et al.* 2016) and in the curation of human bone in Bronze Age Britain more generally (Brück and Booth 2022a). These findings highlight the common occurrence of the curation and storage of human remains and redeposition as well as manipulation, which permit a more nuanced understanding of primary and secondary burial rites and a recognition of rites being considerably more protracted and complex than hitherto thought (Smith *et al.* 2016). While these processes were identifiable in the unusual architecture of the accessible Orcadian cists of the third and early second millennia cal BC (see Chapters 3 and 8), they are more difficult to identify in cremation processes. However, the extent of cremation-related features and contexts in the Orkney barrow investigations detailed below provides further insights into the staging of rites and the treatment and manipulation of human remains.

After conducting a study of cremation in Bali (Downes 1999a), the question was posed about what would be recoverable archaeologically and given the complexity of the structured funerary events how such complexity could be identified in the context of Bronze Age mortuary rites. Accepting that in the majority of cases the dead body is washed and prepared within the confines of the house, subsequent storage in that context would be problematic and lead directly to the creation of an external place. In Chapter 3 the unobtrusive accessible cist was identified as such a context, and in Chapters 4 and 5 how the 'death houses' at Knowes of Trotty and Linga Fiold seem to have continued that role to some extent. If feasting took place at the cist or barrow cemetery, it may be visible through certain types of refuse or deposits. The 'ceremony' of cremation would entail the use of a pyre, the remains of which have rarely been subject to detailed recording and excavation, although McKinley (e.g. 1997a; 2013) has consistently called for the implementation of such field practices. Bronze Age cremation almost invariably seems to involve selection and sorting of the pyre remains before disposal, the traces of which may remain. Corpse disposal could be visible through a range of depositional circumstances, for instance, through formal burial, remnants on the pyre, those that remain at the place of sorting of the pyre debris, and those that may be removed elsewhere, for example to a domestic context (Brück 2001; Johnston 2021, 119–20). In the practice of inhumation, fewer stages in the journey of the corpse may be evident, but disarticulation and burial of partial remains can provide evidence relating to protracted rites.

In this respect, choreography can be considered both as the practice of designing the performance of the rite of passage and the steps and movements of that performance. Choreography in the figurative sense of the word as the planning and controlling of an event is the backdrop against and context within which the performance is set. If cremation is reflected upon as a cyclical exchange of substances, the close investigation of cremation technology, and of the nature and location of the deposition of the assemblages that cremation creates, adds depth and texture to interpretations of cremation rites.

The other area most frequently questioned around cremation is what is revealed about personhood and identity through the interment of cremated remains. In very few instances do the amounts of cremated bone recovered from Bronze Age contexts make up the expected average weight of a cremated body (cf. McKinley 1997a), and the relatively small amount of cremated bone found in Early Bronze Age burial contexts diminishes even further in the Middle Bronze Age (Becker 2014; Tellier 2015, 208; Caswell and Roberts 2018, 339; Brück 2019). The extremely high incidence of only a small proportion of a cremated body being recovered archaeologically has led to the term 'token' burial being used almost universally (cf. Peterson 1981; McKinley 1989; Boyle 1999; Parker Pearson 1999; Fowler 2004; Brück 2019, 28) to describe those cremation burials comprising small amounts of bone, 'a sample of the body being all that was necessary' (McKinley 1989, 71).

Although this approach is taken routinely, it has not been seen as unproblematic. McKinley expressed the dilemma and frustrations in studying cremation burials within this framework thus:

> If we are using the term 'burial' in its normal cemetery sense of a ritual deposit of human remains, we have to consider at what point a cremation burial becomes so small a 'token' as to not represent a 'burial' at all, particularly in deposits where other pyre debris is present and the inclusion of bone may have been accidental. Can one classify the deliberate collection and deposition of human bones seen in the majority of burials, in the same way as a feature which contains either ... a tablespoon or even a teaspoon-full of fragments, or … no bone at all? These features do not appear to represent the same category of 'burial'. (McKinley 1997b, 72)

As Chapman notes, 'the more complete the buried corpse, the more complete the statement about the deceased's social persona and the greater potential it provides for the

communication of social and cultural messages' (Chapman 2000b, 175). Within cremation burial studies, it has been suggested that greater quantities of cremated bone, or more complete bodies, within primary burials may demonstrate a greater amount of time expended on the collection of bone, reflecting a difference in status of those interred in primary burials (cf. McKinley 1997b). Indeed, there are real differences in the quantities of cremated bone found in primary and central secondary burials versus satellite, which is detailed and discussed below. The term 'token' could be said to adequately describe either primary, secondary or satellite burials deposits in the sense that the deposits are representative. However, it is possible to see the act, or practice, of the creation of the cremated materials as the generation or maintenance of an inalienable relationship between the technologists (the living) and the dead, as well as the non-human elements of the world. Under these circumstances, the concept of the cremated remains as fractal, coined by Chapman (2000b) as *pars pro toto* as opposed to 'token' is more appropriate.

There has been a shift in burial archaeology from an emphasis on individual humans as key actants and the status or identity of the individual being reflected in the form of burial rite and deposition, to more relational approaches. These seek to understand 'how personhood was constituted through…burials, not just for the deceased but relationally, among society'. Here, 'society' includes 'people, things, materials, practices, processes, beliefs' and non-human beings (see Fowler 2013, 98–102). It was the negotiation and maintenance of these relationships on the biological death of a person that was suggested in Chapter 3 to manifest itself in attempts to store the corpse in the unobtrusive accessible cist, and in doing so interrupt the mortuary process. In subsequent Chapters 4–6, the process of cremation occurring mainly within cemeteries was argued to be due to establishing a different relational context, as an ontological consequence of 'cremation transforming the human nature of the dead' (Johnston 2021, 97).

In this chapter cremation funerary rites, funerary architecture and newly created materialities are examined in greater detail as a result of the extraordinary and detailed evidence recovered from the barrow cemeteries, mainly Linga Fiold (Chapter 5). In his paper on agency and the archaeological record, Barrett proposes that 'a theory of practice must understand the materiality of that practice in order to explore how that materiality is engaged in the very structuring of practice' (Barrett 2001, 153). The cremation process would seem to offer great potential to realise the desired 'theory of practice', not least as it is necessarily highly structured through time and space and that each stage involves a transmutation of materials.

This leads to an approach that recognises the material transforms and generative qualities involved in the *rites de passage* triggered by a death, followed as a journey taken by both the corpse and the living and usefully addressed as *chaîne opératoire* by Sørensen and Rebay-Salisbury (2023, 125–42). Archaeologically, if we perceive mortuary rites as a sphere of practice, either *rites de passage* or *chaîne opératoire*, with tasks potentially widely spaced both temporally and geographically, we significantly broaden our horizons and the possibilities for a better understanding of not only how society reproduces itself through burial rites, but also how important the relational person and material body is to this constitution. In particular, an emphasis on the fluidity and flow of substances and the creation of materials within the cremation process can facilitate an understanding of how the world is socially and ontologically ordered and re-ordered through mortuary practices.

The funeral pyre is the focus of the first section of this chapter: how pyres were fuelled, and details on cremation technology and treatment of the body, revealing the choreography of cremation. A consideration of the identification of 'burials' at Linga Fiold (Chapter 5) is then undertaken and then the analysis of the range of contents of all the features to examine what is actually being 'buried'. Data from Linga Fiold will be compared with that from other Orkney barrow groups (see Chapters 4 and 6) where many features containing cremated bone and pyre debris were found. Thus, analysis encompasses the wider range of materials that are cremated and that are also buried or incorporated – into cists, pits, barrows, or perhaps unobtrusive cists or chambered cairns. Burnt bone, glassy cramp, burnt turf, charcoal and ash, burnt soil, fragmented pottery, all afford numerous possibilities for either assemblage or disaggregation, mixing or separating. The process of cremation created new materials and substances and afforded different possibilities for their deployment.

7.2 The identification of pyre sites

with S. Carter and J.I. McKinley

This section focuses on the pyre, on the evidence for its form and nature, the technology employed and on the resources utilised in the process of cremation in Bronze Age Orkney. The evidence for cremation technology is drawn from the pyre sites, at Linga Fiold (Chapter 5) and the Knowes of Trotty (Chapter 4), and from the cremated remains recovered from the cists, pits and other contexts at all the Orkney Barrows Project sites (Chapters 3 and 6). It is necessary to introduce 'the pyre' at this point because it is not possible to discuss burial, or funerary architecture, without reference to the pyre, since the remains of the pyre are founding constituents of both the burial and the funerary architecture, and landscape.

Pyre sites have been found on a number of occasions elsewhere, where they have been protected by barrow mounds. The majority of these in England were excavated before modern recording techniques had developed. Ashbee

(1960, 58) summarises the evidence at that point, and while some barrows covered extensive pyre sites – reddened areas surrounded by wood ash and charcoal and in some instances with thick deposits of charcoal – he also notes that traces of more modest fires represented by 'roughly circular patches of burnt earth and charcoal' have been found beneath barrows in Wessex, Yorkshire and Derbyshire. In Caswell and Roberts's study of Middle Bronze Age cemeteries in Britain, they observe that, within the 3133 cremation burials included there are just 32 pyre sites, and these are 'invariably simple spreads of ash and charcoal, which show no signs of cleaning beyond the collection of human remains' (Caswell and Roberts 2018, 339). With notable examples from Scotland, such as at Sketewan (Mercer and Midgely 1997) and some Perthshire stone circles such as Monzie (Ritchie and MacLaren 1973), again protected by mounds, and Cladh Hallan flat cemetery (Parker Pearson *et al.* 2021), there has not been extensive evidence for pyre sites. The assemblage of pyre sites at Linga Fiold is therefore highly significant in increasing understanding of cremation technology in the Orcadian context, and with wider applications. As will be seen this challenges certain assumptions, for example, that bodies were usually burned intact, and lying supine (cf. Rebay-Salisbury 2010), and that the 'principle of least effort' affected the retrieval of burnt bone from the pyre.

A number of questions were asked during the excavation and post-excavation analysis of pyre sites:

1. what is the form and nature of the pyre – how it is built and how it is fuelled?
2. what is the disposition and role of the body?
3. is the pyre tended – is there manipulation of the body and fire during cremation?
4. what are the residues created?
5. what is the nature of post-cremation activities?

In order to explore the possible presence of evidence of cremation-related activities at Orcadian barrow cemeteries, geophysical survey was employed over a wide area at all sites; of interest here are Linga Fiold (Chapter 5), Gitterpitten (Section 6.3), Varme Dale (Section 6.2), Vestra Fiold (Section 6.4) and the Knowes of Trotty (Chapter 4). The aim of the surveys was to locate features associated with the burial mounds which were not visible from the surface. It was anticipated that remains associated with cremation would be most easily detectable by magnetometry and to that end Fluxgate Gradiometer survey was undertaken at 1m increments across and between the barrows and in an extensive area around the sites.

Although a wide area was covered by gradiometer survey, burials, pyre sites and pyre debris dumps were found at Linga Fiold to cluster closely around, underneath and upon the barrows themselves. A more exhaustive examination of geophysical anomalies was possible at Linga Fiold, whereas at the Knowes of Trotty a very small sample of the many anomalies were examined (Chapter 4), including a single, but extensive, pyre site located on the summit of a glacial mound (Section 4.7; Figs 4.41–4.43). The barrow cemeteries of Gitterpitten, Varme Dale and Vestra Fiold (Chapter 6) were also subjected to gradiometer survey and, although burial features were found outside and between the barrows at Gitterpitten, no magnetic anomalies (pyre sites) were identified (Section 6.3). At unobtrusive cist sites (Chapter 3) conditions of discovery and excavation were such that surrounding areas were not subject to geophysical survey or wider investigation, but the recovery of cramp from, for example, Sandfiold, Sandwick (identified as fuel ash slag (FAS) in Dalland 1999, 382), and Kewing, Rendall (Fig. 3.45; Section 3.4) indicates that pyre sites were located close to the cists. In the case of Kewing a large mass of cramp had been placed in the cist hot and as a result when cooling had formed in the shape of the inside of the cist, indicating the pyre had been very close to the cist (Ballin-Smith 2014, 135).

At Linga Fiold, the strategy of utilising geophysical magnetometry survey across the whole barrow cemetery (Chapter 5) and targeting excavation on the anomalies indicating burnt sediments or deposits resulted in the finding of a remarkable selection of pyre sites at Mounds 5, 6, and 7. Their location was restricted to being either underneath, or on the surface of (and at the edge) of the barrows, rather than at any distance from, or in between, the mounds. This distribution is treated as accurate, although there remains a possibility that other unprotected pyre sites could have been destroyed by episodes of ploughing.

Overall, some variation was seen in the way the pyres were formed, either as surface spreads of burning and ash or as shallow pits. There were also differences in the manner in which pyre sites were subsequently 'processed' in terms of the degree to which human remains and other parts of the cremation residues were taken away or left *in situ*. This ranged from the pyre situated under Mound 5 from which all forms of pyre debris including burnt soil had been collected and 're-ordered' in the constitution of the burial and burial mound (Section 5.7.1; Downes 2009), to the almost intact pyre which had been smothered by the layers of soil used to construct Mound 7 (Section 5.9.2). The usage of pyre sites varied too from a single event, as with the two aforementioned pyres, to successive pyre sites as seen along the south-east side of Mound 5 (Figs 5.32; 5.35 and 7.1), to the much larger multiple-use pyre site discovered at the Knowes of Trotty on the summit of one of the glacial drumlins (Chapter 4).

Some of the pyre sites at Linga Fiold were obvious as they were very well preserved and were relatively intact. However, because few Bronze Age pyre sites have been excavated in Britain, and none had been found previously in Orkney, it was difficult at the outset to distinguish between



Fig. 7.1 Linga Fiold, Mound 5, showing south-east quadrant partially excavated, with dark spreads of pyre site (492), (160), box (165), pyre sites (171/156/158/159) and (152/172) (left to right). Mound 7 is visible in background.

features, particularly between *in situ* pyre sites, pyre debris dumps where material had been moved from the pyre and redeposited, and 'burials' within shallow cuts similar to pyre site features (see Fig. 5.61). Pyre debris dumps had been characterised as pyre debris disposed in a range of contexts, for instance, surface spread, pit, cist, ditch and so forth (Mckinley: Appendix 1). Such dumps contrasted with burial deposits where the bone, and other pyre debris notably cramp, was deliberately collected separately for deposition. However, at Linga Fiold there was a range of deposits of, or contexts for, not just cremated bone but also pyre debris such as charred plant remains, cramp, burnt turf and burnt soil, as well as pottery in some instances (Table 7.1). These comprised *in situ* pyres, pyre debris dumps seen as surface spreads of pyre debris (possibly discarded as part of the process of sorting pyre debris), as well as 'burials' within cists and pits. Burials were sometimes constituted of all the above elements, not solely cremated bone, in a range of permutations. During excavation, extensive use was made of magnetic susceptibility to distinguish between burnt *in situ* pyre sites and surface pyre debris dumps, as it was in some instances not easy to distinguish one from the other.

The most immediately obvious pyre sites at Linga Fiold were those features for which there were high magnetic susceptibility readings over sub-rectangular areas of dense, burnt organic material. These were of variable size, some being as little as c. 1m², but normally with a clear penetration of the underlying surface up to 0.10m in depth. Pyre sites at Linga Fiold were investigated and analysed in such a way that the structure of the pyre and fuel could be ascertained. Also, this enabled any tending or manipulation of the pyre during cremation to be identified and how the remains were dealt with after the pyre had extinguished. Vertical and horizontal distribution of the cremated bone was given close consideration to determine instances of the ordered deposition that may be expected on an uncleared and undisturbed pyre site. Methodologically this was achieved with pyres being gridded and excavated in spits, for example, pyre (152) at Mound 5 (see Figs 5.30 and 5.35).

Further to this collection method, during post-excavation the identification of presumed pyre sites was tested through soil micromorphology thin section (see also Carter: Appendix 23). Examples include presumed pyres (347/455) underneath Mound 7 (Figs 7.2 and 5.61) and (471/472)

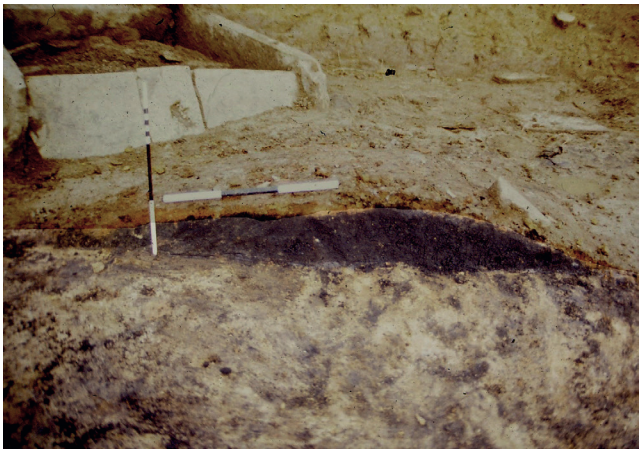


Fig. 7.2 Linga Fiold, Mound 7: pyre (347/455) half-sectioned and cist (346).

under the edge of Mound 2 (Fig. 5.11). The analysis proved instructive not only for interpreting those features, but the results obtained could be extrapolated to a certain extent to other features in distinguishing between pyre sites and pyre debris dumps.

At Mound 7, soil micromorphology sample [311] was taken through the ash and burnt material (347) proved almost entirely homogeneous (see Section 5.9.2; Figs 5.57 and 5.61), comprising fine ash, carbonised 'peat' (organic sediment, see below), and cramp. This feature is confidently interpreted as the well-preserved, oxidised remains of an *in situ* pyre.

Micromorphology sample [386] was taken at Mound 2 through the base of the pyre material (471), and the top of the underlying soil profile (472) (Sections 5.5; 5.13.1; Fig. 5.11; Table 5.3). The pyre sediment was dominated by carbonised organic sediment, with cremated bone and slag in a matrix of finely mixed, oxidised and reduced ash. The underlying soil profile had three distinctive features. First, the profile was found to be extremely well preserved with a distinct surface organic layer, 2–4 mm thick. The presence and condition of this organic layer means that context (471) is not an *in situ* pyre site (see Table 5.3). This is because the organic layer would have showed signs of burning and disturbance, and the debris is an intimate mix of oxidised and reduced components of a fire that would not have existed in a burning pyre, hence, demonstrating the debris must have been mixed after the event. The soil beneath the intact surface organic layer contained fragments of cramp which cannot have derived from the pyre debris dump (471) and therefore must relate to an earlier cremation event (Carter: Appendix 23).

Employing the above analysis together with a closer consideration of the contextual information and other post-excavation analyses of the cremated human bone, cramp and charred plant remains, enabled a re-evaluation of the initially identified pyre sites (in McKinley: Appendix 1). This exercise resulted in the recognition of two types of pyre sites at Linga Fiold: pyres set on the ground surface and those set in shallow cuts (Table 7.1).

Table 7.1 Linga Fiold cemetery: in situ *pyre types set in different positions.*

Mound	*Pyres on ground surface*	*Pyres in shallow cuts*	*Total*
5	(152), (156/8), (159), (160)	(492)	5
6	(144/147)		1
7	(195), (245), (459), (347/455)	(331), (194), (281), (452)	8

It will be instantly noticed that Mound 7 stands out in having eight identified pyres, followed by Mound 5 which has six. The pyres set on the ground surface were either heaped or flat surface spreads, with very little structural evidence associated. Pyre site (347/455) underneath Mound 7 was the best preserved (Figs 5.61 and 7.2). In being placed on the ground surface, the pyre survived as a sub-circular heap of black, charred organic material (455) which was a maximum of 0.10m thick at its centre, covered by a red, oxidised layer 0.05m thick, containing burnt bone. This feature measured c. 1.08 × 1.05m and contained the cremated remains of an adult, possibly female, in contrast to the cremated remains of a child in the adjacent stone box arrangement (Section 5.9.2; Table 5.27). It was clear that the pyre was still hot when the mound material was piled over it causing the bright red oxidised surface (347) to form over the black charred material. A substantial charred branch of alder wood was found within the black ash (455) (Table 7.2). The dimension, depth and order of deposition of cremated bone and pyre debris were similar to that observed in experimental work (McKinley 1997a).

Pyre site (152) (Figs 5.29 and 5.32), situated on the south-east edge of Mound 5, was like pyre (347/455) in that its lower part comprised a dark grey layer (172) and its upper part was a bright red clay soil, maximum thickness c. 0.08m (Section 5.7.1). As in the case of (347/455) it was on or in the bright red upper layer that most of the cremated bones were located. This indicates that this pyre too remained relatively undisturbed, despite its position at the edge of the mound. The lower part of this pyre site was of similar dimensions to the Mound 7 example (c. 1.0 × 1.0m), whereas the top part was more elongated and irregularly shaped (c. 1.25 × 1.0m). There were probably two individuals burnt on this pyre as the remains of an adult (possibly female) and likely immature individual were found within the overall pyre matrix (Table 7.2).

The pyre situated on the surface of the primary Mound 6 also had an upper, red clay component (144) and lower

Table 7.2 Linga Fiold pyre sites: detail of pyre debris and cremated human bone per context.

Feature/ mound	*Fill/layer/ [Sample]*	*Cramp/fuel ash slag (g)*	*Charcoal (g)*	*Burnt turf (g)*	*Bone (g)*	*No. ind.*	*Age*	*Sex*	*Burnt clay & pottery*
				Feature Mound 5					
152	152[90]		1.0	3.4	280.8	?2	Young/mature adult +??imm.	??female	
152/172	172 [168]	observed	0.2						
156/158	156 [80]	19.7	14.5 0.15 *Alnus*, 0.4 indet.		21		Subadult/adult		Pot: 10 sherds
158/156	158 [92]		1.8 *Alnus*		0.5				Pot: 1 sherd
171/156/158	171 [167]	76	0.1	0.4					
160	160 [127]	1.7	Observed		19.7		Subadult/adult		Pot: 6 sherds
159/165	159 [88]	0.1	2.5		76.2		Subadult/adult		
165	157 [130]	0.2 > 4mm	Negligible	36.5 > 4mm	4.4		?		
492	175 [172]	23.7	5.9 *Corylus*, 0.3 *Betula*, 1.5 indet. 2.8 *Corylus*	28.4	37.4		Subadult/adult		
				Feature Mound 6					
144	144 [136]	0.3	Observed		8.9	2	1) older infant		
	[137]	4.4	<0.1	3.5	21.5		2) adult		
	[138]	0.8	Observed	14.3	21				
	[140] [141]	1.1	Negligible	10.9	13.4				
		1.5	Observed	7.9	8 =72.8				
147	147 [145]	18.2	0.1		1.1				
				Feature Mound 7					
195	321	35.8	Observed		4.3		Subadult/adult	??female	
	321	56.3 > 4mm	Obsserved	19.7	103.2				
	321	54.7 > 4mm		1.6	21.5				
	322		Obsserved		66.8 = 195.8				
245	245 [216]	0.1	0.1		0.4		?		
347/455	[306]	1.6 2.6	78 *Alnus*	16.7	111.6		Older mature/ older adult	??female	
	[312]		29.4 *?Alnus*	19.8	62.6				
	[313]			5.3	15.4				37g burnt clay
	[314]			53	73				2.1g burnt clay
	[315]				6.2				
	[316]	0.4			13.9				
	[317]	3.1	Observed		13				130.7g burntt clay
				17	=296				
194	231 [97]	[97] 31.9	0.1	Observed	0.1				
	[98]	[98] 50	Observed	3.9	2.1				
	[99]	[99] 61.5		22.1	3.6 = 5.8				
281	282 [117]	Observed	0.05 unid.	Observed	8.5				
	[119]	7.9			5.0				
	[122]	0.5		34.4	4.6 = 18.1				
331	324 [227]	1.1	Observed	3.6	37.2				3.0g burnt clay
	[228]			3.0					
452	451 [257]	27.7	Observed		2.5				

black charred material (147) (Fig. 5.42). It was also similar in size to the pyre sites described above in being c. 1.0 × 0.7m. The cremated remains of two individuals were on this pyre site, an adult and an older infant, and it is likely that these are the same two individuals contained in the adjoining cist (129).

In all the examples of pyres where the lower unoxidised and the upper oxidised parts survived, most of the cremated bone was recovered from the upper levels. The soil texture of the well-preserved pyre sites was very soft, demonstrating the fragility of pyre remains. For example, if pyre (347/455) had not been protected by the Mound 7 material it would have been easily accidentally dispersed in antiquity or have been eroded away since by post-depositional processes, particularly ploughing. The discovery and excavation of the well-preserved pyre sites gave a good indication of the presence of other, less well-preserved examples. In the latter instances, all that remained was a lower, dense black charred layer, either as a thin lens or a smear depending on the level of truncation and containing little burnt bone. In an example of another pyre, at Monzie, Perthshire, which survived by being covered by the burial mound, the pyre comprised a black layer containing much burnt bone and charcoal, which had a red crust above and below it (Ritchie and MacLaren 1973).

In two instances, at Mound 5 pyres (171) and (158/156/160) (Fig. 7.4) and Mound 7 (195) (Fig 5.66), the lower part of the pyre site was a dark grey, greasy clay and the upper part (321) comprised thicker, softer dense charred material. These pyre sites were relatively well preserved and represent the lowest parts of the pyre, and perhaps even the intact upper parts which had not been oxidised quite as red as in other cases. The basal layer (158) of the complex of pyre sites south-east of Mound 5 was completely vitrified being crisp and bubbly in appearance (Section 5.7.2; Fig. 7.4). Once again, cremated bone was only recovered from the upper ashy deposit, not from the more extensive lower ash. A comparatively large amount of burnt bone (195.8g) was recovered from Mound 7 pyre (195/321), with much less from Mound 5 pyre deposits (156/158) and (160), being 21.5g and 19.7g respectively (Table 7.1). In the example of the pyre material (159) in stone-lined box 165) at Mound 5, the upper red oxidised material overlay a much darker ashy material, and yet again the quantity of cremated bone from the upper surface of the pyre (76.2g) was much greater than the 4.4g from the lower (Section 5.7.2).

This adds to the picture of burnt bone only being present in any quantity in the upper parts of the pyre, seemingly surviving *in situ* where it has not been picked out for removal and redeposition. Conversely, where pyres had their upper surfaces truncated, for example pyre (459) situated underneath the paved floor of the mortuary building Structure 1 north of Mound 7, only 3.6g of cremated bone was recovered from a thin spread of black charred material. Equally, the upper surface of Mound 7 pyre site (245) was truncated resulting in only 0.4g of burnt bone being recovered (Figs 5.67 and 7.3).

Overall, there were few remains of structural elements to the pyres. For instance, there were no post-holes associated with any of the pyre sites which suggests an absence of a substantial frame or superstructure to contain or support the body and fuel. Stone slabs were, however, present at several of the pyre sites, at Mound 5 pyres (492) (Fig. 5.30), (171 and 158) (Fig. 7.4), at Mound 6 pyre (144) (Fig. 5.47), at Mound 7 pyres (195/321) (Fig. 7.3), (347/455) (Figs 5.61 and 7.2) and (245) (Figs 5.67 and 7.3). The pyre site (195/321) at Mound 7 was defined and partially bounded by irregular medium-sized flat stones (Figs 5.65 and 7.3). These were only one course high and did not seem to form a structural component of the pyre. But the slabs could have been laid to consolidate the area of activity around the sides of the pyre as seems to be the function at most of the other pyre sites. Mound 7 pyre (245) lay over some medium sized irregular flat heat-affected slabs (Fig. 7.3), which could have been laid as a stone base to the pyre. The much larger pyre site at the Knowes of Trotty also had flat slabs as its base (Section 4.7; Figs 4.41–3).

As identified earlier, in addition to the pyres which are flat surface features, the other type of pyre site at Linga Fiold is represented by shallow, sub-square/sub-rectangular cuts, sometimes lined or partially lined with small stones (Table 7.1). At a general level, pyre pits are not uncommon and have a broad distribution across northern Europe (see Sørensen and Rebay-Salisbury 2023, 127–8). Perhaps the most unusual feature associated with a pyre is at Mound 5 where a small deep, square, stone-lined cut (165), measuring c. 0.35 × 0.37m, and 0.28m deep, was filled with bright orange oxidised pyre material (159). This deposit contained 76.2g of cremated bone (Fig. 7.4; Table 7.2). Despite the clear evidence of *in situ* burning, the small size of this stone-lined pit prohibits it being a pyre *per se*.

There are several other larger cuts which can be identified as pyre sites, for example, the shallow rectangular flat-based pit (331) measuring c. 0.70 × 0.60m at Mound 7; also at Mound 7 is a sub-rectangular pit (281) c. 0.58 × 0.45m, 0.13m deep and a sub-rectangular pit (194) with a small upright stone either end running into the section (Fig. 7.5). Finally, there is a sub-rectangular cut (492/175), c. 0.90 × 0.50m, and c. 0.05–0.15m deep at Mound 5 (Fig. 5.30; Table 7.2).

All these features had high magnetic susceptibility readings, as did the circular round-bottomed pit (452) central to Mound 29 (Fig. 7.5). Although different in form to the other squared flat-bottomed sunken pyre sites, this is also a possible pyre site (Section 5.9.1).

Beyond Orkney, some of the features discovered underneath Bronze Age barrows that Ashbee terms (1960) 'ritual pits' may well represent the remains of this form of pyre

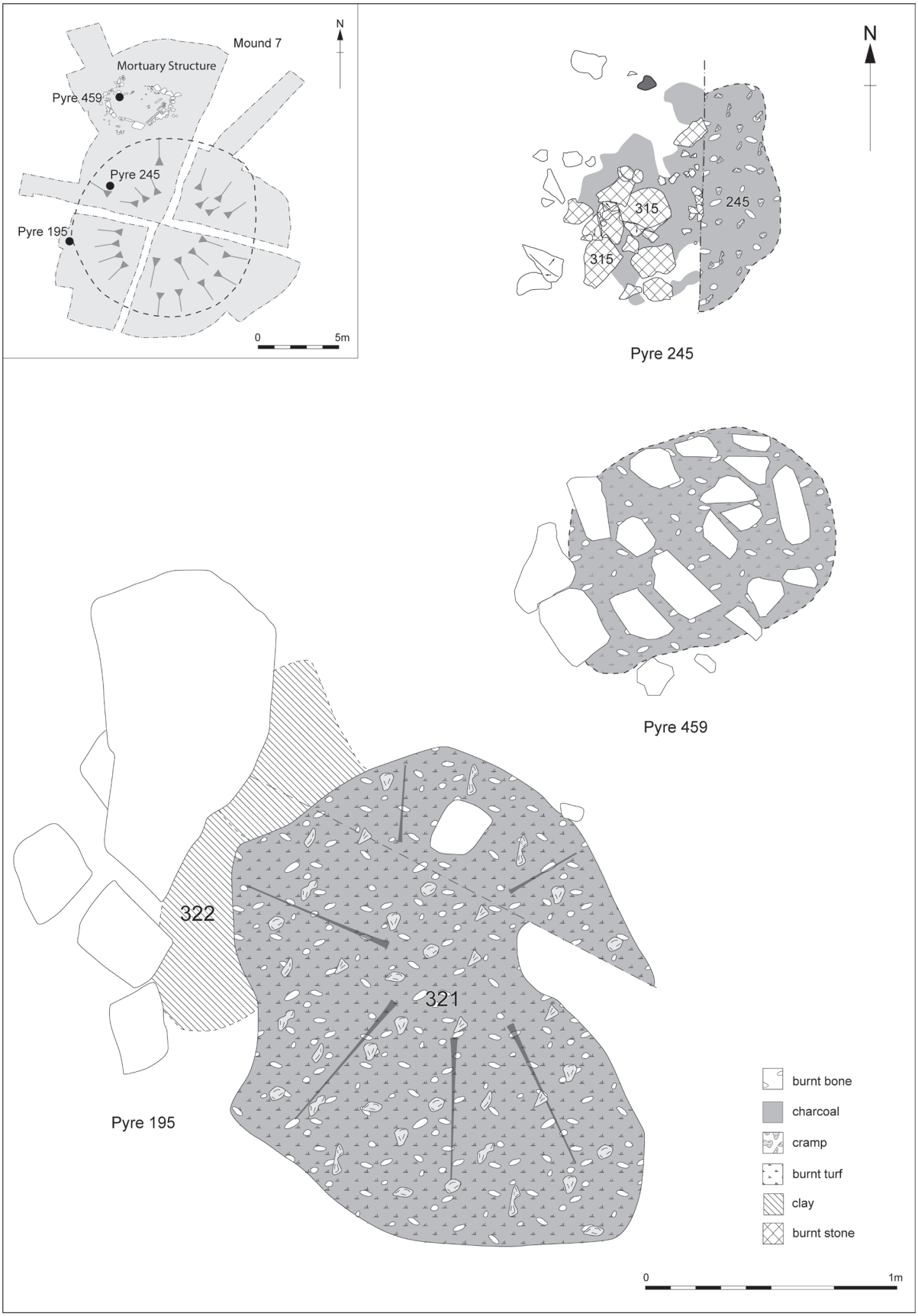


Fig. 7.3 Linga Fiold, Mound 7: pyre sites (459), (245) and (195).

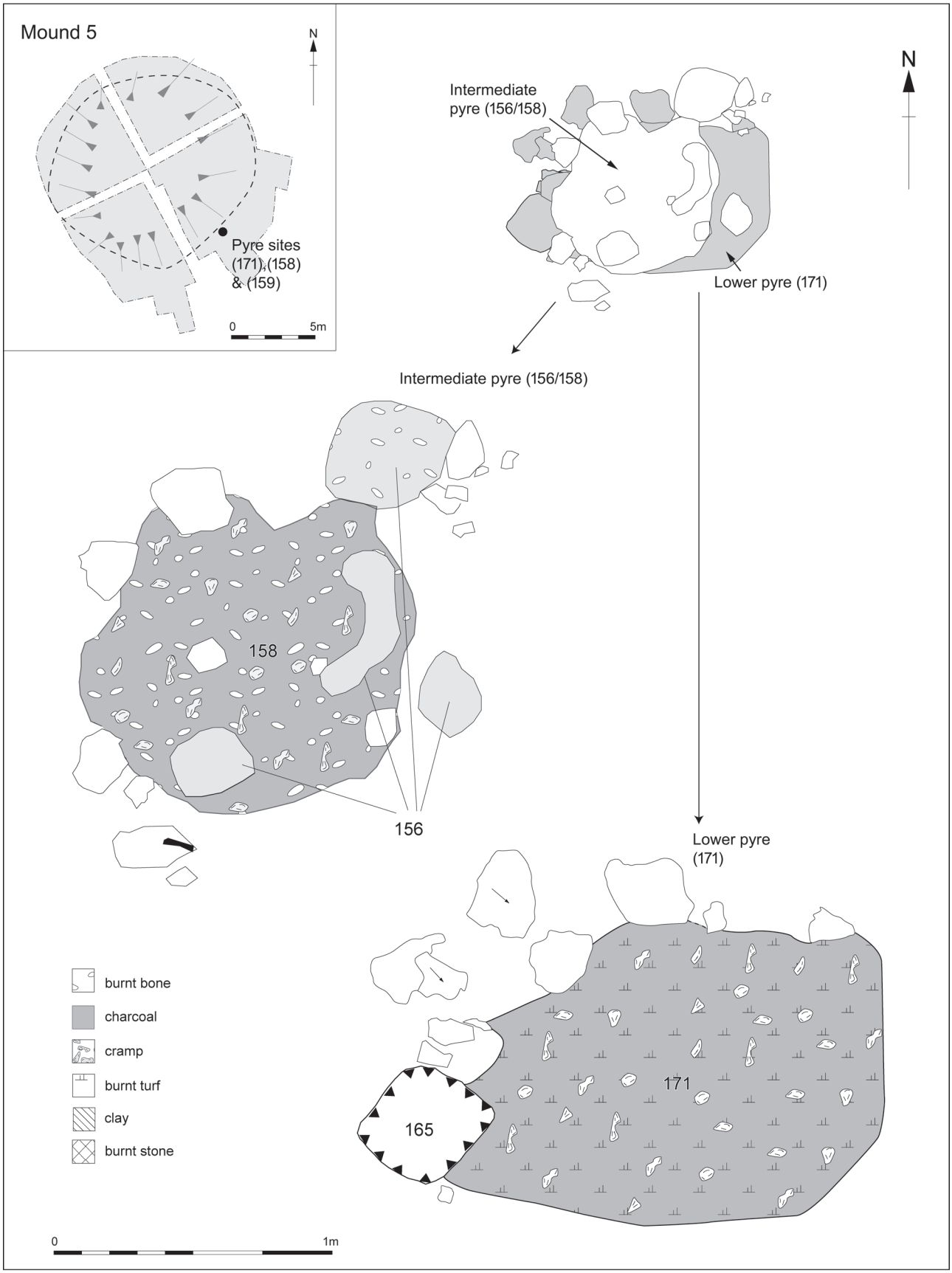


Fig. 7.4 Linga Fiold, Mound 5: superimposed pyre sites (171), (156/158) and box (165).

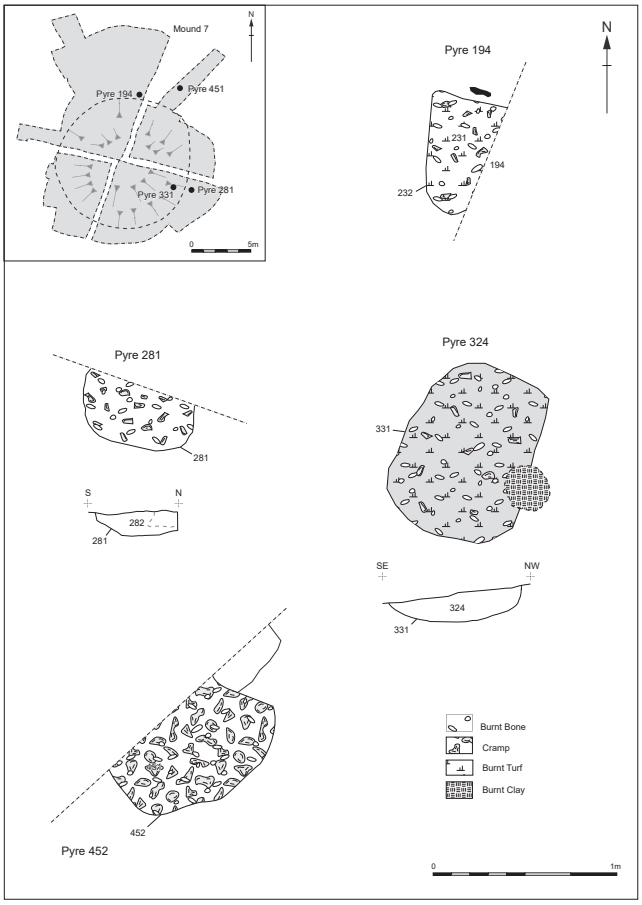


Fig. 7.5 Linga Fiold, Mound 7: pyre sites (281), (452), (194) and (331).

site. An example very similar to the features at Linga Fiold which Ashbee includes in this category of ritual pits is that found underneath Tregulland Barrow, Cornwall. Like the Linga Fiold Mound 29, this pit is relatively shallow (c. 0.30m) and is a similar shape and size in plan (c. 1.25 × 1.15m). The Tregulland pit is described as having had fires in it with the bottom of the pit exhibiting reddening and sintering, and large quantities of charcoal (Ashbee 1960, 52).

In the excavations on the A27 Westhampnett Bypass, West Sussex, many pyre sites and pyre-related features were found. Although this site is not comparable in date, as these were Iron Age pyres, it is a singular example of a later prehistoric site in Britain where such a great amount of evidence for cremation practices had been found. Here, pyre sites were defined by shallow negative features in the shape of X, Y or T-shaped cuts which are thought to have been flues underneath the pyres (McKinley 1997b, 18). In the site report the authors note the problems inherent in identifying pyre sites, in that features with other functions and origins may erroneously be included in the pyre category, and that the contents of the features are not a guide because pyre debris can be present in a whole range of features (Fitzpatrick and Powell 1997). Notably, in addition to the particular shaped features at Westhampnett, there were also some cut features similar to those noted above as possible pyre sites at Linga Fiold, for example feature (20130) which comprised a sub-rectangular steep-sided cut 1.0m square and 0.40m deep (Fitzpatrick and Powell 1997, 24).

The partially investigated pyre site at Knowes of Trotty Trench G (Section 4.7, Figs 4.41–4.43) was a much bigger feature, measuring c. 4.0m diameter, but was also a shallow cut, c. 0.40m deep. The extreme heat affected, vitrified nature of the stone and the sizeable quantities of cramp coupled with the larger size of the Knowes of Trotty pyre (Section 4.7) suggest that this site was more properly a crematorium which saw more repeated usage over a longer period than the pyre sites identified at Linga Fiold. Rough elements of paving were encountered around its edge.

A substantial pyre site at Sketewan, Perthshire, was discovered underneath a ring cairn, and comprised a large c. 5 × 3.5m spread of ash. The scale of this pyre is similar to that at the Knowes of Trotty and it too had a stone platform setting which had been heavily fired by repeated pyres having been set (Mercer and Midgely 1997). It was suggested by Mercer and Midgely that this platform had timbers (mostly alder in this case) laid upon the stones in the face of the prevailing north-west wind creating a 'healthy draught' at the bottom of the pyres (1997, 292). The much smaller pyre site at Cladh Hallan (Parker Pearson *et al.* 2021) also comprised a platform of closely placed stones.

As will be discussed in the following chapter, it is difficult to know at what date in the second millennium cal BC the large cremation enclosures at Vestra Fiold and Hundland Hill were in operation, but both are situated on elevated ground. Likewise, the positioning of the pyres on the hillside and slopes of barrows at Linga Fiold, and on the drumlin at the Knowes of Trotty, would have served the dual purpose of catching the wind and of making the pyres more visibly spectacular, both to participants at the cemetery and those viewing from further afield.

In order to understand more about pyre technology itself, especially how the pyres were fuelled, temperatures achieved and residues created, a comprehensive programme of post-excavation analysis of charred plant remains, fuels ash slags (notably cramp) and sediments and cremated bone was undertaken. This also allowed any manipulation or pre-treatment of the body to be examined.

7.3 Pyre technology

7.3.1 Disposition of bone on pyre sites and efficiency of cremation: Linga Fiold

with J.I. McKinley

At the Linga Fiold pyres close attention was given to the horizontal and vertical distribution of cremated bone at the

pyre sites where preservation and excavation techniques permitted. The premise worked from was that when a body is placed on top of a pyre, the pyre will collapse during the burning process, but the body will remain on top of the pyre debris. It would be expected that at the conclusion of the event the cremated bones would remain in approximately correct anatomical order on an undisturbed pyre site. Horizontal movement of the bone might occur if the pyre was tended (e.g. to re-oxygenate) and could also be caused by post-cremation disturbance when collecting burnt skeletal remains. Vertical movement of cremated bones should not be particularly affected by either of these activities. Analysis of the location and type of bone was undertaken from three pyre sites with a view to ascertaining position of body fragments. These were Mound 5 pyre site (152) (Figs 5.30 and 5.35), Mound 7 pyre sites (347/455) (Figs 5.61 and 7.2) and (195) (Fig. 5.66).

The analysis of pyre site (195) was not particularly informative partly due to the form of the pyre and the way it was excavated and partly because the bone was in such poor condition and few fragments were identifiable. The bone was all located within a small area suggesting that the pyre remains may have been thoroughly raked together before or after collection of debris, causing the vertical ordering to be indistinct.

Pyre site (152) at the edge of Mound 5 was excavated in 2cm spits, with each fragment of burnt bone being numbered and planned, thereby making it the most suitable for this type of analysis. In total 248.9g of cremated bone from a young/mature adult, probably female, was recovered, together with a possible, immature individual (Table 7.1). It should be noted that only half of the bone (by weight) comprised identifiable fragments. Cremated bone was distributed across and throughout the 8cm depth of pyre (152); any vertical ordering was therefore thought to be of little consequence. However, the horizontal distribution of the bone was more interesting as there was found to be no anatomical ordering with fragments from all parts of the skeleton being spread across the pyre site. There were a few anatomical clusters identified; fragments of the larger part of the mandible (jawbone) and also a fragment of maxilla (lower front skull) were recovered from the southern end of the pyre which spread over a c. 0.45 × 0.25m area. The few fragments of recognisable axial skeleton were in a discrete c. 0.50m^2 area, and three fragments of patella (kneecap) were found in a c. 0.10 × 0.20m area in the south-east of the pyre.

In Mound 7 pyre site (347/455), the bone was also confined to the upper levels of the burnt debris as may be expected but was mixed thoroughly horizontally. The bone was in good condition and comprised c. 18– 28% of the remains of an older mature/older adult female. This pyre was excavated in quadrants, with the bone unequally distributed, with 37% of the bone recovered from the south-west compared with 27% from the north-east, 26% from the south-east and only 9% from the north-west. Across this pyre no anatomical ordering of cremated bone was apparent the only notable feature of distribution being that poorly cremated bone fragments (charred black) were found on the west side. The few bones that were essentially only charred together with several fragments of long-bone shaft which were poorly cremated (black/dark blue in colour and more friable) would normally be absent if they had not been so well and quickly sealed.

Such thorough mixing of the bone as has been observed at these pyre sites is hard to explain either by manipulation of the body during cremation or disturbance caused while collecting debris. Judging from ethnographic examples, any tending of the pyre usually involves re-oxygenation to speed up the burning of larger areas of fatty tissue which take longer than other parts to burn (cf. Downes 1999a). This type of manipulation tends to focus on the axial area of the body and should not lead to skull or limbs moving very far horizontally. Furthermore, manipulation of the body to re-oxygenate takes place when the ligaments are still intact, for instance at the cremation observed in Bali the whole burning skeleton was lifted briefly at one point by hooking a stick under the base of the skull (Downes 1999a). If the disordered distribution of the bone is the result of such manipulation during cremation, this must have taken place near the end of the event when the ligaments had been destroyed and must have been undertaken fairly vigorously. It could be that surface ashes of the pyre were raked over, possibly several times or at the same time from different directions which would have also had the effect of breaking up any charred soft tissues to encourage further oxidation and forming the bone into a heap to facilitate speedier recovery of pyre debris. If this raking-over did take place, it must have happened before the cremation was entirely over otherwise such raking would have disturbed the overall pyre site and also affected the vertical distribution of pyre remains.

The other factor which would influence the anatomical distribution of the bone is how the body was disposed on the pyre. The above analysis pre-supposes the body lying supine and takes that as the tenet for analysing aspects of pyre technology. However, this may not have been the case in at least some of the cremations. If for instance a body was tightly crouched, the kneecaps may come to rest close to the skull, as is the case in Mound 5 pyre (152). In contrast, from the evidence at Sand Fiold, it is suggested that in relation to the adult male cremation contained in an urn, the body had been laid on its back, supine on the pyre (McKinley and Kibble 1999, 401–2), and that any tending of the pyre to raise the body was not undertaken.

The efficiency of cremation at Linga Fiold was examined macroscopically from the colour of the bone (McKinley: Appendix 1). Most of the bone showed a buff-white colouration indicative of full oxidation, variations of black (charred), blue or grey were noted from ten contexts (eight pits/cists, one pyre site and one pyre debris dump). In five of these contexts the variations were very slight and limited in extent. Others were more extensive and involved several skeletal elements, the skull and hand bones being most involved, with femur shaft and lower vertebrae to a lesser extent. The most extensive variations in colour were seen in the central cist (066) of Mound 8 (Section 5.10.1) and the central burial in pit (379) in Mound 5 (Section 5.7.1). The consistency of skull and hand bones showing colour variation relates to their peripheral position in the pyre and to a lack of surrounding soft tissue on these parts, and the femur being surrounded by dense soft tissue which does not cremate until late in the process. These are all features in the scope of what is 'normal' and could indicate that the bodies were supine on the pyre.

From successive usage of the large pyre at the Sketewan Cairn (McSweeney 1997), the cremated remains of at least six individuals were found (within the pyre and its vicinity), which are interpreted as having been lying supine or with arms outstretched. This was evidenced by less calcined and darker-coloured bones indicative of lower temperatures belonging to the hands and feet and top and back of skull extremities (McSweeney 1997, 316). In contrast, the poorer condition of vertebral and of pelvic and scapula bones indicated greater heat in these areas. From these observations it is suggested that the bodies were laid on their backs, in an unbound position with the hands extended away from the sides, as these were the least burnt. One body was burnt more heavily on one side, which may have been due to the corpse being placed on its side or rolled over during the pyre (McSweeney 1997, 316).

While not displaying exactly the same characteristics as the Sketewan examples, the cremated bones from cist (066) at Linga Fiold Mound 8 (Section 5.10.1; Fig. 5.79) did show differential heat exposure. Here, the upper part of the skeleton was particularly affected, which is attributed to uneven burning due to collapse of the pyre. Alternatively, the upper part of the body may have been covered and shielded from the heat in some way. Another fascinating possibility is that the differential burning could perhaps instead be attributed to the body being placed in a seated position on the pyre or perhaps being bound in a contracted position.

As described above, many of the pyre sites at Linga Fiold were small, measuring a little over 1m² as surface spreads, and in some instances even smaller as pits or cuts. At Cladh Hallan, South Uist, the stone platform pyre site was also small in measuring c. 0.90 × 0.80m (Parker Pearson *et al*. 2021, 40). Variation in disposition of the corpse on the pyre must be considered, for example, some corpses may have been crouched, seated or even dismembered. A narrow cut mark (10.04mm long and 3.8mm deep) was recorded in a fragment of humerus from the cremated adult male interred in the central burial beneath Mound 5 (McKinley: Appendix 1). We cannot know whether this cut resulted from an injury when the man was alive or whether it was inflicted post-mortem. In this instance, the cremated remains were in good condition with large fragments surviving. It would be difficult to detect such traces in the more usual fragmented and eroded condition of cremated bones recovered routinely in excavation.

Cut marks on human bone are not unknown from Bronze Age burial contexts. Another example of cut marks on cremated bone derives from a Bronze Age cemetery at Seafield West near Inverness where two parallel cut marks were discovered on a fragment of cranial vault from the cremated remains of an adult contained in a pit at this site (McKinley 2003, 71). As in the example from Linga Fiold, the cuts were made into 'green' (fresh) bone and it was not certain whether they were made ante- or post-mortem. An example of a cut mark on an inhumed bone (medial clavicle) comes from Barrow Hills, Radley, Oxfordshire, in the context of many disarticulated and partly articulated Bronze Age bones (Boyle 1999). The possibility that these cuts represent dismemberment is considered briefly, to be discarded in favour of damage during disturbance to the grave in antiquity (Boyle 1999, 173). However, the same author notes that in the cremations from the site particular parts of the body were over-represented, particularly the skull, leading her to suggest that certain parts of the body were selected deliberately, and that this could have been prior to burning, or in the choice of bones picked from the pyre for burial (Boyle 1999, 176). The extent of manipulation of the body at various stages is now well attested (cf. Parker Pearson *et al.* 2005; Brück 2019; Booth and Brück 2020; Parker Pearson 2023), sometimes after periods of curation, and at other times sooner after death.

This raises an interesting possibility in reference to the nature of cist burial discussed in Chapter 3. Here, the construction of unobtrusive accessible cists was argued to be a consequence of anticipated future use, either adding to or removing the contents and possibly both. When cremation becomes the dominant funerary rite, if there is an obligation on the part of the living to cremate their dead kin, a situation could be envisaged of re-opening older cists and removing certain bones for cremation.

7.3.2 Disposition of bone on pyre sites and efficiency of cremation: Knowes of Trotty

K. McSweeney and J.A. Roberts

The cremated human remains from the re-excavated cist in Mound 1 in Trench H at the Knowes of Trotty (Table 4.5)

were generally grey in colour with no evidence of any colour variation. It is clear therefore from their colour that the remains had been burned to a temperature of at least 645°C and that there was no variation in colour to suggest uneven burning. Such a temperature would also allow the formation of cramp, which adhered to many of the bone fragments.

Within the cremated bone from the cists and pits in Trench F (Table 4.5), a small number of fragments were darker grey in colour indicating that they were less well burnt. There was nothing that indicated body position on the pyre, although the under-representation of fragments from the axial skeleton meant that a true assessment was difficult to make. Overall, as with many cremation burials from Orkney, the degree to which the remains were cremated represents a well-developed and sophisticated level of pyro-technology. The curved cracking and warping of some of the larger fragments of bone indicated that the bodies of the deceased had been cremated whilst still fleshed, probably soon after death. The percentages of skeletal elements from different parts of the body in some of the better-preserved burials from Trench F are illustrated in Figure 7.6, which compares them to data derived from a modern cremated individual (McKinley 1989).

There was consistent under-representation of the axial skeleton, i.e. the shoulder girdle, the ribs, vertebrae and pelvis. Although some of the deposits had a high proportion of unidentified fragments, it is unlikely that this accounts for all the absent axial remains. The majority of fragments that could not be identified were long-bone or unidentified cortical bone and it is likely that they were derived from the upper or lower limbs. The vertebrae, and pelvis in particular, have a high ratio of trabecular to cortical bone, which could

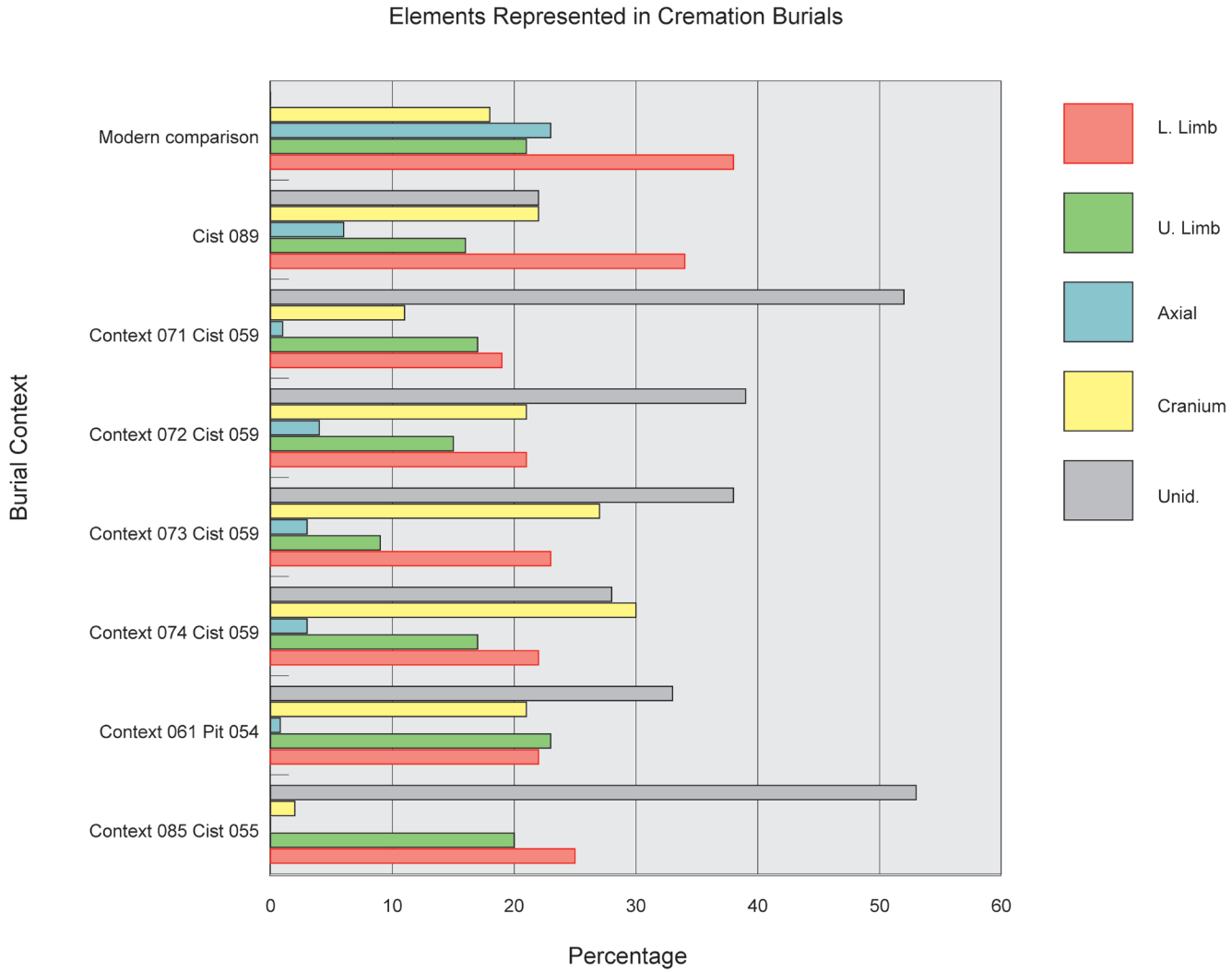


Fig. 7.6 Skeletal elements from Knowes of Trotty burials compared to modern cremation burial.

explain their absence in terms of poor survival (see below). It is interesting to note that the female burial in cist (089), was best preserved overall, in terms of weight and fragment size, was closest to the modern comparative material in terms of proportions of elements from the different areas of the skeleton. The above findings indicate that taphonomic agents could be a strong factor in the under-representation of certain skeletal elements, although other factors are considered below.

7.4 Fuelling the pyre

7.4.1 Linga Fiold charred plant macrofossils

D. Alldritt

The charred plant macrofossil remains from Linga Fiold were identified and reported upon by Diane Alldrit (Appendix 19), and the results of that work are summarised here. Over 400 bulk samples from Linga Fiold cists, pits, pyre sites, pyre debris dumps and mound material were wet-sieved and sorted to recover and examine the palaeoenvironment, use of fuels and human remains. The environment immediately around the site comprised areas of pasture and grassland. Wood brought to site for use as pyre fuel was obtained from areas of scrub consisting of *Corylus* sp. (hazel) and *Salix* sp. (willow), and wetter areas indicated by *Alnus* sp. (alder) and *Betula* sp. (birch) wood. The presence of alder fen carr which was exploited for fuel resources at Linga Fiold is also attested. *Quercus* (oak) was found as charcoal within the fill of Mound 6 steatite urn burial (Section 5.8.1), and a carbonised nut cupule and stalk from Mound 8 central cist (069) (Table 5.35).

In addition to charcoal, a great amount of light, corky, organic material was recovered from the pyre sites, pits and cists, which is referred to as 'burnt turfs' (Tables 5.5, 5.10, 5.14, 5.19, 5.26, 5.35, 5.38 and 7.2). This material is the same as Stephen Carter's Type 1 fuel ash slag (see below; Appendix 26). The analysis of this concluded that there was no evidence that the herbaceous plant material had its origins in either blanket or raised bog peat. It was suggested that this material was valley peat that was being exploited, particularly boggy turves from low-lying areas brought to the site. From the evidence available it appears that there was a considerable degree of reliance on the use of heath turfs for fuel. The presence of large numbers of *Danthonia decumbens* and *Plantago lanceolata* (heathland grass and ribwort plantain) indicates that the resource base was located around local heaths and grassland, rather than any areas of blanket peat that may have been forming on higher ground at that time.

There is variation in the type and quantities of fuel remains across Linga Fiold barrow cemetery, taking the contents of all features including pyre sites and pits and cists as indicative of fuels employed in cremation. In some examples particular species of wood dominate; for instance, at Mound 7 pyre site (347/455) the large amount of charcoal was almost all alder, with a very small amount of hazel, and abundant quantities of burnt turf. At Mound 6 the large amount of charcoal in the central burial steatite urn contained almost exclusively alder, whereas the dump of pyre debris (375) placed over the central grave (378) under Mound 5 showed that two species, hazel and alder, and some birch had been used in the pyre. There was an absence of burnt turf in this pyre debris. But this does not provide conclusive evidence that turf was not used in the pyre as, although highly unlikely, burnt turf may have been painstakingly picked out and put elsewhere. However, it may be real absence, for it appears that turf/peat and wood were at times used almost or totally exclusively of one another.

The dominant wood species in use on the pyres appears to have been alder, with much lesser amounts of hazel, willow, birch and oak being employed. At Mound 6, in the fill of the steatite urn, charcoal pieces were identified as almost exclusively one species only, alder, 62.3g, with very small amounts of Pomoideae type mixed in (e.g. only 0.8g in sample 407 (388)). In the deposit of pyre material (375) overlying the primary burial in Mound 5, individual macrofossils survived the process of carbonisation on the funeral pyre with only two *Plantago lanceolata* and two *Danthonia decumbens* being present. Both these species are indicators of grassy heathland and could have been introduced to the pyre along with turfs collected for fuel from the immediate environs of the site. Pyre material (375) also contained abundant quantities of hazel and alder charcoal. From within the *in situ* pyre site (347) at Mound 7, a charred branch of wood had been preserved. This measured approximately 47cm in length, with a diameter of 6cm, and was identified as alder.

In contrast with Mounds 5, 6 and 7, Mounds 4, 8 and 9 provided very little environmental evidence. In the case of Mounds 9 and 4 this scarcity was probably affected by the severe disturbance by plough action and rabbit burrows. The samples analysed from Mound 8 produced no carbonised wood remains, but often plentiful quantities of the burnt peat-like material, which was abundant in the primary cist context (69) and reflects a real distinction in greater or wholesale reliance on peaty turfs for fuel for the pyre in this instance. Mounds 4, 8 and 9 are also structured differently from the other mounds as they lacked turf in their makeup.

7.4.2 Linga Fiold pollen

M.J. Bunting and R. Tipping

Palynological examination of material directly associated with prehistoric monuments can provide information about two aspects of the site; the landscape around the structures at

different points in their history, and the practices associated with the use of the structures. In this study, soil material from two types of contexts; old land surfaces underneath the barrows (Mounds 5 and 6) and contexts within cists, was analysed to investigate the landscape in which the structure was built and the vegetation from a small area, within a few tens of metres around the sampling point, respectively at Linga Fiold (Bunting and Tipping: Appendix 20; Bunting *et al.* 2001).

The palaeo-soil evidence from both Mounds 5 and 6 indicated that the barrows were constructed in open grassland, and that the land was used as high-quality pasture or meadow, and perhaps even occasional crop growing. Pollen analyses of the fills of some of the cists (from Mound 4 central cist lowest fill and Mound 7 cists (181), (185), (187) and (190)) were found to be characterised by high values of *Calluna* (heather) and *Plantago lanceolata* (ribwort plantain) pollen, and large amounts of partially combusted plant material, which was interpreted as evidence that turves and peat had been brought from areas of heathland and grassland, and that several turf sources were used for fuel, since these two taxa have different ecological requirements and would not occur naturally together in large quantities. This interpretation supports that of the macrofossil data (above) and shows that activities on site involved the collecting, storage and drying of heath and grassland turfs for use as fuel in the pyres.

Table 7.3 Thin-section analysis of fuel ash slag in order of increasing alteration from Types 1–5.

Type 1	Sandy clay-silt sediment consisting of grains of quartz (dominant), feldspar (rare) & sedimentary rock frags (rare). The clay fraction is highly reflective (red-brown in oblique incident light), indicative of strong oxidising heating. No evidence of melting.
Type 2	Sandy silt sediment consisting of grains of quartz (dominant), feldspar (rare) & sedimentary rock frags (rare). Diatoms are present in some frags. Fused by the melting of clay sized particles but showing no other evidence of vitrification & retaining its original structure. Highly oxidised with no surviving organic components.
Type 3	Sand & silt sized quartz grains set in a colourless glass matrix with numerous small spherical gas vesicles predominantly in the size range 10–100µm.
Type 4	Closely spaced large spherical to elongate gas vesicles in the size range 500–2000µm (0.5–2.0mm) separated by colourless glass with sand & silt sized quartz inclusions.
Type 5	Closely spaced large spherical to elongate gas vesicles mostly in the size range 500–2000µm (0.5–2.0mm) but up to 10mm in diameter. Separated by highly heterogenous coloured glass (pale brown–black) with inclusions of sand sized quartz grains, bone frags & a variety of new crystalline growths.

7.4.3 Linga Fiold fuel ash slag (cramp)

S. Carter

From the excavations at Linga Fiold a substantial assemblage of cramp was retrieved from a range of contexts: pyre sites, cists, pits and buried soils. Samples of cramp from 12 features were selected for analysis with a view to answering questions as to the composition of the material and what it could tell us about pyre technology (Carter: Appendix 26). The samples were analysed by thin section analysis as the principal method of investigation with microprobe analysis where chemical analysis was likely to prove helpful.

The fragments of cramp were classified into five types (Table 7.3) according to their structure and composition in thin section. Types 1–4 are silicate slags which are distinguished from one another by progressively greater heat alteration. Of the five types, Type 5 is the most prevalent, and is like Type 4 but distinguished from it as it contains fragments of bone, and its chemistry is affected by bone and other body-derived elements.

Micromorphological and microprobe analyses show that the bulk of the slag is silica, present either as detrital quartz grains or as a silicate glass. The soil thin section analysis also determined the preponderance of turf and peat fuel in the central Mound 7 pyre site (347/455) and pyre debris (471) from beneath Mound 2. It is argued that in these examples, purer peat (as opposed to turfs) forms the dominant fuels used, but that the peat yields ash, rather than bulky residues, which does not survive the excavation and post-excavation processes.

Differences between Types 1–4 principally reflect the temperature and duration of heating experienced by the slags and the consequent melting of component materials. They can be interpreted as four points on a continuum of increasing temperature and this sequence of progressive melting of mineral sediment is seen within the large fragments of slag from the primary burial deposit (378) of Mound 5. Type 5 resembles Type 4 in terms of the level of heating but is chemically more complex.

Type 1 slag shows least evidence of heat alteration and is more a burnt soil than slag. It is very friable and fragile and only occurred in samples of cramp analysed from Mound 5 grave (378) and overlying pyre debris (375), where it survived because it was attached to larger fused masses (Figs 5.25–5.27). It also occurred in the undisturbed section through pyre debris (471) under Mound 2. It is Type 1 that is also referred to as 'burnt turf' in this monograph.

Like Type 1, Type 2 also retains its original mineral composition but is clearly fused through the melting of clay silt and sand-sized mineral grains. In Type 3, further melting has occurred, and coarser silt and sand-sized quartz grains embedded in a colourless silicate glass were observed.

The quartz survives because of its higher melting point indicating maximum temperatures in the range 600–800°C. In Type 4 the composition is identical to Type 3 but gas vesicles dominate the structure which may relate to the decreasing viscosity of the molten glass with increase in temperature.

The structure of Type 5 is like Type 4 but is distinguished by the composition and inclusions in the glass. Identifiable fragments of bone are present in many fragments of Type 5 cramp. Many of the bone fragments examined were connected to whitlockite (tri-calcium phosphate) which is attributed to extreme heating of human bone. Microprobe analyses of the glass detected enhanced concentrations of phosphorus, iron, magnesium and calcium. It is concluded that not only were calcium and phosphorus likely to be derived from bone but that the corpse was very probably the source of magnesium (whereas the iron was likely pedogenic). Furthermore, microprobe analysis also showed a disassociation of minerals from silica which indicates actual melting of minerals (temperatures perhaps in excess of 1000°C). The localised occurrence of the highest temperatures seems to have occurred closest to the corpse evidenced by Type 5 cramp. The dominance of Type 5 slag in most slag samples may be noted and suggests that most slag was formed in close proximity to the corpse. This may relate to the role of body tissues as a source of fuel for the pyre with the highest temperatures created around the body. There is evidence for differential selection of different types of cramp, favouring Type 5 for deposition in pits and cists: the high proportion of Type 5 cramp is evident in the majority of the contexts (Table 7.4).

The pyre debris (375) heaped on the capstone in Mound 5 and burial (378) that produced large quantities of slag deserves special consideration. This slag was produced by the melting of the surface of the soil that underlay the pyre. This created a sheet, 0.10–0.15m thick of slag with the remains of the pyre and the cremated body fused into its upper surface. The creation of such a mass of slag indicates a considerably greater supply of heat than was achieved in

Table 7.4 Detail of cramp classification by thin section and quantity per context.

Mound	*Feature/ context*	*Context description*	*Sample no.*	*Weight slag in sample (g)*	*Weight bone in sample (g)*	*Description of slag in hand specimen*	*Bone visible in slag?*
4	254/260	Burnt pyre-like material in cist	146	c. 100	142	Dark vesicular & glassy frags, mostly less than 1cm but up to 3cm across	No
5	375	Pyre	–	Many kg	–	Large frags, mostly 10–20cm across with smaller frags. Some with opposed smooth glassy & rough granular surfaces	No
5	379/378	Cremation deposit	–	Many kg	–	Large frags, mostly 10–20cm across with smaller frags. Some with opposed smooth glassy & rough granular surfaces	Frequent
7	077/097	Purple-brown matrix in cist	039	c. 500g	307	Dark vesicular chunks up to 5cm across with orange & white inclusions	Present
7	190/291	Cremation deposit on cist	200	c. 500g	48	Dark vesicular chunks up to 5cm across with orange & white inclusions	No
7	194/231	Burnt peat in firebox	098	c. 50	2	Dark granules up to 4cm across. Larger frags are platy	No
7	223/298	Pit fill	196	c. 50	235	Dark granules up to 2cm across with some paler inclusions	No
7	243/344	Pit fill	254	c. 50	48	Dark vesicular & glassy granules up to 3cm but mostly less than 1cm across	No
7	321	Deposit within pyre	222	c. 50	103	Dark frags up to 3cm across with some paler & reddish inclusions	No
8	066/073	Clay lining of cist	034	c. 10	20	Very small dark granules, less than 1cm across	Present
9	050/068	Clay base of cist	009	c. 10	47	Small dark granules up to 2cm across	Present
9	067/061	Upper fill of cist	005	c. 50	64	Glassy sheets up to 5cm across with paler inclusions	Frequent

other pyres. The soil is an excellent insulator and therefore a poor conductor of heat; soil at pyre sites is usually only reddened (oxidised) by the heat (as in the Type 1 slag recorded here). In the case of pyre debris (375) and (378) a sufficient heat flow was maintained for long enough to melt the soil. This extreme event has occurred on at least one other occasion in Orkney. The large rock-cut tomb/cist at Sandfiold, Skaill, only a few miles to the west of Linga Fiold, contained a similar mass of slag (Fig. 3.43; Dalland 1999). In this case the underlying soil was very stony and large rock fragments protruded from the base of the slag sheet.

The high temperatures achieved during cremation and the 'green' state of the bones both support the interpretation of the corpses being cremated while fleshed. This would indicate that cremation is probably therefore a primary, rather than a secondary, funerary rite, i.e cremation takes place fairly soon after death rather than the corpse being buried or otherwise stored for a long time before being cremated. However, there are indications that there are greater complexities and variation to mortuary rites than this clear-cut scenario suggests, as the presence of the mortuary building Structure 1 (Section 5.9), and the seasonal aspect to the gathering and preparation of fuels indicate storing of the body for some time at least, and potentially protracted rites.

7.4.4 Knowes of Trotty charred plant macrofossils

D. Alldritt

The predominant source of charred plant macrofossils from Knowes of Trotty was Trench F, where a range of cists and pits containing cremated remains were excavated (Section 4.6.1). The main components of the samples from Trench F were burnt peat, cremated bone and cramp, but only trace amounts of wood charcoal (Table 4.5). From the limited excavation of cremation-related features at the Knowes of Trotty, including the central cists in Mound 1, this barrow produced the least charcoal of the excavated sites. The plant macrofossil suite indicated the utilisation of large amounts of peat and heathland resources for fuel. Birch and hazel may have been locally growing low-lying species, but the very low amounts present indicated that these were not a major fuel, possibly reflecting on the lack of woodland in this area of West Mainland. Heath, moor and wet land macrofossils probably reflect upon the local environment in the immediate vicinity of the site, and most of these fossils probably originated from peat and turf cut for fuel, as at Linga Fiold.

Pit (054) contained material most probably originating from a dumped pyre deposit. The main source of fuel for these processes was peat and perhaps other forms of more heathy turf. No wood charcoal was recovered. Cist (055) contained very few plant remains with the main recovered items being cramp and bone. *Betula* (birch) charcoal was present in small amounts. Cist (056) differed slightly in that mainly burnt peat and slag were found, with lesser amounts of bone, and occasional macrofossils from heath habitats. A large piece of burnt peat was identified from a small find from this context. The samples from cist (059) produced uniform slag, bone and peat throughout, with very little of anything else. By contrast cist (089) produced the greatest range of plant macrofossils and large amounts of slag and bone also. Weeds of cultivation and heathland were present together with possible cereal/grass stem which could be straw or chaff. This cist also produced the largest amounts of bone recovered from site as a whole (Table 4.5).

7.4.5 Gitterpitten and Varme Dale charred plant macrofossils

with A. Crone, A. Duffy and P. Wagner

As with the other barrow cemeteries, at Gitterpitten (Section 6.3) and Varme Dale (Section 6.2) contexts from any cremation-related context were 100% sampled for flotation and bulk samples from other contexts in addition were processed including mound material (Bunting and Tipping: Appendix 20). The small size of fragments of charcoal from Gitterpitten meant it was rarely possible to identify to species but sufficient characteristic features were present to indicate that in many samples a coniferous species was present which was probably either pine (*Pinus* sp.) or larch (*Larix* sp.). Where fragments have been identified as to genus and/or species these are quantified in terms of numbers of identified fragments (Wagner: Appendix 22).

Coniferous wood is predominant in several of the samples from Gitterpitten, usually accompanied by a few fragments of willow (*Salix* sp.) (Table 6.1). *Corylus avellena* (hazel) and *Calluna vulgaris* (heather) were also present, and *Alnus glutinosa* (alder), although unlike at Linga Fiold alder was not the dominant wood fuel. The willow was often very soft and friable and would crumble during analysis and it is possible that more non-coniferous wood was originally used but has not survived so well.

The finding of so many examples of the conifers – larch and pine – at Gitterpitten is noteworthy within other Mainland barrow sites. Larch found in the Northern Isles is likely to have arrived as driftwood from North America (Dickson 1992). Pine could also have come from this source, but it could also have found its way from the Scottish Mainland to Orkney on the north-easterly currents that circulate around the islands. The use of driftwood for pyre fuel was also indicated at Loth Road, Sanday (Alldritt 2007). Findings of coniferous wood charcoal, larch/spruce (*Larix/Picea*), indicated that this was used along with birch, hazel and alder woods at Loth Road, but again with the main fuel resource being peat with drier heath and wet fen turfs. At Crantit, St Ola, fragments of charcoal of Scots pine (*Pinus sylvestris* type) were recovered from South Cist and conifer from the West Cist (as well as ericaceous twigs from both indicating heathy turfs) (Ramsay 2014). Caution should be exercised as assuming that all pine wood use would have been reliant on driftwood, as there had been local *Pinus sylvestris* growth in

East and West Mainland Orkney from the sixth millennium cal BC, and woodland decline across Orkney during the Neolithic and Chalcolithic was not synchronous across the islands. For example, at Whaness Burn, Hoy, pollen analysis shows evidence for local pine growth between c. 2170 and 1750 cal BC (Farrell 2009, 388).

It must be noted that all the examples of larch and pine from Gitterpitten derived from a single feature, and this was shallow pit (1028), the fill (1023) of which also contained seven identifiable fragments of willow. It is likely therefore that these remains are those of a pyre fuelled with larch, pine and willow. The fill (1023) also contained 43g of burnt turf and 3.4g of cramp (Table 6.5). It is probable therefore that this pyre was also fuelled with peat. The presence of heather and of in some cases substantial quantities of burnt turf and to a lesser extent cramp again signifies pyres built from a mix of wood, peat, and heathy and boggy turfs as with many of the Linga Fiold and Knowes of Trotty pyre fuel mixes.

From the Bronze Age cists (2007) and (2008) in Mound 1 at Varme Dale, (Fig. 6.22; Section 6.3.2), the only identifiable charcoal was hazel (Wagner: Appendix 22). The presence of 10g of burnt turf in the fill (2026) of cist (2008) (Table 6.1) indicates that, again, a mix of wood and turves was used as fuel.

7.4.6 Knowes of Trotty cramp

E. Photos-Jones with A. Hall

The cramp retrieved from the Knowes of Trotty was analysed with a view to ascertaining the nature and composition of the material and understanding something of the processes that lead to its formation. A further aim was to ascertain whether the analysis of the cramp could inform about the nature of pyre technology and whether feature (069), in Trench G may have been the location of funeral pyres (Section 4.7).

From each context the cramp was weighed and total weights for each feature obtained. Cramp from contexts (043) and (044) in Trench G was submitted for ICP-OES (inductively coupled plasma optical emission spectroscopy) analysis to determine its elemental composition. Cramp from contexts (043), (044) and (095) was submitted for SEM-EDAX (scanning electron microscope analyses with energy dispersive analyser), which is based on both area analysis equivalent to bulk chemical composition and spot (single phase) analysis (Photos-Jones: Appendix 27). Pyre site (069) in Trench G contained the most cramp, and among the features in Trench F, cramp was most abundant in cist (089) (Table 4.7).

The Knowes of Trotty cramp is a light, frothy, highly siliceous vesicular material comprising small spherules with a glassy skin. The average particle size of the cramp ranges between 1–2cm. Larger pieces have a glassy skin covering a porous and particulate under-surface with small quartz grains. The cramp is predominantly dark grey coloured. Vesicularity arises from gas evolution, either of organic matter or CO_2. Bone appears to be engulfed by the fused glass either in small fragments visible to the naked eye or micro-particles visible only with the microscope. Alternatively, it can be incorporated in the 'melt' and re-precipitated as a calcium-phosphorus-iron silicate.

ICP-OES analysis indicates that the composition of the cramp is predominantly an iron alumino-silicate with small amounts of potassium, calcium and phosphorus. The SEM analysis revealed that cramp is made up of several microphases, the products of very localised temperature and variations in the relative concentrations of the five main ingredients, silica, alumina, iron, calcium, phosphorus and, to some extent, potassium. The concentrations of these chemical constituents are affected by the presence of bone and other material in the melt. The assimilation of bone within the cramp may account for a proportion of the bone lost during cremation.

SEM analysis on a fragment of vitrified stone retrieved from context (031) in Trench C (Section 4.3.1), shows that the highly siliceous siltstone typical of the area can fuse due to the presence of iron and phosphorus within the stone. However, in the presence of clayey soil (alumina and titanium) and fuel ash (potassium and calcium) the fused stone vitrifies.

The glassy nature of cramp is based on a high silica content and has suggested to most investigators that it was the product of a high temperature reaction (c. 1200°C). It has been shown experimentally that cramp can form at lower temperatures (c. 650–850°C; Photos-Jones *et al.* 2007). These temperatures are more likely to be sustained over sufficiently long periods of time for cramp to form in prehistoric contexts than are temperatures over 1200°C. The degree to which seaweed played a part in the cramp formation remained unresolved in the Knowes of Trotty cramp analysis, as more sophisticated instrumentation, such as laser ablation, was required to detect halides, namely iodine and bromine, which are volatile in relatively low temperatures of c. 300°C.

Signs of extensive vitrification of the flagstones in pyre pit (069) in Trench G show that heating must have taken place *in situ*, rather than from redeposited pyre material, in order to achieve sufficiently high temperatures to vitrify the rock. Hence it would appear that feature 069 or the surrounding area was the site of a pyre. Laboratory experiment has shown that when heated to temperatures above 500°C fuels such as peat, turf and charcoal reduce to ash (Photos-Jones *et al.* 2007). Thus, carbonised remains such as charred peat would not be expected to survive in a context that had been heated to such a temperature.

7.4.6.1 Making cramp

Temperatures taken to cremate a corpse in a modern, enclosed crematorium using gas as fuel are between

500–1000°C, with 500°C being the minimum temperature needed to get body fats burning and to maintain combustion until water and organic components of the body are reduced (McKinley 1989, 65). In an experiment of an open-air, wood-fuelled pyre burning a sheep and a neonatal lamb (McKinley 1997a), temperatures of close to 1000°C were achieved for the first hour or so at the sides of the pyre and on the ground, and in the centre for a longer period of 3 hours.

The degree of alteration noted in the various types of cramp at Linga Fiold has provided some information about the temperatures achieved in pyres and the duration of heating. Results indicate that the pyres which yielded slags attained temperatures between 600° and 800°C. Whitlockite (present in Type 5 cramp) appears to require temperatures of at least 800°C to form, and there is slight evidence (the total dissociation of hydroxyapatite on a very limited scale) that temperatures locally could have been in excess of 1000°C. Thus, exceptional temperatures were being achieved in cremation, demonstrating high degrees of skill and expertise in achieving the desired outcomes of efficient cremation and the production of cramp (cf. Fleet 1976).

Experimental cremations have generally utilised wood as fuel (cf. McKinley 1994; Marshall 2011), with some exceptions (cf. Hedges 1977; McKinley 2016) where peat and wood were combined effectively. One study specifically to examine the questions around the specifics of Orcadian Bronze Age cremation – the use of turves and peat as fuel, the creation of cramp and the potential role of seaweed in this – was carried out as series of experimental cremations (Wildmun 2017). Eight cremations were undertaken, each of them for burning a pig's head, using seasoned birch (*Betula pendula*), peat, seaweed (wet and dry), and the addition of sand in various combinations. Pyre 4 – peat, wood and dry seaweed – reached the highest sustained temperature (reaching 966°C) and burned hottest for longest (2 hours), and producing 30g of cramp. This pyre was the only one to produce Type 5 cramp (see Carter, above). Pyre 6 – equal wood and peat – reached a maximum temperature of 902°C and the pig's head was fully cremated, in contrast with Pyre

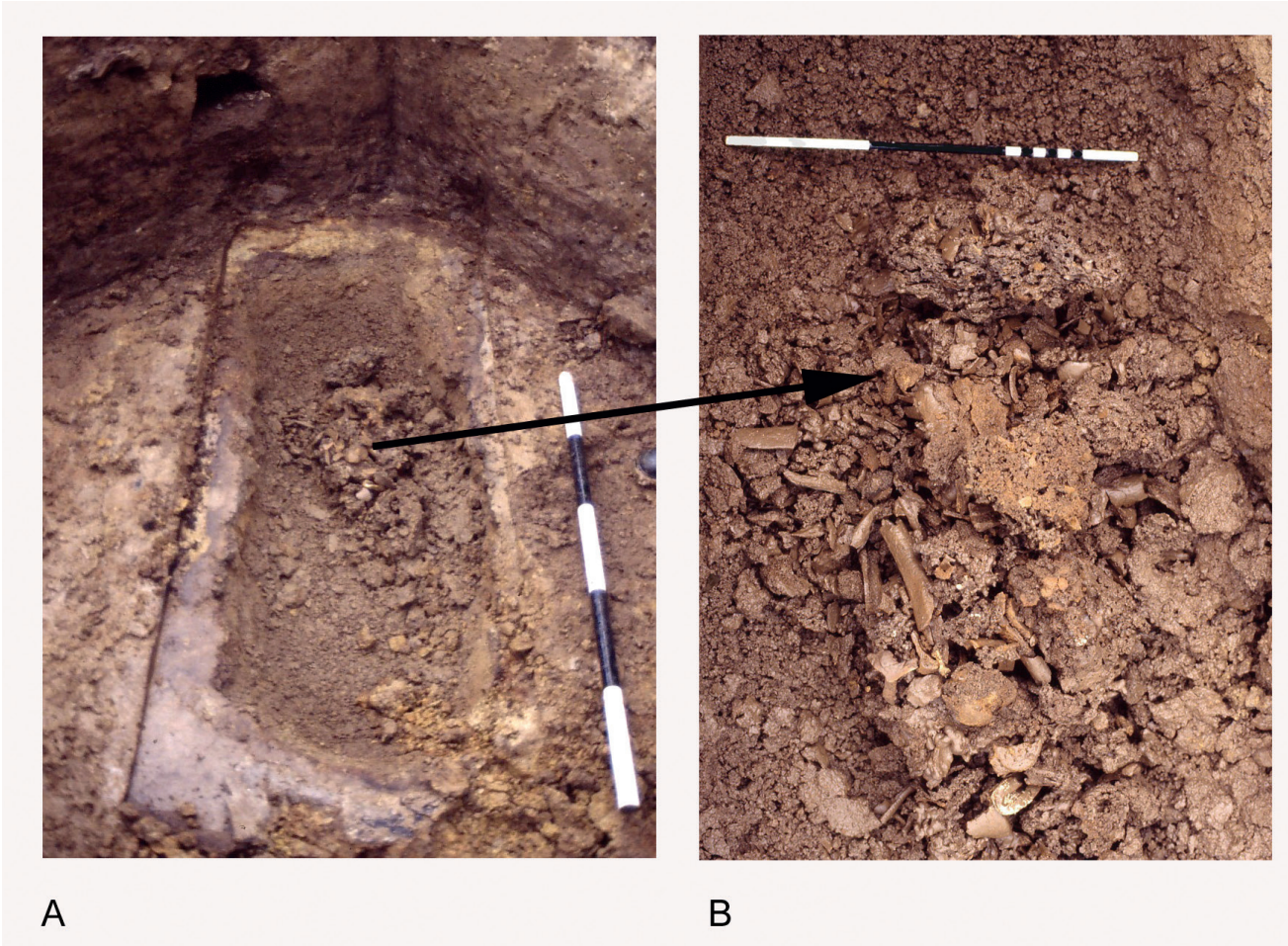


Fig. 7.7 Linga Fiold, Mound 5 primary central burial: A) bone and cramp laid out along grave pit (379); B) detail of bone and cramp (378) intermingled and fused together.

1 – mostly peat and minimum amount of wood – which did not succeed in cremating the pig's head. Pyre 7 – peat, wood, dry seaweed and sand – reached a maximum temperature of 865°C, was an efficient cremation and produced the largest amount of cramp at 98g (Wildmun 2017, 36).

These experiments reinforced the analysis undertaken by Photos-Jones *et al.* (2007) who sought to analyse how the glassy component of cramp was formed. They identified soil, silt and sand as the materials which provide silica for the siliceous glass of cramp, which could be introduced attached to peat, turf or driftwood fuel sources (Photos-Jones *et al.* 2007, 15), and potentially seaweed. They suggest that seaweed ash could provide reactive alkali oxides which are fluxes for producing siliceous liquid, and that human bone would also produce oxides which can act as a flux for siliceous melt. These authors make some important points about the creation of cramp: that cramp was not simply a waste material, that there was 'intent' to create cramp with the pyro-technology adapted to that end and that cramp was 'considered important enough … to be buried with cremated human bone' (Photos-Jones *et al.* 2007, 20). They also note the importance of studying the 'order and arrangement' of bone and cramp within burial contexts to better understand the significance of cramp, and this question is explored in detail below.

Through the cremation process, some cramp fused with human bone, but other pieces did not. Interestingly, these two different types of cramp seem to have been categorised in enough instances to indicate this distinction was important. The former could be seen as the same as the human remains, while the latter is still selected out as special material, but employed in the same way as a form of 'grave good' (Fig. 7.7). Although cramp is usually found in contexts with other cremated material, significantly it has also been found in burial contexts accompanying inhumations; at Upper Bigging (Section 3.3.3) and at Sandfiold (Dalland 1999) the cramp was outside, while at Moan it was within cist (Section 3.3.6).

7.5 The anticipation and choreography of cremation

The analysis of the pyre and pyre debris at Linga Fiold has been informative as to the anticipation, planning and staging of funerary rites surrounding the cremation. Cremation is often a secondary burial rite, as seen in the Balinese example (Downes 1999a), but in the case of Linga Fiold and elsewhere in Orkney appears to have been a protracted burial rite, probably involving a period of time when the body/bodies was/were stored and resources mobilised. The presence of the death house, Structure 1 near Mound 7, indicates that bodies were stored and prepared for cremation prior to the ceremony (see also Section 4.8.1). Events appeared to have moved quite swiftly from the burning of the funeral pyre to it being extinguished, debris picked off while still hot, the pyre suffocated while still smouldering, and pyre debris being deposited while still hot. This evidence combined with the location of the pyres at Linga Fiold indicates that, within cemeteries, the pyre was usually very close to the place of deposition of the cremated remains. There appears to have been some urgency to the procedure perhaps, as was the case in Bali (Fig. 7.8), to ensure the proceedings were completed within the day, from the lighting of the pyre to the disposal and dispersal of the remains. It is possible that the physical act of transformation through cremation was a point in the transition from one state to another which was particularly fraught with danger, and that there was a point when the mass of the congregation came in close proximity to the corpse which may have been polluting.

Cremation involves a range of tasks and activities extending over a time and space. Not only did it call for expertise with the pyre on the day (building, lighting, tending), but also involved knowing what to do and how to do it. Not only did the highly visible aspects of the cremation have to be properly performed, but the preparation, timing and planning required successful execution. Technologies express and re-affirm social values about the right and wrong way to do things, and who should do them. Technology thus becomes a question of social values, ethics and, by extension, politics and power (Dobres 2000, 104). However, before we think of power in terms of coercion and domination, we should, as Ortner reminds us, balance this with the politics and possibilities of co-operation, reciprocity and solidarity (Ortner 1984, 157), which may have underpinned the labour for the dead.

The speed and efficiency with which cremation technology was deployed depended on the preparation before cremation, on having a contingency for death and for the act of cremation. The evidence from Linga Fiold appears to indicate that everything was anticipated before a cremation ceremony was performed; the fuel had been gathered and prepared, the receptacle for the remains had been constructed (be it cist, pit or vessel), and the material for the mound cut and quarried.

The findings from cramp analysis, and overall pyre technology, emphasise the centrality of the corpse (body fats particularly and tissue) in effective cremation. The temperature of the pyre is made excessive because of the presence of the corpse, not irrespective of it. Apart from an example at Cairn 1, Bu Farm, Rapness, Westray, where cremated bones were reported to have been burnt when dry (McSweeney 1996, 112), bone specialists report that bones are burnt while still 'green' (fresh) and therefore, it is thought, when still fleshed. This also has the effect of the flesh and fats acting as accelerants. However, the high temperatures achieved, and the efficiency of cremation, raise the question as to the use of additional accelerants.

In ethnological accounts of funeral pyres, the additional use of fats and oil as an accelerant for the pyre is attested.



Fig. 7.8 Hindu Balinese cremation of a pemangku or temple priest in Peliatan, Bali, 1999.

McKinley (1989) notes the practice in Hindu cremation in India of adding perfumed oils or ghee (clarified butter) to the pyre to aid combustion. In a note on Maori cremation, Campbell reports that 'all kinds of fat, including that of the porpoise when procurable, was added to increase the heat' of the pyre (1894, 134). Failure to cremate effectively would enable one's enemies to be able to take away bones and make them into 'flutes and fishhooks'. It is assumed of the Maori cremation that fat was taken to the site in the form of animals (such as the aforementioned porpoise), and that bones of animals at cremation sites can be accounted for in this way (Campbell 1894, 134). In Homer's 'Iliad', fat from animals sacrificed on site was added to Patroclus's pyre:

> At the foot of the pyre they skinned and prepared many fat sheep and cattle with crooked horns. Great-hearted Achilles, taking fat from all of them, covered Patroclus' body with it from head to foot and then piled up the flayed carcasses around the body … (Homer, *Illiad* 23, 165–9)

Whilst this is a description of a cremation far away in time and space and of much greater proportions to those evidenced in Orkney (the pyre upon which Patroclus was placed was a massive 30m in length) it is interesting detail of cremation technology, nonetheless.

The addition of extra fat to the pyre emphasises the importance of the body fats in the burning process and may be more necessary when the corpse is small (e.g. an infant) or on the occasions when only partial bodies (defleshed skeletal parts) were being cremated. Fats and oils to enhance the burning properties might also have been important if the majority of fuel being used was turfs rather than timber, as seen at in the Orkney barrows. Fat could be used directly from the animal (and may explain the presence of some but not all animal remains – see below) or carried in vessels.

At Linga Fiold, analysis of the lipids within pottery vessels (Taylor 1998) produced interesting results, some of which may be explicable in this context. Sherds from the probably complete vessels deposited at the edge of Mound 9 (Section 5.11; Table 5.39) were amongst others subjected to analysis. Sherd SF 4, from a soil (034), indicated residues probably from sheep/goat fat or grease, which it is suggested could have been used as a sealant inside the pot, or could equally well show what the vessel had contained. Sherd SF 62, from mound material (052) adjacent to the kerb, had a signature which compared very well to bog butter, and to human skin, and left Taylor in little doubt that the residue related to 'decayed flesh and fats, human or otherwise' (Taylor 1998, 15). If the residue is indeed human-derived it raises issues as to the complexities of the treatment of the body. In the case of both the human and animal-derived substances, both may have been poured onto the cremation and served a dual function as pre-cremation treatment and manipulation of parts of the body and its substances. These could have been brought to the pyre ceremony as offerings or sacrifice, and as extra fuel which aided the cremation process. This fat would most likely have been rendered in the domestic sphere and brought to the funeral pyre.

Although washing of the body may have taken place within the house context, further washing or lustration may have taken place before the cremation, especially if notions of ritual purity and the pollution of death were held strongly. Examples of this in Balinese cremation were observed (Downes 1999a), where holy water held in small pottery vessels was used, in a proscribed manner from head to foot, each vessel being smashed after use. It is evident that vessels used to contain cremated remains were brought to the burial site, with the steatite urns also having been possibly employed elsewhere (McLaren: Appendix 14). Whether this earlier use revolved around mortuary practices or more everyday employment is difficult to know. Certainly, in the case of the Mound 6 steatite urn at Linga Fiold (Section 5.8), each of the two composite parts forming the large vessel appeared to have enjoyed different biographies (Sharman: Appendix 13). It is also possible that the steatite urns displaying sooty surfaces accompanied the corpse on the cremation pyre (Sharman: Appendix 13; McLaren: Appendix 14). The recovery of fragmented ceramic vessels particularly at Mound 9, and fragments of pottery within many of the cremation deposits, indicate that these vessels were also either burnt on the pyre or smashed after use – or both (see Section 5.11.1; Fig. 5.90).

There are many instances of the washing and cleaning of cremated bone, and cramp (sometimes with bone adhering), after being picked from the pyre. An example of this can be seen in the primary grave Mound 5, Linga Fiold (Section 5.7.1). Water must have been brought to the site in vessels for the purpose, or perhaps a nearby burn or spring utilised. Water or other fluids would have been needed for quenching the pyre. Alternatively, vessels made from organic materials such as wood and bark may have been employed; in the Balinese cremation, plastic buckets were used to hold water for quenching, and larger pottery bowls (Downes 1999a). Indeed, vessels and containers would be required for a variety of purposes, not only for bringing accelerants, but possibly for food and drink, either to accompany the dead or for the mourners, or for libations and lustrations during ceremonies. Although rare in second millennium cal BC Orkney, vessels were very occasionally employed to accompany the remains of the dead within the burial.

McKinley reports (1997a, 134) that, in experiments, pyres were left for 24 hours to cool and subsequent collection of the bones was time-consuming and took 4-person-hours. An experimental cremation of a goat in Orkney using equal quantities of peat and brush is reported to have taken 5 hours, and a further 2 days for the embers to cool sufficiently for the bone to be collected (Hedges 1977, 143). Because the pyres were left to cool before picking out the bone, pyre debris was at the mercy of the elements (particularly wind) which scattered burnt material before collection and it was proposed that such occurrences could have been a factor affecting cremated bone recovery in Bronze Age contexts.

However, as could be seen from the Hindu Balinese example, the funeral pyre can be quickly extinguished and the bones picked out immediately and over a short space of time with several people working at the task (Downes 1999a). Control over the timing of the events in the Balinese cremation – the choreography of cremation – is paramount and takes precedence. It is evident that at Linga Fiold this process happened just as rapidly at least in some instances, for example the centrally placed pre-barrow pyre (347/455) in Mound 7 (Section 5.9.2; Figs 5.57 and 5.61) where the mound material was thrown directly on to the hot embers after removal of much of the bone. Another example of such swiftness of events comes from the unobtrusive cist excavated at Kewing, Rendall (see Section 3.4; Fig. 3.45), where 8kg of cramp was found moulded to the shape of

the cist because it had been deposited in a molten state (Photos-Jones *et al.* 2007; Ballin Smith 2014, 134–5).

Methods and approaches to collecting and sorting pyre remains at Linga Fiold appear to have varied, and this is reflected in the variety of fills of the pits and cists. Carter (Appendix 23) notes the presence of small fragments of pyre debris trampled into soils and as a ubiquitous presence, indicative of the intense and episodic nature of the cremation activity. The work of sorting the pyre debris appears to have been an exact and exacting process, undertaken to greater or lesser degrees at different cremations. The cleanliness of the bones and cramp, without a trace of ash or charcoal, in the primary burial under Mound 5 at Linga Fiold is a good example (Section 5.7.1; Figs 5.26 and 5.27). Another, elsewhere in Orkney is the Crantit West cist (Fig. 3.46) where cleaned cremated bone and cramp representing two individuals were set in two discrete heaps in the cist (Ballin Smith 2014, 31). However, across Britain, perhaps not unexpectedly, there is regional variation apparent. For example, Fowler has observed that charcoal 'was found along with bone among most EBA cremations from North-East England … so debris was not usually sifted out during the collection of bones' (2013, 153).

McKinley (1997a) has suggested that cremation debris could have been sorted by winnowing or by immersion in water during which process the heavier parts such as burnt bone and cramp would sink and other parts such as ash would float off. The immersion-in-water theory could well explain the extremely clean state of cremated bone in some deposits and could also have aided the sorting process, for example if larger pieces of charcoal and burnt turf also floated. A combination of sifting with baskets and water, and immersion in water may have been employed.

The heavy reliance on turf and peat for fuel is significant in the context of the funerary rituals, because these types of turfs were being sourced, cut and brought some distance and would have been wet and therefore have taken a considerable amount of drying time before they could be used for fuel. Both the plant macrofossil and the pollen evidence indicate that the turfs were brought to Linga Fiold and the other barrow sites and were stored at the site for some time before they were dry enough to be used as fuel. The cutting and drying of turfs and peat for fuel use today are necessarily a *seasonal* activity which takes place from late spring through summer – peat is cut traditionally in May and dries over the summer ready for use in the winter (Fenton 1978, 210–37). The use of boggy turves in the past must also have entailed their cutting in late spring or early summer in order to dry out over summer. But this source of fuel by its nature would have been heavier to transport, more difficult to stack for drying and have taken longer to dry, than peat. In the context of funerary practices, the anticipation and planning necessary for cremation practice and technology implicit in the use of this fuel are an interesting consideration and a common theme developed through this book.

At Linga Fiold, Dianne Alldritt's (Appendix 19) observations are particularly pertinent for thinking about the anticipation and planning necessary for the cremation process. From the samples she analysed it is apparent that, as expected, a structured series of ritual events was occurring, which repeat themselves across key contexts in various parts of the site. This involved the collection and probably long-term storage and drying of turf. Once its role as fuel had been completed it was then redeposited within the barrow environs, to form a permanent part of the cremation which it assisted to create. Perhaps the pyre material itself, including cramp and charcoal, which fused with the skeletal remains, became part of the transmutation a human being and, as such, could not merely be discarded as rubbish. Indeed, this material itself had to become interred both as a component of burial and as a holistic feature of the burial mound itself. This was nowhere more apparent than in the pre-mound pyre (347/455), where the pyre was not redeposited or swept away after use, but, indeed, became an integral part of the focal point of Mound 7. A different, but equally fascinating, use of pyre debris in the barrow fabric was seen at several mounds either as material scattered around the peripheral kerb or spread across the surface of primary mounds before they became enlarged (see Figs 5.15; 5.22; 5.42; 5.80; 5.89).

Given the way that the immediacy and spectacle of cremation are often commented upon, it is important to remember that the activities taking place on the day were supported by longer-term planning and investment. Particularly, there was a strategy involving the collection and preparation of fuels, as well as a range of other materials such as stones for the cists and kerbs, and soils for the mounds. These preparations could have involved many people and it could be envisaged that tasks would be allotted to various degrees of kin, age groups and gender. As noted above, the task of fuel gathering and preparation was one that must have been seasonal and undertaken as a longer-term programme of contingency for death. These activities may have been undertaken by the community as a whole along with agricultural tasks. The longer-term preparation may have been obligatory labour expected of the entire community because the correct treatment of the dead was essential and was important to the prosperity and well-being of the whole community.

The unpredictable nature of death is commonly a threat to social order and ontological security (Bloch and Parry 1982; Metcalf and Huntingdon 1991). Barrett describes routine actions as providers of ontological security; through routine actions the world is 'experienced as working in the way it is expected to work' (Barrett 1994, 75). The failure of those expectations can threaten such security. If the preparations for cremation are in themselves routine actions, then a

community always anticipates and prepares for death. The bringing of death firmly into the sphere of the living through the routine practices of preparation lessens risk and is an effective strategy in the control of death. That working for the dead is part of everyday labour indicates the centrality of the dead in a world of the living (and shows that routine activities are not separable into 'mundane' and 'ritual'). Thus, despite the potentially disruptive nature of death, society could perceive of itself as actively reproducing itself in a regular and cyclical manner but always anticipating future events (Barth 1993).

7.6 Cremation burial

The preceding section focused on anticipation, planning and choreography of cremation. In this section we move to a study of the deliberate disposal of the cremated human in burial, as well as the additional contexts of pyre sites and pyre debris dumps. That there should be features that can be identified as 'burials' when (cremated) human remains are present is a common but problematic assumption. Having identified features that can be called 'burials' the focus of attention almost invariably narrows to those features of a barrow or cemetery site that contain cremated human remains, usually to the exclusion of the features and residues that do not. This approach immediately narrows the focus of attention, tending to marginalise the much broader sphere of mortuary practice that is evidenced, for instance, at the Orkney barrow cemeteries. Here the basic but important question of *what* is buried is answered through a close deconstruction and analysis of a range of contexts associated with these barrows. The question 'what is buried' will be followed by the question of *how* it is buried which is necessary to more fully understand or situate burial practice and funerary ritual.

7.6.1 Cremated bone weights and tokenism

In pioneering work, McKinley established the parameters of how analysis and reporting of cremated bone should be undertaken, and today most cremated bone specialists work within these parameters. From her study of modern cremation (McKinley 1993), she ascertained that the quantity of bone recoverable from a modern adult cremation was 1600–3600g with an average of 3000g. These figures include fragments of <2mm, which the figures in archaeological contexts often do not include. Removing the <2mm fraction, McKinley also refined the average expected to a weight range of cremated bone from an adult male of 2283.5g and from an adult female of 1615.7g, again both being based on observations at modern crematoria in England (McKinley 1993). From studies of the cremated bone from Bronze Age sites, McKinley recorded a cremated bone weight range of 902.3–2747.1g, with an average of 1486.3g from the burial of an individual (McKinley: Appendix 1).

To examine what constitutes cremation 'burial', the focus will first be on the presence of cremated human bone in pits and cists at Linga Fiold. As can be seen (Table 7.5), the cremated bone weights from Linga Fiold burials – that is from within cists and pits – varies greatly. Even though the range and quantity of cremation-related features are extraordinary, it is possible to see that only a small proportion of burial features containing cremated bone approach the expected average weight of cremated bone for an individual. Curiously, it is the heavier or more complete expected weights from primary burials that are out of the ordinary at Linga Fiold. The majority of the cists and pits contain <50g of cremated bone (39 of 66, 59%) and a large proportion of the features (24) contain <10g of cremated bone. The small quantity of burials that achieve the expected average weight would result in most of the burials being termed 'token'. Interestingly, a comparison of cremated bone weights from the study of Middle Bronze Age cremation burials in Britain (Caswell and Roberts 2018), which included Linga Fiold in the analysis, revealed that the percentages of cremated bone over 1000g from burials are quite similar, both being approximately 9%. In contrast, the percentage of bone under 50g at Linga Fiold is 60% versus approximately 45% in the Caswell and Roberts study. The prevalence of very small amounts of cremated bone in 'burial' features in Middle and Late Bronze Age Ireland is highlighted in Becker's study (2014), with an example of the 79 cremation deposits from the Gas Pipeline to the West Project of which 36 features contained <10g cremated bone, and the heaviest weight of bone being a single deposit of <600g.

Again, comparing the rest of the British study (Caswell and Roberts 2018) with the Orkney Barrows sites of Linga Fiold, Gitterpitten, Varme Dale and the Knowes of Trotty Trench F (Table 7.6), variation can be seen between the wider results, and the individual sites. To highlight first Varme Dale, where the average is similar to that of the broader study, there are only two burials represented, both the primary and the central secondary burials from Mound 1 (Section 6.2.2). As can be seen from Linga Fiold (Table 7.5), primary and central burials typically hold far greater weights of cremated bone than satellite burials, and so average bone weights from Linga Fiold and Knowes of Trotty Trench F (Section 4.5.1) are much lower. Gitterpitten however, has a considerably higher average bone weight even though satellite burials are included – although the proportion of excavated primary to satellite burials at Gitterpitten is much higher than at Linga Fiold or Knowes of Trotty Trench F (Section 4.6.1) The median in the Caswell and Roberts (2018) study is much higher than those of the Orkney Barrows Project sites, and this could relate to excavation bias towards primary and central burials together with a lack of inclusion of features which contain very little bone in the category of 'burial'. A little like cist excavations, it is suspected that many satellite burials, pyres and pyre debris dumps

Table 7.5 All cists and pits at Linga Fiold containing cremated bone, sorted by bone weight from lightest to heaviest. Primary burials denoted in bold (McKinley: Appendix 1).

Fill/layer	*Mound no.*	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
257	4	256	Cist	0.1		?	
277	7	287	Pit	<0.1		?	
328	7	224	Cist	0.2		?	
271	7	240	Pit	0.3	?1	?Immature	
265	4	356	Pit	0.4		?	
111	8	110	Cist	0.4		?	
218	7	37	Cist	1.4		?	
335	7	204	Cist	1.4		Subadult/adult	
151	5	162	Pit	1.8		Subadult/adult	
432	5	437	Pit -scoop	1.8		Subadult/adult	
286	7	180	Cist	2.4		Subadult/adult	
96	7	93	Cist	2.7		Subadult/adult	
127	6	127	Pit	6.7		?Immature	
250	7	95	Cist	7.6		?	
336	7	205	Cist	8.3	?1	Subadult/adult	
282	7	281	Pit/pyre site	8.5		Subadult/adult	
267	4	254 (associated with)	Cist	9.5		Adult	
275	7	276	Pit	10.9	2	1) young infant 2) older subadult/adult	
140	6	139	Pit	14.8		Subadult/adult	
154	5	164	Pit	15.1		Subadult/adult	
337	7	207	Pit	15.4	?1	Subadult/adult	
146	6	145	Pit	26.6	?1	Adult	?female
92	9	100	Pit	28.2		Older subadult/adult	
138	6	137	Pit	29.4	?1	Adult	
112	9	outside 50	Cist	31.1		Young adult	
293	7	181	Cist	31.2	?1	Adult	
249	7	188	Cist	33.2	?1	Subadult/adult	
173	5	174	Cist	45.4	?1	Subadult/adult	
342	7	210	Pit	55.4	?1	Adult	??female
221	7	193	Cist+urn	64.2	1	Subadult/adult	?
288, 291, 307, 310	7	190	Cist	66.2	2	1) subadult/adult ?2) immature	
121	6	129 associated with 144/7	Cist 19th century excavation	86.1	3	1) young adult (inh. Burial) 2) young infant 3) older subadult/adult	3) ??female
343	7	177	Cist	153.2	?1	Subadult/adult	
373	5	374	Cist? 19th century trench	156.9	?1	Adult	?
344	7	206	Pit	165.5	1	Adult	?
296	7	244	Pit	225.0	1	Adult	?
323,327	7	203	Cist	227.5		Subadult/adult	Female
454	7	**346**	Cist	292.3	1	Older infant	

(Continued)

Table 7.5 All cists and pits at Linga Fiold containing cremated bone, sorted by bone weight from lightest to heaviest. Primary burials denoted in bold (McKinley: Appendix 1). (Continued)

Fill/layer	*Mound no.*	*Feature*	*Type*	*Total wt (g)*	*No. ind.*	*Age*	*Sex*
91, 97, 98, 102	7	77	Cist	383.7	2+	>Infant, Adult, Subadult/adult	??female
298	7	223	Pit	499.8	2	1) older infant 2) subadult/adult	?
255, 260, 264	4	**254**	Cist	651.2	1	Adult/older Adult/ subadult	?male
69, 73	8	**66**	Cist	1057.3	1	Adult older	?female
387, 189	6	**388**	Steatite urn in pit	1222.7	1	Adult older/mature	?male
61, 67, 68	9	**50**	Cist	1455.7	2	1) older mature adult 2) subadult/young adult	1) ?male
378	5	**379**, under & = **375**	Pit	1497.3	1	Older mature/older adult	Male

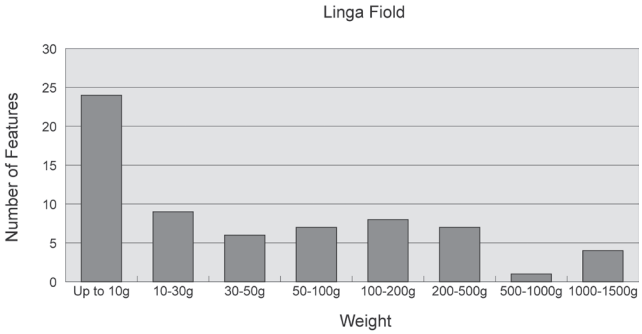


Fig. 7.9 Quantity of cremated bone from Linga Fiold burials pits and cists.

have been overlooked, even into modern times, through a narrow focus on primary burials and other burials within a barrow to the exclusion of the areas around and between barrows. Therefore, there is a general under-representation of the cremation deposits, and the features associated with them across Britain and beyond.

7.6.2 Factors affecting weights of bone

7.6.2.1 Taphonomy and recovery methods

The smaller than average weights of bone from cremation burials are explained in part, although by no means wholly, by taphonomy and recovery methods. In Roberts's (1995) study of taphonomy and loss of cremated bone fragments from Linga Fiold through post-excavation processing, the context – soil type and soil pH – and the weight of loss of less than 2mm fraction in a range of deposits were examined. Losses of cremated bone fragments of <2mm up to 25.82%, with a mean of 7.92%, were identified. However, when Mound 5 central burial (378) (Section 5.7.1), which only has 2.3% loss due to exceptional preservation, was removed, the mean rose to 14.34%. Very few burials, with the exception of the central burials at Linga Fiold Mounds 5 and 6 presented in this condition, and neither did cremated bone deposits at other barrows examined as part of this project, so the quantities of cremated bone from all these sites were probably compromised to some degree through taphonomy.

Additionally, Roberts (1995) identified that the post-excavation wet sieving process caused loss of <2mm fragments, in comparison with contexts which were dry sorted in the laboratory. The majority of the samples containing cremated bone from all the Orkney Barrows excavations were wet sieved for flotation of carbonised remains. Likewise, McKinley (Appendix 1) observed that poorly cremated bones, such as the long- bone shaft fragments from pyre (347/455) under Mound 7 (Section 5.9.1), are more susceptible to destruction through adverse soil conditions, and will tend to disintegrate in excavation and post-excavation handling.

McKinley (Appendix 1) also noted the variability of the condition of the cremated bone from Linga Fiold, highlighting the better condition of the bone from the primary burials and the higher proportions of spongy bone (i.e. vertebral bodies and articular surfaces) within these. These burials also had relatively high percentages of >10mm fragments and, significantly, the well-sealed central burial under Mound 5 (Figs 5.26 and 5.27) had 70% of fragments <10mm.

Cremated bone from c. 37% of contexts at Linga Fiold appeared worn to some degree, giving a chalky appearance, and some extreme friability. However, the level of disturbance to contexts did not seem to have had much effect on the wear of the bone but instead reflected the varying numbers of particular types of context. Bone from 81% of the features designated as pyre debris dumps and 75% of pyre sites was worn as compared to only 9% of the burial features. What seems most likely to have affected the condition of the bone is its exposure to the soil. In a burial (whether within cist, pit or vessel), the bone is concentrated and has

Table 7.6 Comparison of cremated bone weights from burials: British Middle Bronze Age (Caswell & Roberts 2018), Orkney Barrows sites Linga Fiold, Gitterpitten, Varme Dale and Knowes of Trotty Trench F.

Cremated burial bone weights in g	*MBA burials (Britain)*	*Linga Fiold burials*	*Gitterpitten burials*	*Varme Dale burials*	*Knowes of Trotty Tr. F burials*
No.	*859*	*45*	*11*	*2*	*6*
Average	374.6	157.72	296.3	364.2	100.4
Minimum	0.1	0.1	0.46	227.1	0.2
Median	140.0	28.2	78.9	–	62.9
Maximum	5908.0	1497.3	1019.9	501.3	407.3
Total	–	7097.6	3258.8	728.4	602.5

less soil infiltration, whereas in pyre sites and pyre debris, the bone is dispersed and more exposed to the soil (McKinley: Appendix 1), as well as to trampling and weathering potentially in the case of surface features.

One additional point of note was made by McKinley (Appendix 1) during analysis of the bone from pyre site (347/455) under Mound 7 (Section 5.9.2). The fragments which were poorly cremated tended to disintegrate on handling. Charred bone will retain a proportion of the organic component of the bone matrix rendering it susceptible to destruction in adverse soil condition (similarly to unburnt bone) which have a lesser effect on fully cremated (oxidised) bone. It is possible therefore, that some poorly cremated bone may have been lost through taphonomic processes as well as during excavation and post-excavation processing. Although variable levels of cremation efficiency were observed, illustrating that at least some poorly cremated bone did survive, it should be acknowledged that poorer survival of partly cremated bodies will skew the data to lighter bone weights.

Therefore, how the bone is both cremated and deposited has a major impact on taphonomy and survival: well-sealed, well cremated primary central burials will have greater weights in part due to taphonomy. The Bronze Age post-cremation processes will have also affected the bone weights found in burial deposits. Variability in efficiency of cremation, removal from the pyre, transportation sometimes to a second location (pyre debris dump) for sorting, and any washing and further transportation would have all led to certain degrees of fragmentation and loss. Excavation and post-excavation processes also impact bone survival. However, the most significant factor of all determining bone weights and variation appears to have been selectivity, ranging from the cremated bone and other pyre debris that was picked from the pyre, to how these materials were deposited often across a range of contexts.

7.6.2.2 Bone left on pyre sites

Continuing with the Linga Fiold pyre sites, as with the burials there is variability in the amount of bone left on the pyre and therefore in weights of cremated bone (Table 7.2). The greatest amount of cremated bone recovered from the pyre sites at Linga Fiold was that from pyres beneath Mound 7 (347/455) (296g), Mound 5 (152) (280.8g) and beyond Mound 7 (195) (195.8g). It is perhaps unsurprising that the pre-Mound 7 pyre (347/455) has the largest quantity as it is the best-preserved pyre and was sealed immediately by mound material. It is perhaps a reliable record of what remained on this size and type of pyre, although such variety in both pyre form and content means this should be approached with caution. The pyres moreover yielded a similar amount of cremated bone to several of the burials at Mound 7, including the rather unusual primary burial (346) in an uncovered low stone box (Figs 5.60 and 5.61). In the case of Mound 5 pyre (152) and also the later pyre on Mound 6 (144/7) (72.8g), as there were two individuals probably cremated together these quantities are lower proportionately and not directly comparable (Table 7.2). Pyre material (159) contained 76.2 g of cremated bone, and all the rest of the pyres (n = 12) contained <50g, with seven containing <10g. The percentage of pyre contexts with bone <50g is 66%, which is a little higher but not greatly so than the 60% of Linga Fiold burials that contained <50g cremated bone.

The amount of bone left on the pyre would also vary according to taphonomic processes, as surface spreads at the edge of the mounds for example would be vulnerable to disturbance as discussed above. The wide variability in amount of bone left on the pyre, similar to the variability in burial deposits, is clearer when pyres are preserved under the mound. For example, the pyre at Sketewan, Perthshire (Mercer and Midgely 1997), had three clear instances of firing with 300g bone (from several individuals), 240g (from possibly one adult), and 1230g (from an adult and possible child) remaining (McSweeney 1997, 312).

Unexpectedly, is possible to observe from the Linga Fiold pyre site evidence that substantial quantities of cremated bone were left on the pyre, usually lying uppermost on the surface from where it could have been collected with little difficulty. Some have proposed more 'practical' reasons behind the 'token' amounts of cremated bone recovered from so many burial sites. For example, on the basis of experimental work, Hedges (1977, 143) concluded that

small quantities of bone were collected from pyres because it was difficult to separate bones from ashes. As evident in the Balinese cremation (Downes 1999a), and in the mastery of technology exhibited at all stages of cremation including the sorting of pyre debris at Linga Fiold, this proposal is difficult to uphold. In the creation of differential cremation deposits, we can concur with Lewis when she speaks of the selection of material to create a barrow, that we 'are not witnessing the principle of least effort' (Lewis 2007, 80). Becker (2014) has also noticed that in the Irish examples, pyres were not entirely emptied out or cleared after their last use. Indeed, it is acknowledged that the pyre sites constituted contexts of formal deposition along with various burials of pyre remains. These processes are manifest also in the Orcadian evidence (see below).

7.6.2.3 Selective deposition and distributed deposition

McKinley (Appendix 1) observes that generally there are quite substantial differences between the weights of bone from the primary burials compared with the secondary and satellite burials, as seen clearly in some of the Linga Fiold primary burials. The primary burials at Linga Fiold range in weight from 292.3g (cist 346, older infant under Mound 7) to 1497.3g (pit 379, adult male under Mound 5) (Table 7.6) and as such have a much higher average of bone weight than secondary and satellite burials. The noticeably larger weights of bone present in the primary burials add to a corpus of data collected by McKinley 'demonstrating that consistently high weights of bone are recovered from Bronze Age central barrow burials compared with other types of contemporaneous cremation burials' (McKinley: Appendix 1; see also Boyle 1999, 176). Only four burials at Linga Fiold are over 1000g and these are primary burials of which three burials stand out: Mounds 5, 6 and 8. The Mound 9 primary burial (Section 5.11.1) contains the remains of two individuals so is not directly comparable to these.

From the weights of cremated bone at Linga Fiold, the best-preserved primary burial with the largest quantity of bone was Mound 5. Here, the burial had a total weight 1497.3, and an additional 164.4g cremated bone was deposited amongst the pyre debris (375) over the lid of primary burial (379) (see Fig. 5.29; Tables 5.15 and 7.2). Surprisingly, this was the only burial close to the expected average. Examination of the identified bone fragments from both the pit and overlying deposit suggested that a high proportion of bone from the individual was not included in either context. However, a number of factors (explored above 7.6.2.1) could explain this loss, for example, the minute fragments of bone within the soil profile, the bone fragments incorporated into the cramp, the loss through washing and processing of material at the time, and during excavation and post-excavation. To these we can add the negative effects of taphonomy, particularly, on the context of the pyre debris overlying the burial pit. That the bone and cramp assemblage from within Mound 5 burial pit (378) was cleaned and presumably washed of pyre debris is unusual in the Linga Fiold barrow cemetery, being more akin to the deposits of cremated bone found within unobtrusive cists in Orkney such as Riff (Section 3.3.6), Sandfiold (Fig. 3.43; Dalland 1999) and Crantit West (Fig. 3.46; Ballin Smith 2014, 30–3).

It is significant that primary burials at Linga Fiold do not just contain a greater quantity of cremated bone. They contain more of every other part of the pyre; more cramp, more burnt turf and more charcoal. At other Orkney barrow sites where the fills of burial features have been recorded and analysed in detail this can also be seen to be the case, for instance, at Gitterpitten and Varme Dale (Chapter 6) and at Mousland (Downes 1994).

7.7 Distributing the dead

with F. Forrester

In relatively few of the primary burial contexts analysed at Linga Fiold was there an emphasis on 'completeness' of the human body. This was true of retrieval from both pyres and burials (see Section 7.8 below). The other significant finding from Linga Fiold and Gitterpitten, and the Knowes of Trotty, was that the majority of burials registered less than complete body weights of bone. This was a consequence of the remains of the body being distributed, together with the remains of the pyre, between different places and contexts. The evidence shows that a 'burial' could comprise both cremated bone and pyre debris, but that deposition of pyre debris alone was also part of routine practice, as espoused by Becker for Irish cremation practice (Becker 2014). This can be seen at clearly at Linga Fiold, Gitterpitten and Varme Dale when the contents of all contexts – pits, cists, pyres and pyre debris dumps are shown (Figs 7.10–7.15).

At Linga Fiold, Gitterpitten and Varme Dale the contents of all features were identified and categorised as containing: burnt bone only; burnt bone and pyre debris; pyre debris only; and negligible/sterile (Figs 7.10–7.15). These latter contexts designated as negligible or sterile contained no quantifiable pyre debris; in some features the fill was black or 'ashy' but the 'ash', or minute fragments of charred fuel, did not survive the wet sieving as the fragments were too small for the sieve meshes. A feature of some of the 'sterile' features is the occurrence of 'burnt clay', which is interpreted as part of the pyre, either comprising a burnt clay subsoil underneath the pyre, or the red, oxidised upper crust of the pyre sites, such as those seen at Mound 7 pyre site (347/455), from which a quantity of 'burnt clay' was recovered (Table 7.2). Yet other deposits of pyre-related material which are less visible when redeposited are burnt (heat-affected) soils, identified in soil micromorphology at Linga Fiold as 'Type 3 sediment' (Carter: Appendix 23).

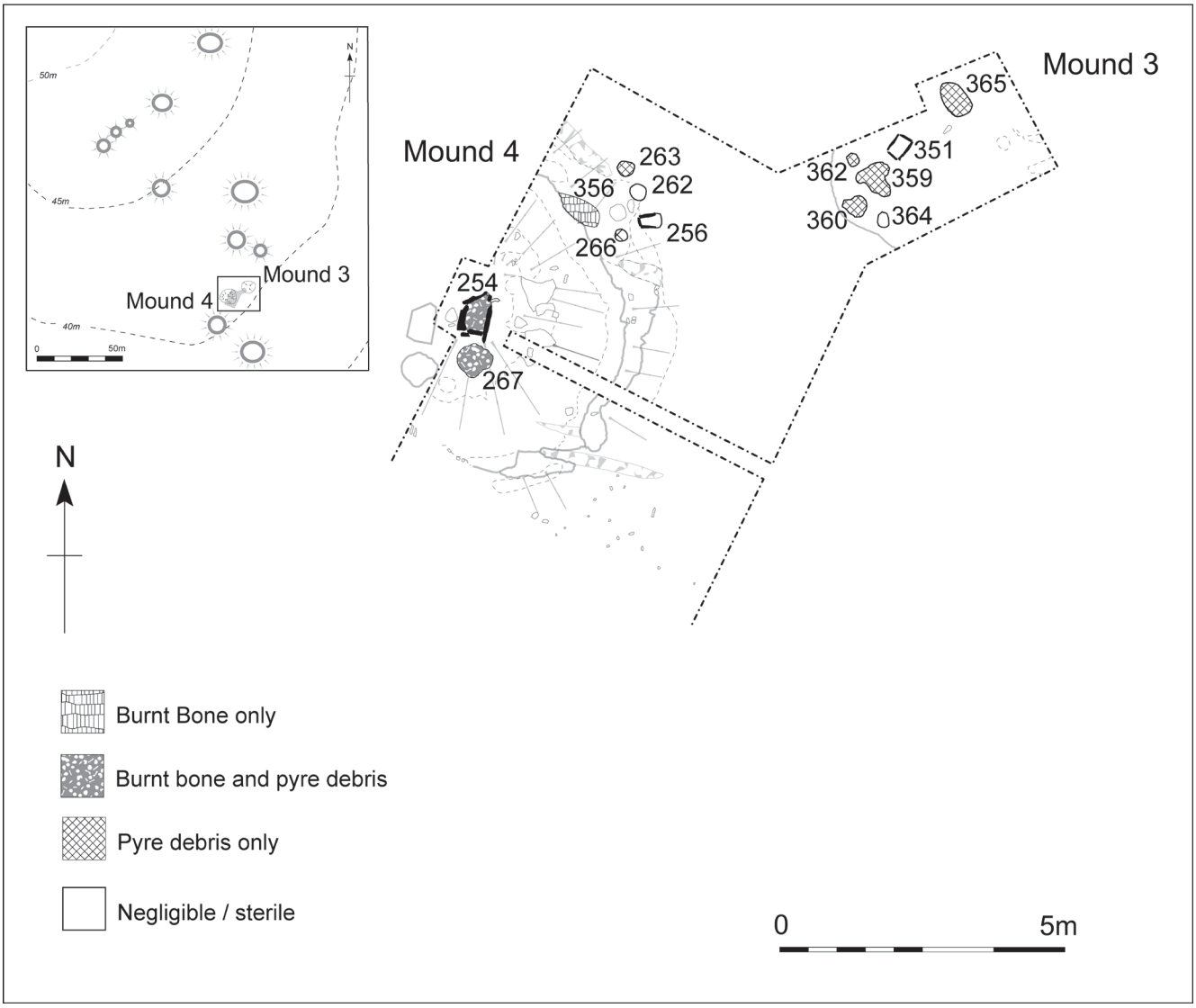


Fig. 7.10 Linga Fiold, Mounds 3 and 4 showing distribution of burnt bone and pyre debris across all features.

The Type 3 heat-reddened soil collected from underneath the pyre was evidenced through soil micromorphology to have been redeposited as a layer high up in Mound 5 (part of the inversion of the natural and pyre stratigraphy, see below), and utilised as packing around the central cist in Mound 8 (Fig. 5.80). Therefore, there are types of pyre-related materials which are not immediately visible and not usually recorded as part of funerary-related deposits or features.

The most numerous cremation deposit type is burnt bone together with pyre debris. What is clear is that burials of solely cremated bone are quite rare in Orcadian barrow burial contexts, in contrast with unobtrusive cist contexts (see Chapter 3). Exceptions are the primary burials in Mound 4 at the site of Gitterpitten (Section 6.3.2), which comprised only cremated bone, the secondary central burial at Linga Fiold Mound 6 and a few satellite burials at Linga Fiold. This characteristic is also observable in both primary burials in Knowes 3 and 4 at the very similar site of Quoyscottie (Fig. 6.61; Hedges 1977). Indeed, sterile features are more common than burials of solely burnt bone.

It is also apparent that the contents of pits and cists at both Linga Fiold and Gitterpitten vary considerably: from features containing cremated bone and several types of pyre debris – cramp, charcoal, burnt turf, to features containing just one type of pyre debris and to sterile features which contain the less visible components of the pyre such as burnt soil.

Further analysis was undertaken examining the detail of the varying combinations of the fills of the 37 cists and 44 pits from Linga Fiold, Gitterpitten and Varme Dale (Fig. 7.16). The most common occurrence is of all types of pyre material including cremated bone which is

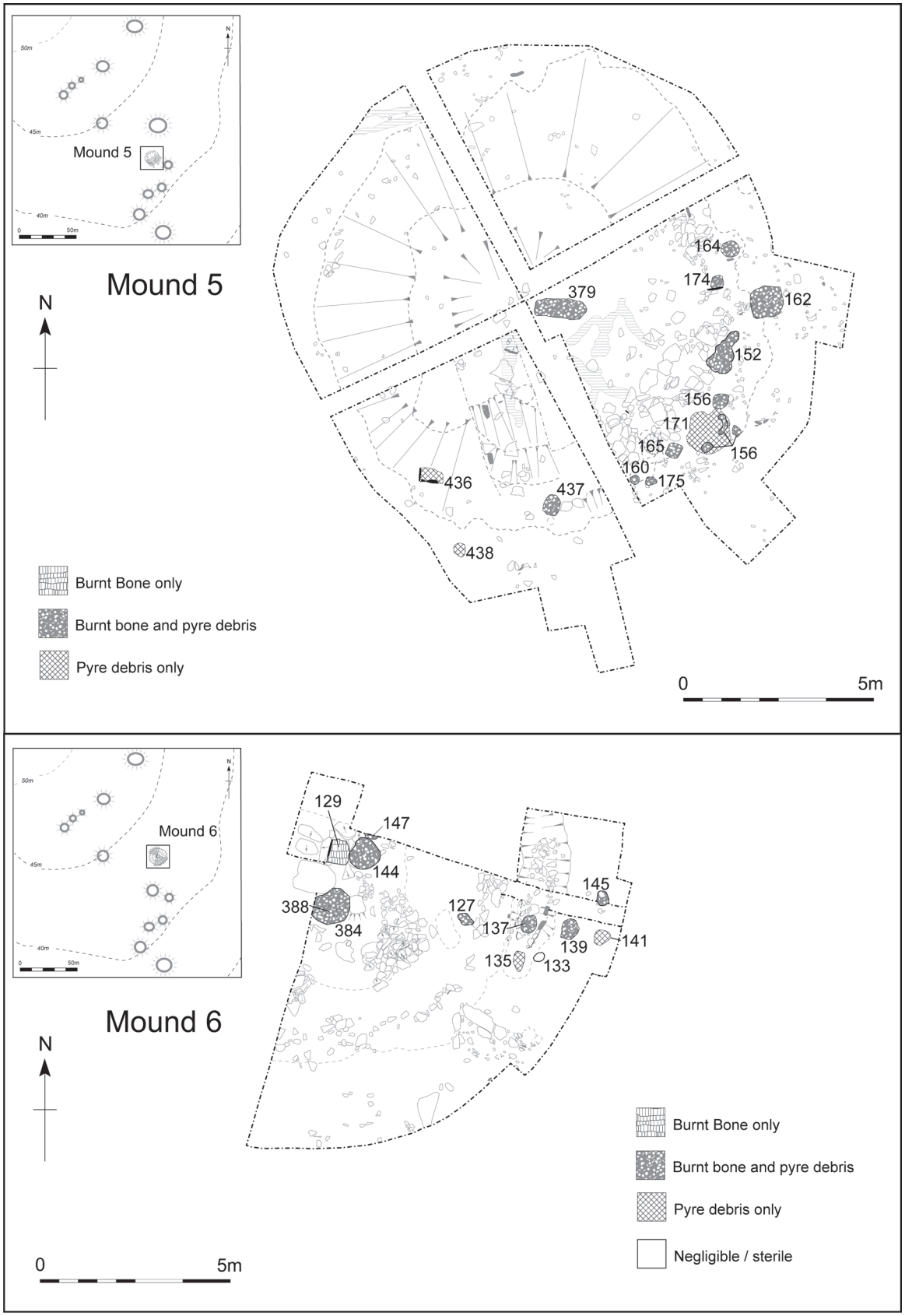


Fig. 7.11 Linga Fiold Mounds 5 and 6 showing distribution of burnt bone and pyre debris across all features.

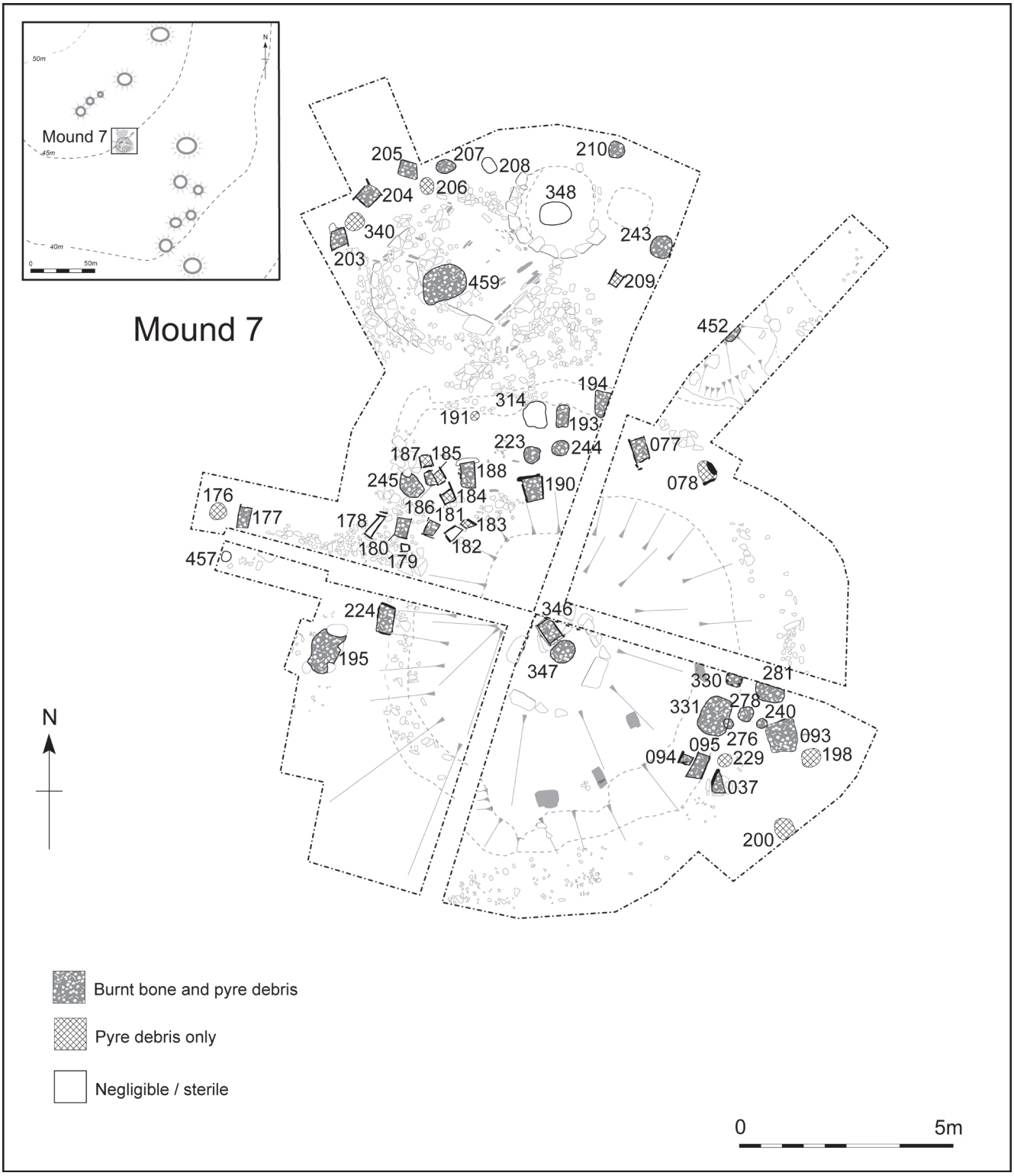


Fig. 7.12 Linga Fiold Mound 7 showing distribution of burnt bone and pyre debris across all features.



Fig. 7.13 Linga Fiold Mounds 8 and 9 showing distribution of burnt bone and pyre debris across all features.

13 cists and 11 pits. Interestingly, 13 cists (35%) and 20 pits (45%) contain *no cremated bone* at all, which shows that although there is bias towards cists for occurrence of cremated bone it is not comprehensive. Although a cist is a built structure in contrast to a pit, which is simply a hole dug in the ground, it is not possible to see a major distinction being drawn between a cist and a pit in terms of the former being a more 'formal' burial. The next most common occurrence is features which are sterile or have negligible quantities of pyre debris of any type (total n = 10) which is an equal split of five pits and five cists. Of occasional to moderate frequency are the occurrences of charcoal and cramp (six features); all types apart from cramp (five features), all types except burnt turf (five features) and cramp alone (three features). Burnt turf as a sole type occurs only once, in a pit. There is also only one occurrence of cramp and burnt turf, in a cist, and there are no instances of the occurrence of cremated bone and burnt turf, or in cists or pits. This analysis serves to highlight the selectivity of varying types of pyre debris, and the ordering of deposition of these types is discussed below.

The overall percentages of the occurrence of pyre material types from cists and pits as well as pyres and pyre debris dumps are presented in Table 7.7. There is a preference for depositing cremated bone in cists (although see above, this can often be very small amounts), and similarly with cramp, which is often accorded the same burial as cremated bone. There is an inverse ratio with burnt turf which has a higher percentage occurrence in pits, and there are higher percentages of cremated bone and cramp in pyre contexts than pits. Again, unsurprisingly, the highest percentage of burnt turf is in pyre contexts, explainable because this fuel residue/burnt surface typically is found below cremated bone and cramp.

The practice of distributing cremated bone and other parts of pyre remains between more than one feature probably also occurred at Trench F, Knowes of Trotty (Section 4.6.1). The tightly clustered group of cists and pits found in this trench were all satellite burials and the deposits within them exhibit the same characteristics and variations as the satellite burials at Linga Fiold and Gitterpitten. More particularly, cists (056) and (059) (Fig. 4.31) were adjoining and may have contained the remains of the same pyre because the remains of three cremated individuals, one adult and two immature, were present in both cists (Table 4.5).

A similar practice can be identified at other Orkney sites. At Quoyscottie, Birsay, both the primary cist burials in Knowes 3 and 4 at Quoyscottie (Fig. 6.61; Hedges 1977) comprised only cremated bone, with cremated bone and pyre debris having been distributed through 34 satellite pits. The pattern of distribution of pyre remains at Quoyscottie was similar to that of Gitterpitten, as pits containing both cremated bone and pyre debris dominated at both sites.

At Loth Road, Sanday, a Bronze Age cremation burial site comprised a small area of eight pits and two cists, one of which contained a complete steatite urn, later covered by a cairn ring (Sharman 2007). The site is interpreted as an agglomeration of features containing the distributed remains of probably only one pyre (Sharman 2007, 26). A large quantity of cramp was recovered from one of the cists (356g); a mass of charcoal was recovered from a different pit (c. 35g); and burnt turf was recovered from three of the pits (c. 10–20g). These residues were deposited almost totally to the exclusion of one another, for instance there was no charcoal at all in either cist and, significantly, the total weight of the cremated bone was only 13g, distributed amongst the pits and cists in very small quantities (Roberts 2007, 11–13).

There are some instances identified, for example in Scotland at Seafield West (McKinley 2003) and Weird Law, Peeblesshire (Russell-White *et al.* 1992), of the practice of the burial of cremation debris and its distribution between several features. There is also some acknowledgement of



Fig. 7.14 Gitterpitten Mounds 2, 4 and 5 showing distribution of burnt bone and pyre debris across all features.

the practice. For example, Caswell and Roberts mention that a single cremated individual may have their remains placed in more than one token deposit (2018, 332–3) and Brück (2019, 49) notes that Middle Bronze Age bone and pyre debris were often deposited separately as well as on occasion co-mingled. The study that Becker (2014) undertook on the issue of 'token' burials in later prehistoric Ireland demonstrated the frequency of the deposition of pyre debris across numerous features. Also, as noted earlier, very small quantities of around 20g of burnt bone constituted the majority of cremation burials in Ireland.

However, a focus on primary burials and a lack of excavation and recording that is sympathetic to the recovery of all kinds of pyre debris have left this distribution of pyre remains among various features an under-represented facet of the archaeological record and this has significant implications for Bronze Age burial archaeology. Demographic information is important to mortuary studies (McKinley 2013) for quantifying the proportion of the population accorded cremation rites in addition to understanding the profile of the population. Over-estimation of numbers of individuals is a danger if the 'interpretation of the deposit

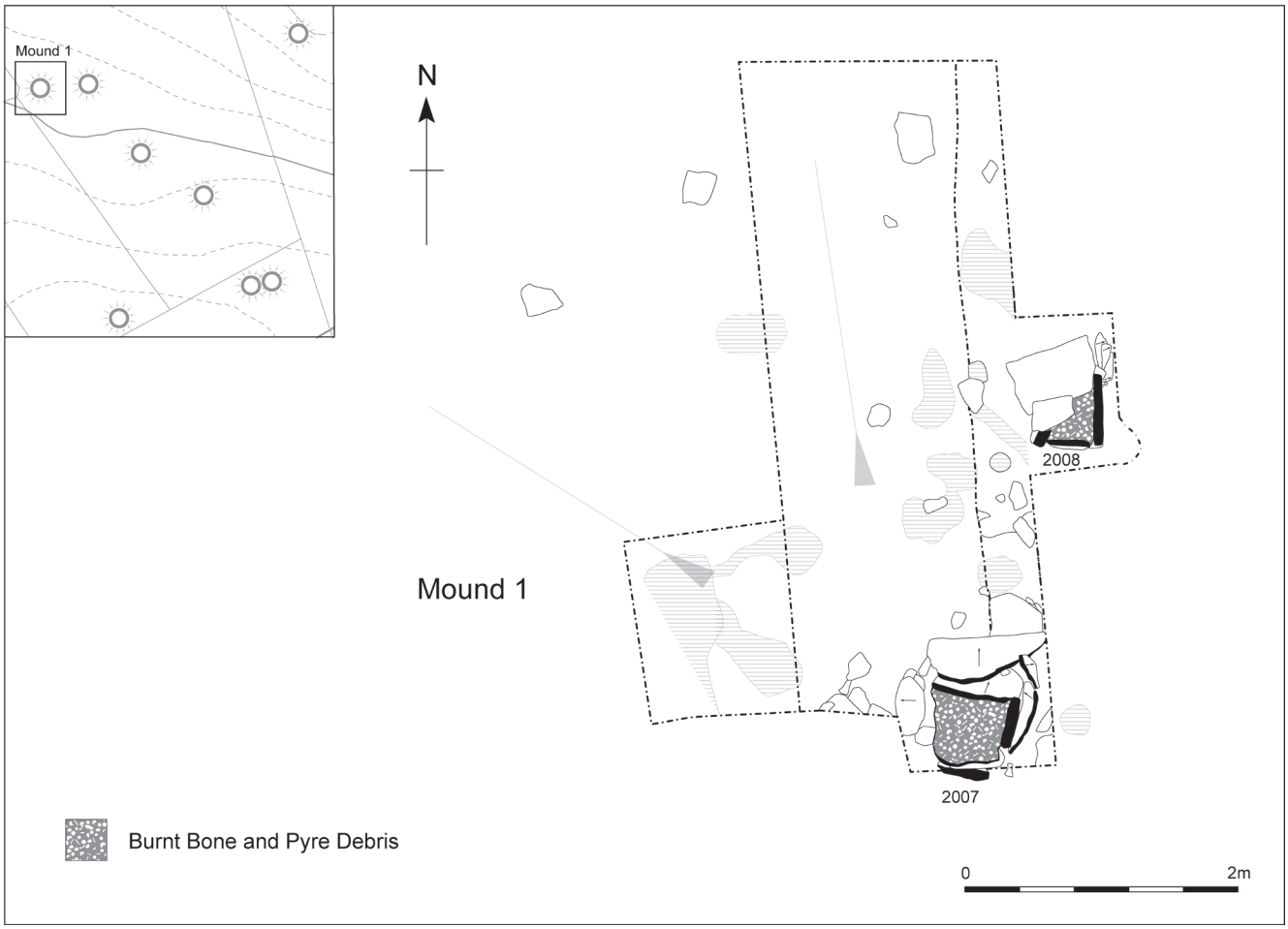


Fig. 7.15 Varme Dale Mound 1 showing distribution of burnt bone and pyre debris across all features.

Table 7.7 Percentages of pyre material types in Linga Fiold, Gitterpitten and Varme Dale contexts.

Material types	*Cists*	*Pits*	*Pyres & pyre debris dumps*	*All features*
No.	*32*	*39*	*24*	*96*
Cremated bone %	91.66	61.53	75.00	72.91
Charcoal %	95.83	82.05	84.37	86.45
Cramp %	75.00	56.41	75.00	67.70
Burnt turf %	45.83	56.41	68.75	59.37

type is not carefully considered' (McKinley 2013, 162). Certainly, if the cremated remains of a single person are spread between several contexts, perhaps as part of the deposition of pyre material, this could easily lead to an inflation of the numbers of individuals represented. This indicates strongly that rather than conceiving of a cremation deposit as simply the burial of a person or individual, instead, the deposition of cremated remains could be seen as the burial of material commemorating the cremation *event*. Here, the significance of the event is in terms of the transmutation of the human body and its generative capacity as witnessed in the creation of a new material: cramp.

7.8 Layering the dead

At Linga Fiold it was often the case that cleaned human bone comprised the lower part of a cremation burial deposit and any pyre debris buried would have been placed over the top (cf. McKinley 1997a; 1997b). This may be a consequence of the cremated remains being interred in the reverse order of the way in which they were positioned on the pyre. A very clear example of this ordering of burial can be seen in the Mound 5 primary burial (379) (Figs 5.25–5.27), wherein the cremated bone together with cramp that had bone attached were laid in an elongated grave-shaped pit. Cramp that did not have bone attached, as well as large amounts of charcoal and some 'burnt clay' (lower part of the pyre) were piled over the top of the slab covering the pit (Table 7.8).

From the evidence at Linga Fiold, it is possible to identify ordering of deposits in a number of features and it is

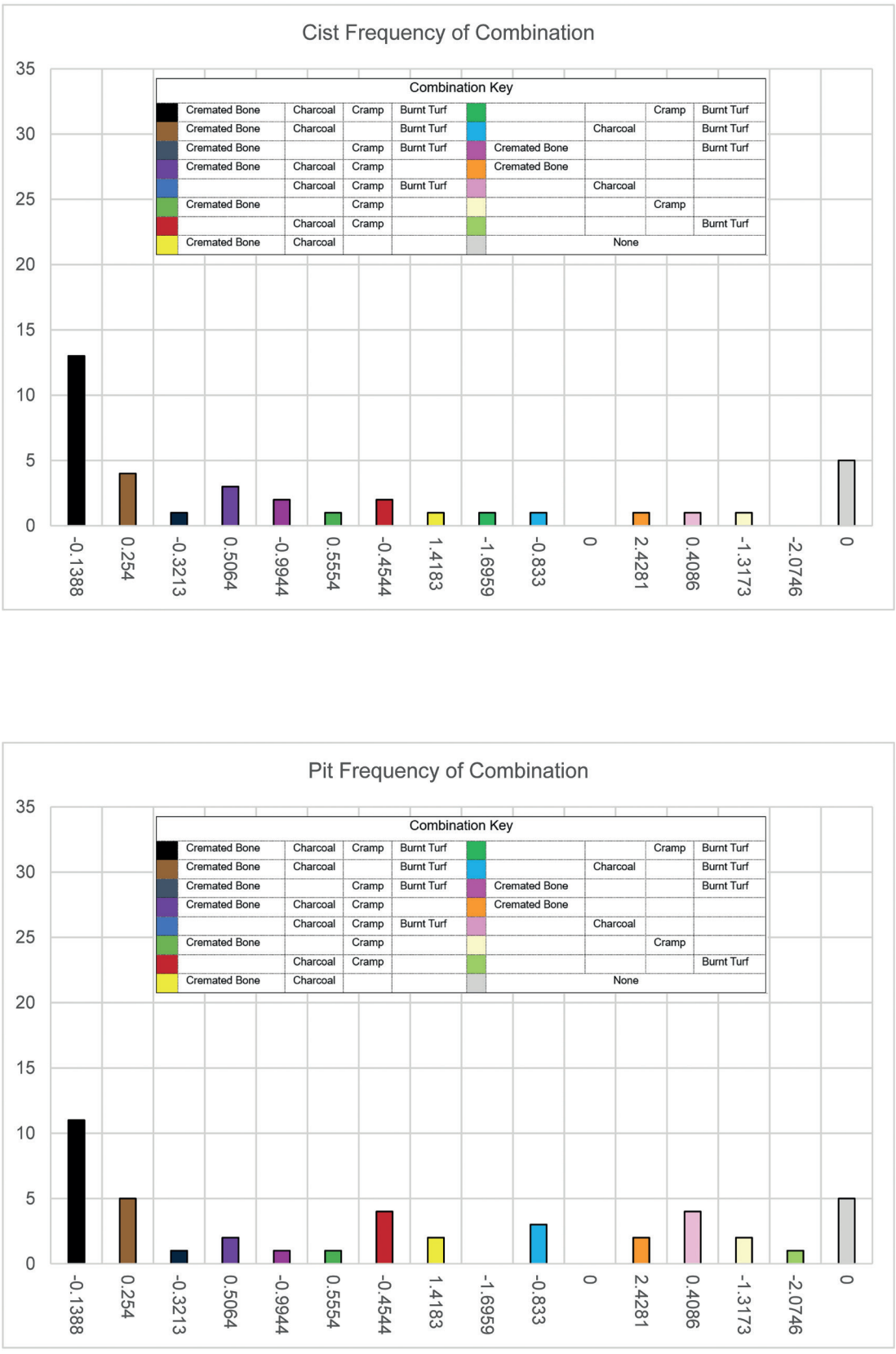


Fig. 7.16 Chart showing frequency of various types of fill in cists (n = 37) from Linga Fiold, Gitterpitten and Varme Dale (top), and frequency of various types of fill in pits (no. = 44) from Linga Fiold, Gitterpitten and Varme Dale (bottom).

Table 7.8 Primary burials at Linga Fiold Mounds 5 and 6, showing amounts of pyre debris (g) in burials versus overlying layers of pyre debris.

Location	*Cremated bone*	*Cramp*	*Charcoal*	*Burnt turf/ clay/pot*
M5 burial (378)	1497.5	174.1	None	None
M5 overlying pyre debris	164.4	391.4	Abundant	25 burnt clay
M6 burial	1222.7	10.1	Abundant	7.5 burnt clay 4.1 burnt turf pot sherd
M6 overlying pyre debris	76.6	None	Some	19.6 burnt turf

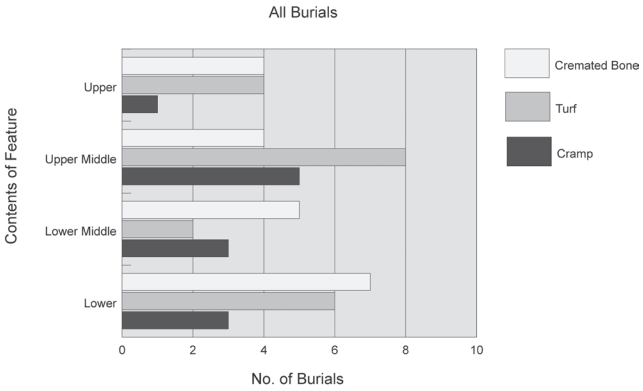


Fig. 7.17 Linga Fiold: distribution of pyre remains through features; primary and secondary burials.

apparent that there is some variation. To better identify this differentiation analysis was undertaken on the ordering of the contents of the cists and pits (n = 33) (Figs 7.17–7.19). Features with only one fill, or with contents that are mixed or undifferentiated through the fill/s are not included (n = 55) in the analysis. Charcoal is not included as part of the contents because it tends to be mixed throughout the fills in most cases.

The chart showing the order of the fills of all burial features (Fig. 7.17) does not display a marked difference in the ordering of fills. Cremated bone, burnt turf and cramp occur at all levels within the feature, which might suggest that there was not a particular effort to categorise or order the contents. There is a slight tendency displayed for a lesser cramp content in the upper than the lower fills, and for less cremated bone in the upper than lower fills. However, when the remains of one pyre were distributed between a 'suite' of two or more features as described above, the burnt material being distributed in this manner would produce a mixed, horizontal ordering when features across the site are viewed together.

When the data from the primary and secondary burial features fills are separated out moreover, differences in the ordering of fills become more apparent. In the primary burials (Fig. 7.18), there is a clear distinction between cremated bone, which only occurs in the lower fills, and burnt turf, which in contrast occurs in the upper fills; cramp also occurs mainly in the lower middle and not the upper fill. Also, in the primary burials at Linga Fiold the bulk of the cremated bone lies in the lower middle of the feature, rather than on the basal surface as is commonly reported at other sites. The ordering of the fills of the secondary burials (Fig. 7.19) is not so clear cut.

To look in detail at some of the Linga Fiold primary burials, at Mound 5, because the deposits of pyre debris are separated by being deposited below and above the grave slab, distinctions between types of debris and their

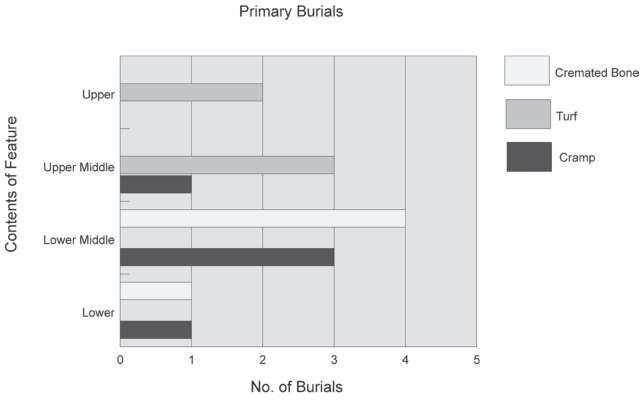


Fig. 7.18 Linga Fiold: distribution of pyre remains through features; primary burials.

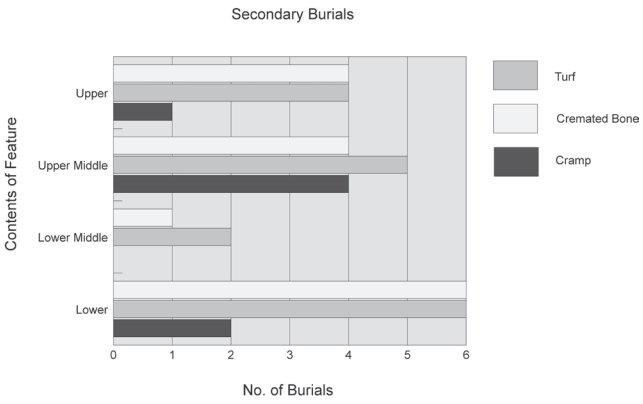


Fig. 7.19 Linga Fiold: distribution of pyre remains through features; secondary burials.

location are clearest (see also Downes 2009). As can be seen the grave pit itself contained only large quantities of cremated bone, and cramp (Table 7.7; Fig. 5.26). Whereas the deposit of pyre debris across the top contained a larger amount of cramp, some charcoal, and small amount of cremated bone. The separation of the cramp between the cremated bone and the other pyre debris is the best example of the phenomenon which Carter (Appendix 26) observed as preferential selection of cramp according to its proximity to the cremated body. The cramp included with the cremated bone in this burial was in some cases fused to the bone and in all cases was the type that formed closest to the corpse (Type 5, see above). In contrast, none of the cramp above the grave slab had bone attached to it. That very careful and exact sorting of the pyre debris had occurred is indicated by a total absence of charcoal in the grave, and an abundance of charcoal over the slab. The complete absence of burnt turf is perhaps significant; either it was selected out and deposited elsewhere or the pyre was not fuelled with turf which, given the large amount of cramp present, is unlikely.

At Mound 6 the burial in a steatite urn (387) contains very little cramp and burnt turf, and what there is of these materials is spread throughout the fill. The larger quantities of cremated bone are in the lower part of the fill, as well as a large quantity of charcoal (this was the burial with the greatest amount of charcoal) (Table 7.8). At Mound 8 Cist (066) the largest amounts of both cremated bone and cramp are in the lower part with a large quantity of burnt turf above. At Mound 4 Cist (254) the largest quantities of all types of pyre debris – cremated bone, cramp and burnt turf – are in the lower part of the cist and all of these decrease in quantity towards the upper part of the cist. In the Mound 9 Cist (050), the largest quantity of burnt bone is in the lowest layer and the largest quantity of cramp above this, with the largest quantity of turf uppermost.

It is clear from the Linga Fiold primary burial evidence that there is categorisation of pyre remains and that the ordering of the remains follows *a fairly consistent order*. This order is the bulk of cremated bone in the lower part of the receptacle, cramp either at the same level or slightly above and burnt turf in the upper parts of the deposit. In the selectivity of cremated remains, further distinctions can be observed between different types of cramp according to its proximity to the cremated body, and this could explain why cramp is sometimes lower and sometimes slightly higher in the deposit. Where charcoal is present in sufficiently large quantities to be able to locate it stratigraphically, such as the primary burial at Mound 6 (Section 5.8) where wood appears to have been the fuel utilised, it is located in the lower part of the deposit with the cremated bone, in the position cramp occupies in other primary burial deposits.

On occasion in the secondary burials at Linga Fiold all elements of pyre debris are present and have been again meticulously sorted and deposited, but the fills only occasionally conform to the reverse ordering (of the *in situ* pyre) found in the primary burials. Cremated bone may occur in the lower part of the fill of a cist or pit and mixed pyre debris with little cremated bone in the upper, but sometimes the reverse occurs. For example, in later Cist (077) just north of Mound 7 (Fig. 5.70), a large quantity of burnt turf was tipped into the bottom, over which was placed the cremated bone and cramp (probably in a bag). This was then covered by another deposit of cremated bone of a different person.

At other Orkney Barrows Project sites, the categorisation of fills of burial features and the differences in deposition between primary and secondary features are similar to those observed at Linga Fiold. For instance, at Varme Dale, Mound 1, the central Cist (2007) contained a much greater quantity of bone in the lower fill and charcoal and some cremated bone in the upper fill. The secondary Cist (2008) within the mound contained cremated bone in lower fill, burnt turf in the upper fill, and charcoal throughout (Section 6.2.2). At Gitterpitten, the primary cist in Mound 2 contained burnt bone and very little other pyre debris apart from a small amount of charcoal (Section 6.3.1). In the primary Cist (1040) of Mound 4, the lower fill comprised the greater quantity of burnt bone, together with burnt turf and charcoal, and the upper fill contained a slightly lesser quantity of cremated bone (Section 6.3.2). The contents of the pits around the mounds were variable. Pit (1033) contained bone at the top of the feature, Pit (1036) had bone and charcoal throughout, while Pit (1037) had cremated bone in the upper part. In Pit (1028) cremated bone increased to the top and burnt turf was deposited at the very top, and in Pit (1039) a smallish amount of bone was found throughout and a quantity of burnt turf in the upper fill (Sections 6.3.1.1; 6.3.2.1 and 6.3.3.1; Tables 6.6–6.8).

The tightly clustered group of cists and pits found in Trench F at the Knowes of Trotty (Section 4.6.1) exhibits the same characteristics and variations as the secondary burials at Linga Fiold and Gitterpitten. Of the adjoining cists (056) and (059), which may have contained the remains of the same pyre (both with remains of three individuals), the latter contained the largest amount of cremated bone (116.7g) in the lower and middle part of the fill, whilst the greatest quantity of cramp was in the middle and upper parts, and the burnt turf spread throughout. The former Cist (056) contained much lesser quantities of cremated bone (5.8g) and cramp which were located more to the upper part of the cist. This cist had a greater quantity of burnt turf than Cist (059), located in the upper part of the fill. Cist (089) contained the cremated remains of a single female person and the greatest quantities by far of pyre remains (407.3g) of all the excavated features. Cremated bone was spread throughout the fill, with slightly less in the lower and middle area of the feature. Cramp was found mainly in the middle and upper parts of the fill and burnt turf in the upper part.

The other cist (055) (9.6g bone) and pits (054) (62.9g bone) and (084) (0.2g bone) contained fewer of all visible types of pyre remains. In all these features the larger quantities of all types of cremated material were in the upper parts, while ash with no distinctive pyre debris was towards the bottom. However, the opposite occurred at Mousland, Stromness, where the majority of the cremated bone was located at the base of the cist, with pyre debris and small amounts of burnt bone mixed above (Downes 1994, fig. 2.6).

From the analysis of the formation of cramp undertaken at Linga Fiold (Carter: Appendix 26) and its contexts of deposition, it seems reasonable to suggest that when fused to cremated bone it was categorised as bone for the purposes of ordering the deposit. Cramp that had formed in close proximity to the body on the pyre but was not actually attached to bone was however, always similarly deposited in the burial feature or receptacle.

Significantly, primary burials exhibit a consistency in the order in which the various parts of the pyre are deposited, that is in reverse of the order left after the pyre has burnt down. This is a feature also described by Carter for the formation of the barrow mound itself (Appendix 23; cf. Wiseman *et al.* 2021). Cremated bone was either separated out from all pyre debris and placed on the base of the cist or pit alone or, if interred with other types of pyre debris, the largest quantity of burnt bone is almost invariably placed at the bottom. On occasion cramp accompanies cremated bone in a cist, pit or vessel that was otherwise empty. When interred with a range of pyre debris, cramp is usually deposited in the lower part of the feature. Conversely, burnt turf is almost always deposited in the upper part of the burial feature.

The order of the contents of the primary burials could therefore be interpreted as being configured in the reverse of the order in which the cremation pyre was formed, which was essentially the same order the remains lay in after the fire had burnt down. The turfs and wood making up the pyre would have been surmounted by the body, and as we have seen when the pyre burned down and reduced the burnt bones remained on the top of the debris. The converse is true of deposition within the barrow, with the cremated bones being deposited first. Then burnt turf was placed above, in reverse position to its place in the structure of the pyre. Cramp was sub-categorised and redeposited according to where in the pyre it formed and displayed an inversion of its own. The position of cramp in relation to the rest of a deposit lends weight to this interpretation of the inversion of the pyre, for when cramp has bone attached, or was formed in close proximity to the body, it was categorised and deposited low down in a cist, grave or pit in a similar manner to cremated bone, but when it formed at the base of the pyre it could be placed at the top of the deposit, or even outside the cist, as occurred at Upper Bigging and Sandfiold (Dalland 1999, 383).

This inversion of the pyre cannot be functionally explained as a consequence of picking out the different elements and depositing them straight into a burial receptacle in the way they present themselves on the extinguished pyre. The meticulous way in which different parts of the pyre were identified, picked out, cleaned and sorted necessitates a double handling of the pyre debris. The 'pyre debris dump' features have been identified as deposits of pyre debris that had been removed during the sorting processes.

The consistency of this order within the primary burials, and many of secondary burials, indicates both a concern with categorisation and sequence. Chapman (2000a) emphasises the significance of categorisation to the study of material and social relations in his discussion of the dialectical relationship between humans and objects. Chapman describes categorisation as 'the order imposed on the world by the creation of cultural order' (2000a, 31). Through the cremation process, including the categorisation and sequencing of the cremation remains, we can discern an imposition of organisation and structure which clearly indicates a concern with the reproduction of ontological order. In many ways, the technological process of cremation creates a composite artefact, the agglomeration of different parts of the world inhabited by the living. The finished, fragmented and fragmentable artefact offers a range of possibilities to the participants in the funerary rites which include, first, further fragmentation leading to potentially greater dispersal in different features or locations. Secondly is the possibility of defragmentation which would involve the re-assembling of the parts that made up the body and/or pyre. Finally, a process of reconfiguration of the body and/or pyre could be achieved to create a different form of being and re-ordering of the world. One example of such reconfiguration is that of inversion.

In the micromorphological analysis of soils and sediments at Linga Fiold, Carter (Appendix 23) identified the use of 'Type 3' sediment, heat-affected soil derived from underneath the pyre, as packing around and over the central cist of Mound 8 (Section 5.10.1). At Mound 5 (Section 5.7.1), heat-affected sediment was deposited as a layer over a thick deposit of pyre debris deposited on the slab covering the central burial (with conjoining bone from the burial below the slab). The stratigraphic sequence of Mound 5 turves, followed by loose topsoil, surmounted by subsoil was interpreted by Carter as the *inversion of the natural stratigraphy* (Fig. 5.22). The layering of the burial, described above, the inversion of the pyre and the inversion of natural stratigraphy, are interpreted as an unbroken ritual sequence (Owoc 2005; Downes 2009). Such a re-ordering of the world may reveal the processes of the funeral, especially the transmutation and re-creation of materials and substances to be a generative rather than destructive process and, as such, provides an unexpected metaphor for growth (Brittain 2004). In this respect, not only

is the funerary process generative but, as was agued earlier, the cremation event requires much planning, involving the collecting and storing resources over a long period of time. Preparing for death is embedded in the routines of life and therefore emerges as a continuous cycle of reproduction which signals the inalienability of people within a totemic ontology in which land is essential to people, animals and plants (Ingold 2000, Downes 2009, 134). This identification goes some way towards addressing the concerns of Wiseman *et al.* that 'it is one thing to identify a recurring pattern of inversion', but 'another matter entirely to connect it with an idea such as the dead' (2021, 725). Certainly, the relationship with the dead in a reversed world beneath the membrane of the 'surface' is inherent in Bradley's (2000b, 142; 2006) interpretation of Scandinavian Bronze Age cosmology. This is also consistent with Ingold's (1986, 246) discussion of inversion as a feature of northern European ontology. The latter clearly influenced the cosmological scheme for the Bronze Age of ranked realms of sky, land and sea and the cycle of the sun which emphasises fertility and regeneration (Kristiansen and Larsson 2005; see also Downes and Thomas 2013 in relation to Orkney).

In the context of the arguments of unobtrusive accessible cists and barrows as containers and layers of wrapping, as offered in this volume, there is a simple logic that inversion strengthens the power to contain. Here, Johnston's observation with regard to funerary vessels can be extended to the process of 'mounding' when he says that 'the inversion or capping of the vessels may have empowered the pots to contain a vibrant, perhaps unstable and malign material' (2021, 89). This notion of the dangerous, impure and malign nature of unstable materiality as manifest in cremated remains and substances such as cramp, provides quite a different narrative to the changing attitudes towards both burial, and status of the physical remains, which accompanies the shift from inhumation to cremation.

7.9 Conclusion: technology and the transformation of the body

This chapter has sought to describe the extraordinary complexities of cremation practices through the second millennium cal BC, as revealed by the investigation of several Orcadian barrow cemeteries in western Mainland, principally, Linga Fiold. At this cemetery it has been possible to ascertain something of the structure of the pyres, their location, the fuel used in the pyres, the disposition and role of the corpse and the occurrence of tending and manipulating the corpse and pyre. This is all part of cremation technology. Cremation is a technology in the sense, to take some of the words used by McGinn and quoted by Ingold, that it is 'object transforming, *purposive* …, knowledge-based, resource employing ...' (Ingold 2000, 299, our emphasis). Bronze Age cremation in Orkney is challenging technologically; the commonly used resource of wood was scarce, and the turf an intractable material to work with. However, cremation was achieved with great efficiency, and in this technological practice we see the purposeful and skilful destruction and fragmentation of the body through pyre technology. It is not only the human body that is altered and fragmented. So is everything else that comprises, or is deposited on, the pyre. This can include human body parts, single bodies and more than one body, and non-human bodies and artefacts. Pyres are also generative in that they make things. For example, the vitreous substance known as cramp is created out of the transmutation of human flesh, fats and soils.

This raises more generally the interesting ontological status of the cremation event as generative, and specifically that of the production of cramp, especially when fused with cremated bone. There is undoubtedly a transformation in the state and materiality of the body; a process so nicely expressed in Sørensen and Rebay (2008) title 'from substantial bodies to the substance of bodies'. However, what is the status of these newly created, trans-mutated substances? Is this the production of materials and substances with a new kind of potency? Here the possibility must exist that the generated materials and substances may not be positive and benign, or even neutral, but on the contrary horrid, malign and highly dangerous (cf. Oestigaard 2004; Johnston 2021, 89–92). Under these circumstances, is this potency unstable and difficult to control? Is this the reason that inversion and containment is such a ubiquitous feature of Bronze Age cremations in Britain and beyond?

Through the rites and technology of cremation, the living participants cause the fusion of the dead with the organic fuels and with earth. This physical proximity and almost inseparability of the dead and other components of the pyre may have been seen as a metaphor of the ambiguous relationship between living persons and the land. The integration, or re-integration, of the two can be seen also in the composition of the burial and constitution of funerary architecture. If this involves a fearsome dead and polluted and dangerous material outcome, then we can begin to understand the extraordinary depositional patterns identified above (Oestigaard 2004, 26). However, the process of cremation, the performance of the technology that cremation entails, also not only changes the state and materiality of the deceased but as noted above, produces a precarious relationship between the living and the dead person or persons. If we view humans (and the human body) as permeable, and as mediators rather than manufacturers in the production of a new materiality, then the qualities of that materiality become merged with that of the maker (Chapman 2000a, 30). Here lies the extreme danger of transforming the dead, because as Chapman describes, technology (involving the transmutation of the body) in this context is reproduction rather than production. Hence, the producers are not simply agents in the process of technology but are part of a larger process of natural

reproduction (Chapman 2000a, 30). The amalgamation of the deceased with other elements of the wider world on the pyre is therefore indicative of a community engaging in a recursive relationship involving themselves and the land as realised in part through the act of cremation.

As suggested in Chapters 4 and 5, the technological process of cremation may have marked the end of the separation of the relational person from society and the creation of the material products of cremation instigated the conditions under which a new relationality could be forged, but now with those present within the barrow or cemetery. But it must not be forgotten that through the transformation by fire, the corrupt and polluting remains (Oestigaard 2004, 25–6), will have become even more potent and more dangerous, hence the need for wrapping, containing and sealing within the confines of the cemetery or crematoria area (see Sections 3.4; 3.5; 4.8.1; 5.13.3; Cooper *et al.* 2019).

To summarise, judging from the treatment of the deceased persons at Linga Fiold and other barrow cemeteries in Orkney, it is argued that 'burial' is employed as a strategy that not only materialises the whole cremation process but deploys the newly generated materials as a resource for creating new relationships. Predominantly these are of the dead, but of course this strategy is always concerned with the living. Indeed, Mary Ann Owoc has stressed the importance of the concept of community and communal projects in countering 'individualising tendencies' in interpreting Bronze Age burials, particularly in 'thinking about the ways in which individuals participating in differentiated local and regional group activities simultaneously constituted their groups as entities and contributed to an understanding and definition of them' (Owoc 2005, 263).

Cremation itself is transformational and consequently generative: through the elements of fire and air the body transmutes into fragmented material remains and is fused with a suite of new materials with ambiguous properties. The mechanics of the physical transformation undergone and the social transformation of both the dead and the mourners are indissolubly linked. The resourcing of the cremation reveals the staging of preparations and ritual labour involved in the choreography of the event, as an affirmation of social obligations and as evidence of a strategy where cremation is employed as the ultimate method by which death can be controlled and the dead manipulated into a new relationality. In the following chapter we will explore further the strategies surrounding the control of death, but in conjunction with the fascinating social changes occurring between c. 3000–1200 cal BC.

8

Re-assembling communities of the living with the dead in third and second millennia cal BC Orkney

> Towards the end of the long life of the Skara Brae village a few Beaker Folk crossed to the Orkneys in the most northerly wavelet of the great tide of their invasion of Britain. (Hawkes and Hawkes 1943, 85)

8.1 Life and death in the Orcadian Late Neolithic and Early Bronze Age

In the first chapter we observed that the Orcadian Bronze Age has been characterised as being impoverished in comparison with the previous Neolithic period (Øvrevik 1985, 131–7; Bayliss *et al.* 2017, 1186) and the following Iron Age (Ritchie 1995, 95). This view somehow lingers, being partly maintained by a combination of the decline and abandonment of many Late Neolithic 'villages', the cessation of public monument building and a burial record that lacks the 'rich' grave assemblages which are present on the Scottish mainland, particularly those in north-east Scotland (Shepherd 1986; Sheridan 2007; Wilkin 2011). Therefore, with the notable exception of Knowes of Trotty Mound 1 (Chapter 4), and hints of other examples (see Section 2.2), burial assemblages appear penurious in comparison to those occurring a relatively short distance south. Taken together, do these different ingredients document social decline and stagnation or simply represent changing social relationships and ontological structures which, in turn, affect burial practices and residence patterns? Also, how do the recent developments in aDNA revealing the ingress of immigrants into Britain from c. 2400 cal BC contribute to this picture? The absence of Beaker burials in Orkney with the possible exception of Barnhouse Odin (Challands *et al.* 2005, 215–16), and Knowe of Yarso (Callander and Grant 1935) indicates not merely a degree of selectivity in the absorption of burial practices from the mainland (see Hoole *et al.* 2017, also Gourlay 1984), but that something rather different may be occurring in the Northern Isles.

In all fairness, when Sandra Øvrevik (1985) and Anna Ritchie (1995) were assessing evidence for the Bronze Age, there really did appear to be a sharp cleavage between the quality and quantity of evidence from the third and second millennia cal BC. Equally, the chronology now available of the emergence of cist and pit burial and the development of unobtrusive accessible cist architecture at the beginning of the Late Neolithic was unknown. The development of barrow cemeteries too was poorly understood or dated, especially the role of cremation pyres in their constitution. In this final chapter, these issues will be explored in detail for the period c. 3200–1300 cal BC with reference to the shifting social conditions of which they were a component. The ability in Orkney to chart altering mortuary practices in relation to a detailed understanding and chronology of changing house architecture and residence patterns provides a unique opportunity to provide a rich social interpretation of third and second millennia cal BC life.

8.2 Neolithic prelude

In *The Development of Neolithic House Societies in Orkney* (Richards and Jones 2016a) a narrative of social change through the fourth and early third millennia cal BC was offered with reference to a particular form of house society (*sociétés à maisons*: Lévi-Strauss 1982; 1987; Carsten and Hugh-Jones 1995; Carsten 2000; Gillespie 2000a; 2000b) which slowly emerged as strong kin-based groupings became:

> more volatile and unstable due to an expansion in external relationships induced by changing modes of practice within a developing 'Neolithic' (cf. Whittle 2000; Schulting 2008; Thomas 2013, 293). In short … 'subsistence matters' (Schulting 2004, 22), and nowhere does it matter more than in the changing social practices constituting the earliest Neolithic in Orkney. (Richards and Jones 2016b, 8)

The notion of developing house societies in the later centuries of the fourth and into the third millennium cal BC requires briefly revisiting in order to re-assess the interesting relationship between burial practices, social relations and settlement patterns, as inevitably they have a strong bearing on what follows during the period covered in this book. On current evidence, the earliest Neolithic in Orkney appears c. 3700 cal BC with waves of incoming social groups initially spatially organized within dispersed timber houses as seen at Ha'Breck, Wyre (Lee and Thomas 2011) and Wideford Hill, West Mainland (Richards and A.M. Jones 2016). In the latter centuries of the fourth millennium cal BC these settlements increased in size, which is suggested to be the result of a metamorphosis of smaller, mainly kin-based units into more substantial social configurations. This is also the time when burial ceases and passages are blocked at the stalled chambered cairns. For example, at Point of Cott, Westray (Barber 1997, 58–60; Lee 1997, 37) this blocking is accompanied by enlargement which in some cases employs decorative masonry comprising slanting slabs seen at Midhowe (Callander and Grant 1934, 323–5) and Knowe of Yarso (Callander and Grant 1935, 328–30) on the island of Rousay.

Unlike as has been argued for mainland Britain (e.g. Thomas 2013; 2015; Fowler 2022), in Orkney it is only with the further expansion of settlements and the change to stone house construction in the final three centuries of the fourth millennium cal BC (Griffiths 2016) that an embryonic form of house society emerges. Admittedly, this is a loose term, and clearly, house societies can take many appearances (see Carsten 1995; Carsten and Hugh-Jones 1995; Waterson 1995; 2000; Gillespie 2000a; 2000b) but the crucial period in the Orcadian Neolithic is after c. 3300 cal BC (Fig. 8.1; Griffiths 2016; Bayliss *et al.* 2017) with the building of durable stone houses, combined with a slowly developing pattern of aggregating residence (Richards *et al.* 2016c, 241–53). This clustering of houses served to unite family units with 'strangers' who were also linked though shared practices (cf. Parker Pearson 2004). Therefore, it is an expansion of social relations to include affines and non-kin-related members that form communities based on affiliation to the 'house' as manifest in Neolithic villages such as Barnhouse (Richards 2005) and Skara Brae (Childe 1931). Social relations in these contexts are articulated through a 'language of the house', one that paradoxically articulates relatedness through spatial proximity and practice as well as descent through blood ties (Gillespie 2000b, 46–7). While such a language is necessarily fluid in that descent patterns and affinal networks are more open to contestation and manipulation, it is not merely one of kinship but is crucially, as claimed by

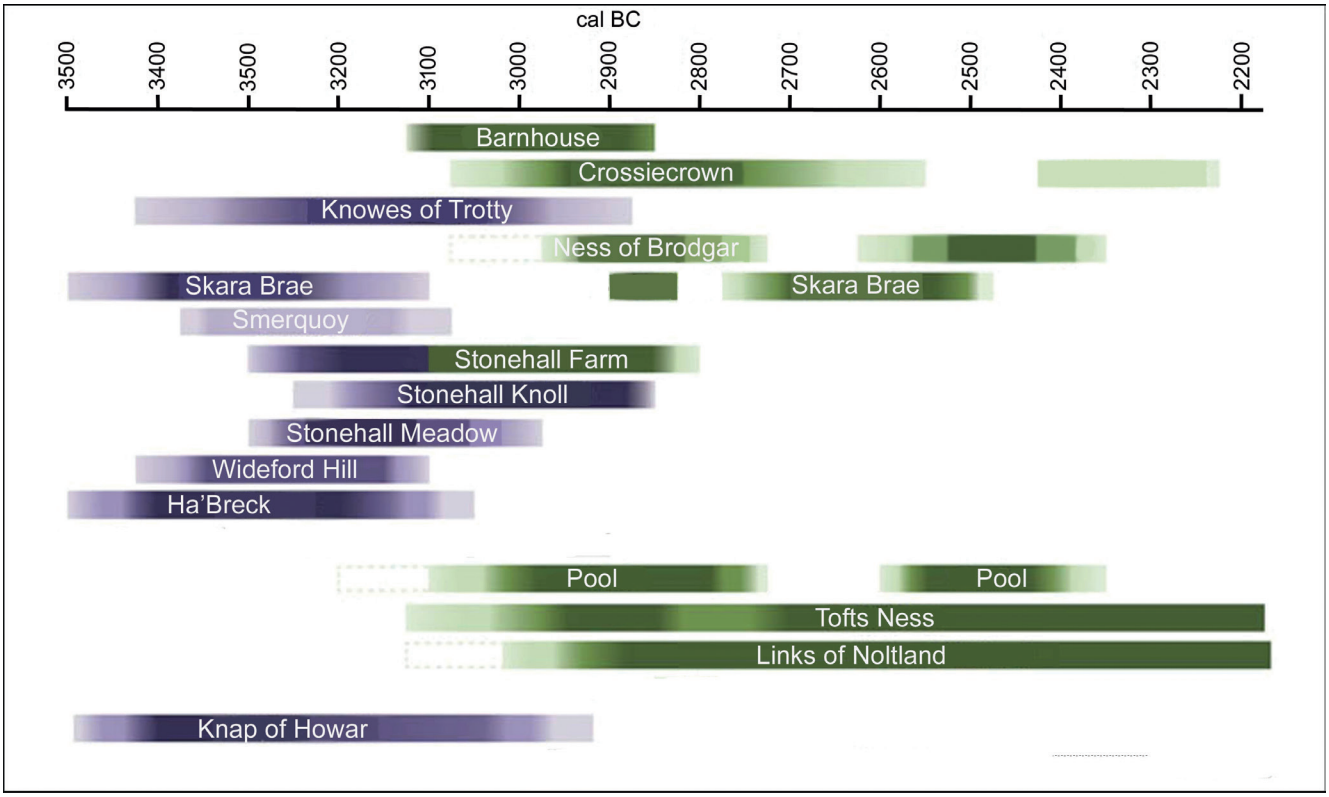


Fig. 8.1 Schematic diagram showing the duration of use of dated Neolithic settlements in Orkney in the later fourth and third millennia cal BC (mauve: associated with round-based pottery; green: associated with flat-based pottery); note the punctuated periods of occupation (after Bayliss et al. *2017).*

Carsten and Hugh-Jones, to be also 'about common spaces and about buildings' (1995, 19). In this respect community as a manifestation of house societies takes the form of an assemblage as defined by Oliver Harris (2014).

Here it is argued that the collective of houses forming the Neolithic Orcadian villages of the late fourth and third millennia cal BC were a physical manifestation of emergent house societies. They provided a tangibility and coherence to otherwise abstract and temporally fluid social relations. The stone houses and their gradual aggregation which consolidated communities effectively replaced the function of the earlier chambered cairns with their strong kin-based communal burials, making them in some senses *a redundant form of monumentality*.

By the beginning of the third millennium cal BC, close groupings of stone houses and households in 'villages' was the dominant form of community organisation. Despite the ubiquity of these villages across Orkney, their occupational histories reveal discontinuities as in virtually every example habitation is punctuated by short periods of abandonment and/or spatial shift (Childe 1931; Childe and Grant 1939; 1947; Bond *et al.* 1995; Moore and Wilson 2011; MacSween *et al.* 2015; Card *et al.* 2017; Clarke *et al.* 2017; Towrie 2019). Given the inherent fluidity of house society-based communities, the question arises as to whether dwelling in a Late Neolithic village was as stable and continuous as has been assumed.

8.2.1 Living in Orkney during the Late Neolithic period (c. 3200–2400 cal BC)

Given the scale and extent of excavation, the Late Neolithic village of Barnhouse, West Mainland, provides a good point of departure to explore these questions (Fig. 8.2). At first glance Barnhouse has all the appearance of a unitary and stable settlement lasting c. 350 years before being abandoned sometime after 2800 cal BC (Richards *et al.* 2016d; Bayliss *et al.* 2017). Interestingly, the abandonment of Barnhouse coincides almost exactly with the end of the first period of settlement at Skara Brae, which is dated to 2870–2815 cal BC (Fig. 8.1; Bayliss *et al.* 2017, 1184; fig. 5).

Returning to Barnhouse, continuity of habitation is demonstrated by the constructional and occupational histories of different houses (Downes and Richards 2005; Richards *et al.* 2016d). As a whole made up of parts, close scrutiny of village organisation reveals a degree of sub-division as evidenced in the variation of the ceramics (Grooved Ware) used in different areas (Jones 2001a, 103–44; Jones and Richards 2005, 49–52). Among an inner group of houses, shell-tempered Grooved Ware predominates, while occupants in the outer houses use Grooved Ware with rock temper. This inner–outer sub-division appears to correspond to some degree with a dual network of drainage exclusively connecting different groups of houses (Jones and Richards 2005, 27–9). From these brief observations it appears that there was a degree of differentiation within the village. However, in relation to the village community it is worth noting that, despite the distinction in ceramic production, the Grooved Ware vessels displayed the same external decoration across the technological difference; in short, they may have been manufactured in different ways but outwardly looked the same. This occurrence is entirely consistent with strategies to conceal the tensions with house societies caused by differences in social relatedness which is present from the end of the fourth millennium cal BC onwards (Richards *et al.* 2016d).

Not only is there evidence of spatial differentiation between houses and household units forming the village, but the continuity of the occupation of different houses also takes a variety of forms. In some instances, the masonry fabric of houses, such as House 3, remains relatively intact with sequential phases of inhabitation over a c. 105–245-year period (Richards *et al.* 2016d, 207–8), involving refurbishment as opposed to structural alteration, for example, successive clay floors (Downes and Richards 2005, 61–9). In other cases, houses are completely demolished and rebuilt, most clearly seen in the complete rebuilding of House 5 which occurs at least four times (Downes and Richards 2005, 60–82), and 'at intervals of roughly 50 years or every two generations' (Richards *et al.* 2016d, 218). Houses can also be expanded, a situation exhibited by the addition of the smaller House 1 to House 6 to create a form of double-house (Fig. 1.3; Downes and Richards 2005, 107–112). Within the village, the duration of occupation varies from house to house with some seeming to exhibit a continuous sequence of occupation over a long period of time (e.g. House 3), while others have a much shorter lifespan (e.g. House 7).

Although briefly examined, it is sufficient to show that within a single village such as Barnhouse there existed variability in the spatial organisation which can be interpreted as relational differences between groups of households and disparity in the longevity of individual houses. Indeed, continuity of houses and their occupants is performed in different ways in relation to the physical building. Hence, what is presented as a coherent entity by conglomerated houses comprising a 'village' and specific pottery decoration is riven internally with social faultlines. This reveals a village community that is unsurprisingly a collective of different parts (or households) that to some extent express internal differences and levels of interaction through variation in architecture and social practices. Under these circumstances, continuity of the social group embodied in the village is much more fragmented and disjointed than may be expected, which is basically due to a constant process of negotiating social relations, kin-based and otherwise. Such instability is typical of the reproduction of house societies.

A rather different picture emerges on closer inspection of other village sequences. At Crossiecrown, Mainland (Card *et al.* 2016), Pool, Sanday (Hunter 2007), Rinyo, Rousay



Fig. 8.2 Aerial view of the Barnhouse village under excavation.

(Childe and Grant 1939; 1946) and Stonehall, Mainland (Richards *et al.* 2016a; 2016b), a decidedly punctuated sequence of occupation is discernable: a feature of occupation receiving little attention in the past (for a discussion, see Towrie 2019). Recent excavations at the Links of Noltland, Westray (Moore and Wilson 2011), and the Ness of Brodgar, Mainland (Card *et al.* 2021), may well provide more nuanced sequences of occupation.

One feature of house building noticeable at several of the excavated settlements is a gradual enlargement through time (compare house sizes at Barnhouse (Richards 2005) with those comprising Skara Brae phase II (Childe 1931). This is of particular significance in relation to what occurred after the large settlements or villages were abandoned (see Section 8.3). At Pool, after initial inhabitation in the mid-fourth millennium cal BC, a second phase of houses (separated by at least two sand-blow events), was followed by the construction of larger buildings (Hunter 2000, 119; 2007, 67; MacSween *et al.* 2015). Both Barnhouse (Hill and Richards 2005; Richards *et al.* 2016d) and the Links of Noltland (Hazel Moore and Graeme Wilson pers comm.) follow almost identical trajectories with large buildings being built at a late stage in their respective occupational histories, whereas at the Ness of Brodgar large buildings appear to be a consistent component of occupation from the late fourth to the middle centuries of the third millennia cal BC (Card *et al.* 2017; 2021).

A recognition of disjunctions and spatial shifts in the occupational histories of the Late Neolithic Orcadian villages reveals a high degree of fluidity that has not really been appreciated (cf. Towrie 2019). It also begins to temper the notion that during the middle centuries of the third millennium cal BC some form of rupture in the social fabric occurred; an eventuality that has been described as a breakdown in the cohesion of house societies leading directly to the abandonment of many villages (Richards *et al.* 2016c, 241–6; Clarke *et al.* 2017).

8.2.2 Dying in Orkney during the Late Neolithic period (c. 3200–2400 cal BC)

Although Davidson and Henshall (1989) identified a substantial number (81) of chambered cairns throughout Orkney, they clearly contain only a small proportion of the Early Neolithic (3700–3200 cal BC) population. Even though Quanterness, Mainland, and Isbister, South Ronaldsay, contained relatively large numbers of interments (see

Hedges 1983; Lawrence 2006; Lawrence and Lee-Thorpe 2012; Crozier *et al.* 2016; Crozier 2018), the latter inviting population estimates (Hedges 1984), the majority of the Neolithic dead are unaccounted for. This situation has not been greatly altered with the newly discovered chambered cairns which contain burials such as Banks, South Ronaldsay (Lee 2011), Crantit, Mainland (Ballin Smith 2014), Tresness, Sanday (Anderson-Whymark and Cummings 2021) and Blomuir, Mainland (Anderson-Whymark and Cummings 2024). If burial evidence for a large section of the population during the Early Neolithic is absent, the Late Neolithic period is even more bereft of burials. This is even more curious because, as noted above, the period c. 3200–2400 cal BC marks the rise of larger communities within the villages. Given the emergence of larger collectives, we may question where the inhabitants of these settlements were buried.

In Chapter 3, the Quanterness passage grave was revisited and the cists and pits in the floor of the main chamber recognised as primary features (Figs 3.2–3.5). New radiocarbon dates of 3011–2779 cal BC (SUERC-24001) and 3355–3096 cal BC (SUERC-24002) obtained from the crouched inhumation in Pit A demonstrate that cist and pit burial began in the late fourth millennium cal BC (Schulting *et al.* 2010, 13–15). A burial in the capstone-covered pit in House 2 at Barnhouse (Richards 2005, 137–8), represented by highly decayed bone fragments, was clearly a primary feature of the structure and should therefore relate to its construction and early use c. 3140–3035 cal BC (Richards *et al.* 2016d, 2067). The chronology is less certain (see discussion in Section 3.4) of the two crouched females buried within a cist beneath the wall of Hut 7 at Skara Brae (Childe 1931). According to Childe the cist and burials were definitely 'anterior to the building of the present chamber wall' (Childe and Patterson 1929, 257), although a mechanism for gaining access may have been seen by Marwick on a later visit after the excavation season had ended (Marwick 1929a, 20). Given Hut 7 was built directly on 'virgin soil' (Childe 1931, 37) a similar date range in the early third millennium cal BC is probable.

Beyond the settlements and passage graves, single inhumation in flagstone cists becomes recognisable from the very beginning of the third millennium cal BC (Fig. 3.54). Examples are the Links of Skaill cist burial dated to 3258–2918 cal BC (SUERC-107827), and the large Sandfiold unobtrusive accessible cist, dated by cramp (2860–2500 cal BC: UT-1483) and foetal bones (2880–2500 cal BC: UT-1485). Both these cists lie on high ground to the north-east of Skara Brae. A further date of 3030–2620 cal BC (GU-10638) from the Howe cist, Harray, provides conclusive evidence of a tradition of cist and capstone-covered pit burial, in hillocks, mounds and hillslopes, emerging alongside those in Quanterness and settlements.

A further characteristic of the cists situated in the wider landscape is that from the beginning of the third through to the second millennium cal BC a large number were constructed with accessible side-entry architecture, such as Sandfiold (Dalland 1999). Cists with this design feature together with the apparent lack of a visible marker which we have termed 'unobtrusive accessible cists' (Sections 3.4 and 3.5). Indeed, during the writing of this chapter another fine example of an unobtrusive accessible cist with a side door arrangement was excavated by Stuart Wilson of AOC at Sandquoy, Sanday (Fig. 8.3) Interestingly, this contained unburnt human remains and Skaill knives (Paul Sharman pers. comm.).

In many ways the desire to access the dead could be recognised as providing the basis for both chambered cairn



Fig. 8.3 Views of the recently discovered Sandquoy unobtrusive accessible cist excavated by AOC in Sanday, showing the side 'doorway' arrangement from the inside (left) and the external stones holding the side 'door' in place (Paul Sharman).

and cist architecture. Nonetheless, a number of features separate the compartment and cells of the stalled chambered cairn and passage graves from those of the unobtrusive accessible cists. First, the compartment and cell may be a discrete element of the stalled chambered cairn or passage grave, but in each case, it formed part of a larger monument, incorporating and uniting probable kin groups (see Fowler 2022). In contrast, the unobtrusive accessible cist is a single below-ground construction of low visibility. Secondly, the large size of the chambered cairn compartment or passage grave chamber allows a number of burials to be interred as has been recently discovered in the passage grave at Blomuir (Anderson-Whymark and Cummings 2024). In this example it appears that once deposited the crouched burials remained undisturbed. Conversely, the size of the unobtrusive accessible cist is intended in the most part for single inhumation (see Figs 3.49, 3.52, 3.53 and 3.55), and yet architecturally it is designed to facilitate side entry for future access once the corpse is interred and the lid or capstone set in position (being frequently sealed with clay). In this respect it may be felt that the unobtrusive accessible cist acts as a temporary container, but this architecture may also have provided a mechanism to facilitate both continued direct physical contact with the deceased and subsequent insertions and removals without disturbing the capstone or approaching the deceased from above.

With the recognition of a relational person (see Brück 2006a; 2006b; 2019; Fowler 2013) comes the issue of social reproduction in the face of a rupturing of the social fabric in death. Here, the death of the person has potentially drastic consequences for the relations that bind people together, especially in the more fluid and unstable context of third millennium cal BC Orcadian house societies. This problem is identified by Strathern when she ponders that 'networks rendered contingent on people's interactions turn out to have a fragile temporality. They do not last for ever; on the contrary, the question becomes how they are sustained and made durable' (1996, 523). In Chapter 3 we agreed that one route to sustainability was through storage of the corpse, enabling physical death to be suspended or slowed. Valuable time was achieved by storing the body in the accessible cist, and by doing so effectively interrupting the mortuary process and a deceleration of the dissolution of the relational person. This provided time not only for the bereaved 'to make their own intellectual and emotional journeys' but also to renegotiate 'a new order for the world that death had disrupted' (Lelong 2018, 75). Hence, by storing and maintaining the corpse in the cist a range of potentialities were introduced, which are captured by Oliver Harris when he asks, 'what could dead Neolithic bodies do?' (2021, 117).

Through cist burial 'the dead body continued to appear like a living body' (Sørensen and Rebay-Salisbury 2008, 60), and the unobtrusive accessible architecture permitted visual inspection without removing the capstone. It is inevitable, however, that despite being stored in this manner, through time the composition and appearance of the body change through decay. However, here lies the utility of wrapping the dead body, be it in skins, hides (McAdam 1982, 126–7; Walton Rogers 2013, 13; 2014, 91; Lelong 2014) or fabrics (Brück 2004, 318–19; S. Harris 2014; Cooper *et al.* 2019), as they both conceal the decaying corpse to a large degree, whilst maintaining the integrity of the intact body. Finally, after a delayed temporality of death and decay, the transformed skeletal body emerges anew, and as Oliver Harris states, once bodies had been fragmented, 'they presented all sorts of opportunities' (2021, 119).

8.3 Abandoning the past at Skara Brae? The disaggregation of villages, rise of the double-house and cist cemeteries (2400–1800 cal BC)

So far, we have recognised some interesting developments occurring through the late fourth and third millennia cal BC. These include, in the latter centuries of the fourth millennium, a shift away from inhumation in the internal compartments of chambered cairns or tombs towards inhumation in cists and capstone covered pits, an increasing number of which are unobtrusive accessible cists. Currently, the evidence is mute on whether the gathering of bodies in the compartments of earlier Orcadian chambered tombs expressed kin-based relations, although, judging from elsewhere in Britain this seems highly probable (e.g. Fowler 2022; Fowler *et al.* 2022; Cummings and Fowler 2023). Obviously, much depends on the architecture of the chambered tomb, particularly the organisation and number of chambers (cf. Powell 2005). The Orcadian stalled cairns possess ordered and sequential linear chambers (Richards 1992), with spaces where multiple burials can be deposited in proximity. Such linear ordering may well evidence projected futures, 'conditions not only to trace ancestry but to project descent into the future: i.e. in anticipation and hope of future continuity' (Fowler 2022. 79). A similar argument, but in this instance in relation to Early Neolithic human skeletal remains has been offered by Oliver Harris; 'human remains attracted attention – we know this because people handled, washed, cut and cleaned them – and through that attention brought the past (those gone), the future (the death of people yet to come) and places elsewhere, into stark relief' (Harris 2021, 123).

It has long been assumed that the architecture of chambered tombs was an expression of different facets of kinship, for example, the fabric or body of the tomb united kin groups and the internal chambers enabled the expression of sub-sets within the kin group. For example, at Hazleton North, the burial sequence has recently been described as 'how kinship was negotiated at a tomb designed to both bring together and subdivide the community' (Fowler *et al.* 2022, 587). It seems likely that the Orcadian chambered

cairns performed similar roles. However, the architecture and dispersed locations of the cist, in either an accessible or closed form, exhibit no expressions of group relatedness at the place of burial. In short, relatedness between kin groups is no longer presented and constructed in the context of death and burial.

Instead, during the final centuries of the fourth millennium cal BC, relatedness comes to be expressed through proximity of the living and the aggregation of houses within the Late Neolithic Orcadian villages. However, as recognised in the organisational structure of the Barnhouse village, with this conglomeration comes the need to mark out differences between household identities through divergent practices. Therefore, counter-intuitively, this is a situation where increasing proximity has the effect of separating houses and households. Consequently, as kin relations are subordinated within the development and reproduction of house society communities in villages, so the cohesion of the corporate group begins to rupture and fragment. Thus, from the final centuries of the fourth millennium through to the middle of the third, despite the presentation of an image of group cohesion manifest in the Late Neolithic villages, tension was developing between households and kin groups. Despite displays of dramatic monumentality as presented in the two stone circles, the Stones of Stenness and Ring of Brodgar, their construction, particularly the latter, may be seen as resulting from increasing competition within a volatile and unstable social formation (Downes *et al*. 2013; Richards *et al*. 2013a).

One effect of this instability is punctuated sequences of occupation leading, in a number of instances, to the earlier villages being vacated beginning with Barnhouse during the 29th century cal BC (Ashmore 2005, 387; Richards *et al.* 2016d, 215; Bayliss *et al.* 2017). Roughly at the same time habitation ceases at both Skara Brae and Pool, Sanday, but in each case people return and the old settlement is re-occupied (Bayliss *et al.* 2017, 1184–5). Or, as with the settlement at Bay of Stove, Sanday, occupation undergoes an inland shift and increases in scale (Bond *et al.* 1995). This disassembly is detailed by Bayliss *et al.*:

> at the majority of these villages a disjuncture occurred c. 2800 cal BC, involving abandonment and a spatial shift in settlement. Then, in the twenty-seventh to twenty-sixth centuries cal BC, a process of reoccupation emerged that continues until a final abandonment of villages in the twenty-fourth century cal BC. (2017, 1185)

The other large settlements in West Mainland, Orkney, followed Barnhouse over the following two or three centuries by being either substantially diminished or entirely deserted (Fig. 8.1). In some instances, the abandonment of the settlements has been recognised to include a degree of decommissioning of particular structures. This has been suggested for the monumental Structure 10 at the Ness of Brodgar where a pecked stone was placed next to an upturned cattle skull in the central hearth c. 2500 cal BC (Bayliss *et al.* 2017, 39; Card and Edmonds 2021, 107). This was followed by the extraordinary deposition of cattle bone over a flagstone path which surrounded this massive building, representing an estimated number of over 400 cattle (Mainland 2021, 273). Ingrid Mainland and colleagues (2014, 875–6; 2021, 273–4) have interpreted this deposit as being the remnants of a massive feasting event, which clearly involved cattle being brought to the site for slaughter and consumption from across Mainland, Orkney and possibly beyond. What provides additional evidence that this feasting event represents an act of closure is the placing of red deer over the cattle bones in which 'at least three partially articulated red deer skeletons were laid out over the top and/or in the upper layers of the Structure 10 cattle bone deposit' (Mainland *et al.* 2021, 275). The employment of red deer to seal and contain deposits between c. 2400-2150 cal BC has been noted elsewhere (Richards *et al.* 2015, 115–20; Clarke *et al.* 2017, 77–9), and as discussed below also occurs at Skara Brae after abandonment.

If these events are conceived in the context of a changing configuration of a house society, then its characterisation as an 'assemblage' that combines not only humans and animals but also architecture, is of utility (cf. Harris 2021, 160–79). In this scheme what appears to be acts of 'decommissioning' or closure actually mark the changing relationship of the settlement or village to the people it once housed. In this respect notions of decommissioning are misplaced, rather the deposition of complete deer and burial of complete humans are more a process of recommissioning, perhaps more accurately described as re-purposing. This leads to a rather more nuanced understanding of the abandonment of the Late Neolithic villages because, in many instances including the Ness of Brodgar, they are not entirely deserted but inhabited in a different way. Certainly, the subsequent dispersal of those households that once dwelt together in proximity alters the ontological status of the settlement. Although it is abandoned, the village continues to materialise the house society but in a different way in that it remains a visible place in the landscape.

Nowhere is this better exemplified than by the events occurring at Skara Brae after the inhabitation of the main group of houses ceases, c. 2400 cal BC (Fig. 8.1). Around this time, two things occur, both of which have been respectively interpreted as cultural and natural phenomena. First is an increase in what has been described as a process of 'middening' (Bayliss *et al.* 2017, 1185; Card *et al.* 2017, 39). This material infills and covers the settlement, as it does at other settlements such as Links of Noltland (Clarke and Sharples 1990, 68). Judging from the presence of thick deposits, the middening unfolds on a massive scale and even included the skull of a whale (Childe and Paterson 1929, 242; Childe 1931, 24–8; Downes and Richards 2021). The deposition of this material would appear to have continued

well after the main occupation of houses ceased. Childe describes much of the village being covered by midden material, 'the refuse covers both the passages A, B, and C with the attached cells … and also the spaces between the huts' (1931, 24). This gave Skara Brae the appearance of 'a great slope of refuse culminating in Hut 1 where some projecting walls would be visible' (1931, 28).

Second, some of the houses and passages are infilled with sand, a process identified by Childe as being caused by a terrific storm tearing the roofs off the houses and allowing an inundation (Childe 1931, 41). However, not only were houses filled with 'pure' sand but also the roofed passages and galleries where deposits of 'antlers and clean bones' were also present (Childe 1930, 168; 1931, 59–60). Such complete infilling is suggestive of more purposeful agency, perhaps undertaken in a series of separate events. Even if this was not the case the influx of large amounts of sand, which also occurs at Pool, Sanday, apart from being attributable to Childe's 'terrific storm' could be a proxy for broader climatic change in the latter centuries of the third millennium cal BC. However, although this is not necessarily the case (see Gal 2019), this was a period of increased storminess bringing sand inundation which would have had a detrimental effect on daily practices. Certainly, further south along the Bay of Skaill articulated red deer and activity areas were sealed by thick deposits of windblown sand after 2310–2120 cal BC (SUERC-4851) and 2410–2190 cal BC (SUERC-4850).

The 1928 excavation of Hut 7 provided interesting insight into the punctuated re-use of this building:

> a foot of blown sand had settled over the built hearth before the next occupation of the hut. It is denoted by a very thin layer of ash and shells, covered in its turn by a foot of drift sand. Upon this rested a third layer of shells and charred bones, five foot above the hut's floor. In this stratum we found the skull of a red deer with antlers complete. (Childe 1931, 62)

> a more serious occupation was afforded by a rectangular hearth framed by kerbstone slabs and floored with a slate slab, precisely as in the case of the central hearth in each chamber ... Red-deer antlers were found immediately under the slabs of this hearth, which stood on loose sand. (Childe 1930, 249)

Each episode is associated with deposits of red deer antler and Childe mused on the continued activities within the sand-filled Hut 7:

> these layers of ashes and shells, red-deer antlers, and structures resting on loose sand prove clearly enough that man (sic) periodically visited the chamber, it would seem, in order to cook and eat venison while the chamber was actually filling up with drifted sand … in the case of the stone-hearth builders certain, that the visiting roisterers belonged to the same tribe as the hut-builders. Very likely indeed they were residents in some of the later huts. They cannot have reached the chamber through the proper door, which was already blocked up far too deeply. Perhaps they gained access to the chamber through the breach above the lintel, which may have been made for that purpose. A fairly high date for these visits is implied in the abundance of red deer (the antlers, all unworked, exceed 25 in number). (Childe 1930, 249–50)

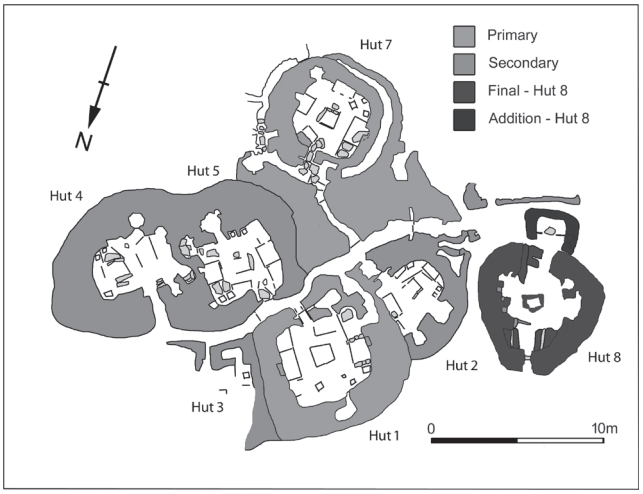


Fig. 8.4 Skara Brae showing the relationship of the Late Neolithic dwellings and the later Hut 8, the architecture of which is extremely similar to Shetland Chalcolithic and Early Bronze Age houses and the Stanydale 'Temple' (after Childe 1931).

Regardless of the manner of filling, Childe notes the presence of 'four re-occupation levels' in Hut 7 alone (1931, 61), and of the later activity in the village virtually all seems to relate to the deposition of unworked red deer antlers (see Richards *et al.* 2015, 115–20; Clarke *et al.* 2017, 77–80).

Because Childe considered Huts 1–8 to be roughly contemporary (belonging to periods 3 and 4), it was assumed that the midden was produced by all these households. However, being constructed at the western periphery of the settlement, architecturally, Hut 8 is clearly different (Fig. 8.4). This difference led Childe to arrive at the conclusion that although 'provided with a central hearth of the usual pattern, it lacked the "beds," "dressers," and "limpet-boxes" invariably found in the dwelling places' it was not a domestic dwelling (Childe 1930, 177). After examining the evidence recovered from within the building it was suggested that it was 'probably industrial, rather than domestic' (Childe 1931, 51). The identification of Hut 8 as being 'a workshop' (Childe 1930, 177) remained an interpretation uncritically followed by subsequent authors, for example, Clarke and Sharples (1990, 67) state that 'there can be no doubt that we have here a workshop rather than a house'. But there is considerable doubt, and rather than being a workshop it is extremely likely to be a later house structure (Downes and Thomas 2013, 82–4; Richards *et al.* 2016c, 246). As Childe (1931, 49–53) recognised, Hut 8 differs considerably from the other dwellings; it was surrounded by platform and architecturally is more akin to later third millennium cal BC buildings in Shetland, such as the Stanydale 'temple'

(Calder 1950; 1956). Unlike the cluster of Late Neolithic houses that were covered and set in midden, when the area known as the 'marketplace' surrounding Hut 8 was excavated it was devoid of this material (Childe 1930, 172–3). Additionally, while the other buildings and passages were covered by midden, the roof slabs of Hut 8 porch were completely midden-free, indicating that this structure was later and excluded from the 'middening' process. From this it can be suggested that Hut 8 and its occupants resided alongside the abandoned and decaying village covered in midden.

Although the general development of house architecture after c. 2400 cal BC was discussed in Chapter 1 (Section 1.4), it is worth reiterating several points regarding this change particularly the shift in residential organisation. First, while there is a recognisable dispersal of houses and households during the final centuries of the third millennium, some form of attachment to the now mainly abandoned villages remains, with connections enduring in various forms. For example, at Crossiecrown, Mainland, a new house structure was constructed at the heart of the demolished settlement (Card *et al.* 2016), where a single modified house (the Red House) was paired with a new building (the Grey House) to create a typical Chalcolithic–Bronze Age double-house arrangement (Figs 1.4 and 8.9). There can be little doubt that by maintaining such a direct association the inhabitants of the double-house were exhibiting an attachment and affinity with the earlier settlement and its occupants. The recent excavations by EASE Archaeology at the Links of Noltland, Westray (Moore and Wilson 2011; Hilts 2022; Moore *et al.* 2022), have exposed a similar relationship with several Early and Middle Bronze Age dwellings being situated adjacent to the preceding late Neolithic occupation (Fig. 8.5). These are mainly houses of the typical double or paired architecture set in discrete groups to the east of the third millennium village. Each double-house tends to maintain a similar internal layout with a central hearth in the larger structure and tank in the smaller (Fig. 8.6). A similar spatial relationship between an abandoned Late Neolithic village and Bronze Age houses appears from the gradiometer survey to be present at Muckquoy, Mainland (Richards *et al.* 2016c, 247–52). Here several groupings of what appear to be double-houses are positioned 200–300m south of the main early third millennium cal BC settlement complex (Fig. 8.7).

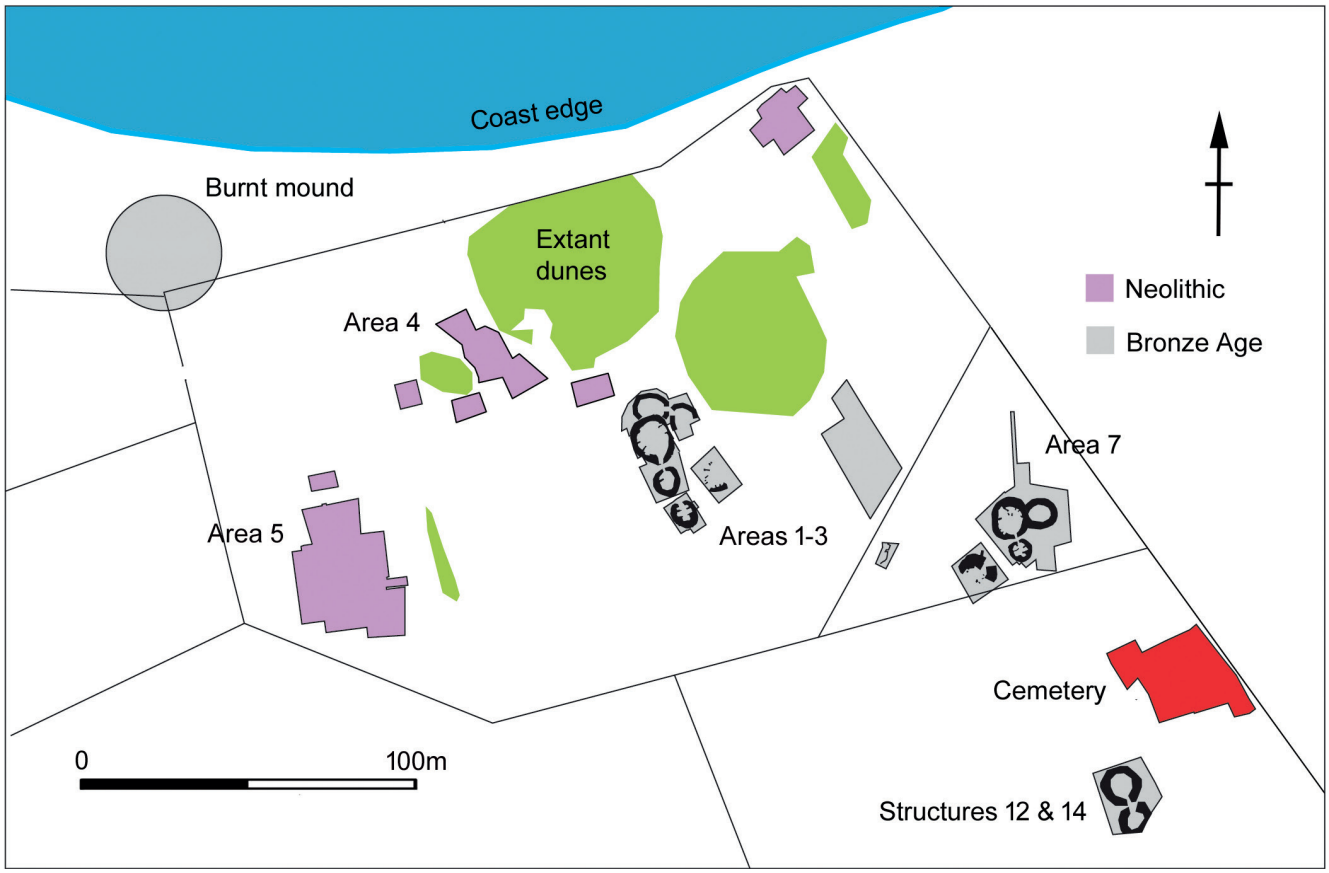


Fig. 8.5 Plan of Links of Noltland showing the relationship between the Late Neolithic settlement, Chalcolithic and Early Bronze Age double-houses, and second millennium cal BC cemetery. The cemetery is of particular interest as it combines inhumations and cremations (reproduced by kind permission of EASE Archaeology).



Fig. 8.6 A double or paired house structure under excavation at the Links of Noltland (reproduced by kind permission of EASE Archaeology).

A similar process is evident at Skara Brae. As discussed above, initially Hut 8 is built adjacent to the abandoned settlement (Fig. 8.4), although the latter continues to be revisited for the deposition of red deer and human burials. Through time, however, occupation gradually becomes more dispersed but still remains loosely associated with the now ruinous and decaying Skara Brae with clusters of double-houses located c. 450m to the south-east (Brend *et al.* 2020, 58–61, fig. 3.25). This positioning and relationship are evident elsewhere, for instance, a group of Chalcolithic houses including a double-house (Fig. 1.5), are built to the west of the Bay of Stove, Sanday, where they overlook the two abandoned Late Neolithic villages. Similarly, the large Wasbister double-house lies c. 900m south-east of the extensive unexcavated Neolithic settlement at Bookan and c. 700m north-west of the Ring of Brodgar (Fig. 8.8; Brend *et al.* 2020, 110–31, fig. 5.18).

During the final centuries of the third millennium cal BC, with the abandonment of many Late Neolithic villages and departure of the majority of households, inhumation cist burial in natural mounds and hillocks persists (see Chapter 3) but now includes the derelict and decaying villages, many of which due to collapse and 'middening' assume the appearance of large mounds (Childe 1931, 28). These deserted or partially abandoned villages of the dead are not forgotten but become material surrogates and reference points for the cohesion of the now dispersed communities. But this seems to have been a relatively short-lived phenomenon as the ruined villages seem to gradually lose their potency and the deposition of red deer ceases. Instead, in the face of further settlement dispersal, household groups of extended kin-relations become the dominant social unit and we observe a return to the realm of the dead as an expression of relatedness and community.

8.3.1 Situating the dead in the past: the development of cist cemeteries (2400–1800 cal BC)

As we have seen, with Hut 8 at Skara Brae, the red and grey double-house at Crossiecrown (Figs 1.4 and 8.9), Structure 1 at Stonehall Farm (Fig. 5.96), and possibly Structure 26

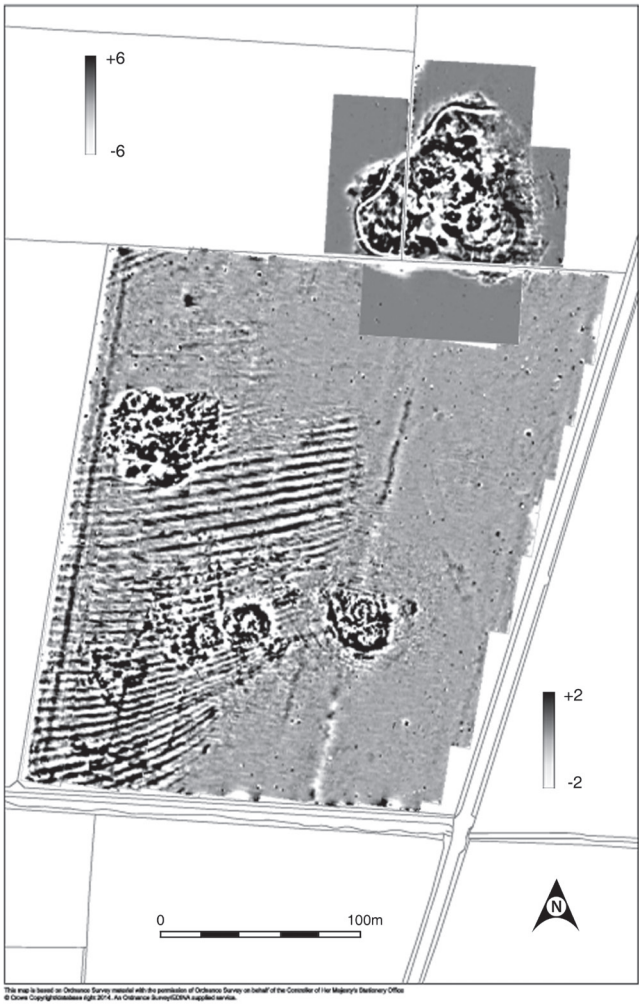


Fig. 8.7 Gradiometer survey to the south of the Muckquoy Late Neolithic village showing discrete groups of double-houses at a distance of c. 2–300m (Christopher Gee and Georgie Ritchie).

at the Ness of Brodgar (Card and Edmonds 2021, 114–15), initially buildings were erected at or adjacent to the derelict settlements. Later, as the double-houses become further dispersed, the abandoned villages assume ancestral status in becoming appropriate places for burials and burial cists frequently accompanied by the deposition of red deer. In the early 1850s a storm exposed the tops of houses at Skara Brae, and the ruins were subsequently dug into by William Watt of Skaill. The results were reported to the Society of Antiquaries of Scotland by George Petrie who described the discovery of a crouched inhumation directly above the hearth in Hut 1:

> another discovery, bearing on the probable age of the ruins, was that of a human skeleton, which Mr Watt writes me he found 'lying on its face, with the head to the north, just above the fire-place in the largest house'… the knees had been tucked up to, and the arms folded across, the chest; the head was the lowest part, and may have been about three feet above the floor. There were some deer's bones higher up in the sand than the body, though I did not meet with any of them directly over it. (Petrie 1868b, 210)

When House 4 was uncovered at Barnhouse a number of large slabs of at least one collapsed structure were encountered directly below the topsoil. While the preservation of these slabs was due to the house being positioned beneath uncultivated ground bordering the field, their interpretation as collapsed stone furniture was problematic. Indeed, at the time of excavation it was thought 'that much of the stonework encountered within the building was partially the remains of a later stone cist inserted into what may have appeared as a slight mound' (Downes and Richards 2005, 115). In retrospect, these slabs were clearly the remains of one or more collapsed burial cists dug into the Barnhouse settlement mound, and judging from their size these are attributable to either the Chalcolithic or Early Bronze Age periods.

During March 1927, long before the large mound at Muckquoy was identified as a Late Neolithic village (Fig. 8.7; Richards *et al.* 2016c), John Fraser gave a paper to the Orkney Antiquarian Society when it was reported that 'some 50 years ago several cists containing partly burnt bones were found, when the brae was brought under cultivation' (Fraser 1927, 53). Less certain are the 'four graves lying parallel to each other, in a line' found by Mr Wishart in the Ness of Brodgar field when it was ploughed in 1925 (Marwick 1926, 34). On the one hand, their reported depth at 'about 6 inches [15 cm] under the soil' suggests they were well above the level of the furniture in Structure 8 at the Ness of Brodgar settlement which has been assumed to be their true context (Card and Towrie 2021, 19). On the other hand, the 'graves' were set only '1 foot' (30 cm) in height which would be shallow for cists.

In the final centuries of the third millennium cal BC, attention to old places extended beyond the ruinous settlement mounds. By this time the dilapidated chambered cairns had not seen human burial for over a thousand years. Nevertheless, they would have remained ever-present during the third millennium cal BC being situated in prominent landscape positions. At this time the ancient tombs are re-entered, and a range of animal and bird remains deposited (Jones and Richards 2003; Sheridan 2005a; 2005b; Sheridan and Higham 2006, 204; 2007, 225). These include white-tailed sea eagle, dogs and red deer, which overlap chronologically with the deposition of deer carcasses at Links of Noltland, Westray (Sharples 2000; Clarke *et al*. 2017), Skaill Bay, Mainland (Richards *et al*. 2015), Ness of Brodgar (Mainland *et al*. 2014) and probably the Point of Birsay, Mainland (Morris 1989, 91–102). However, as with the abandoned settlements, it was not just red deer and other animals that were being put into the decaying chambered tombs, but the dead also make a re-appearance.

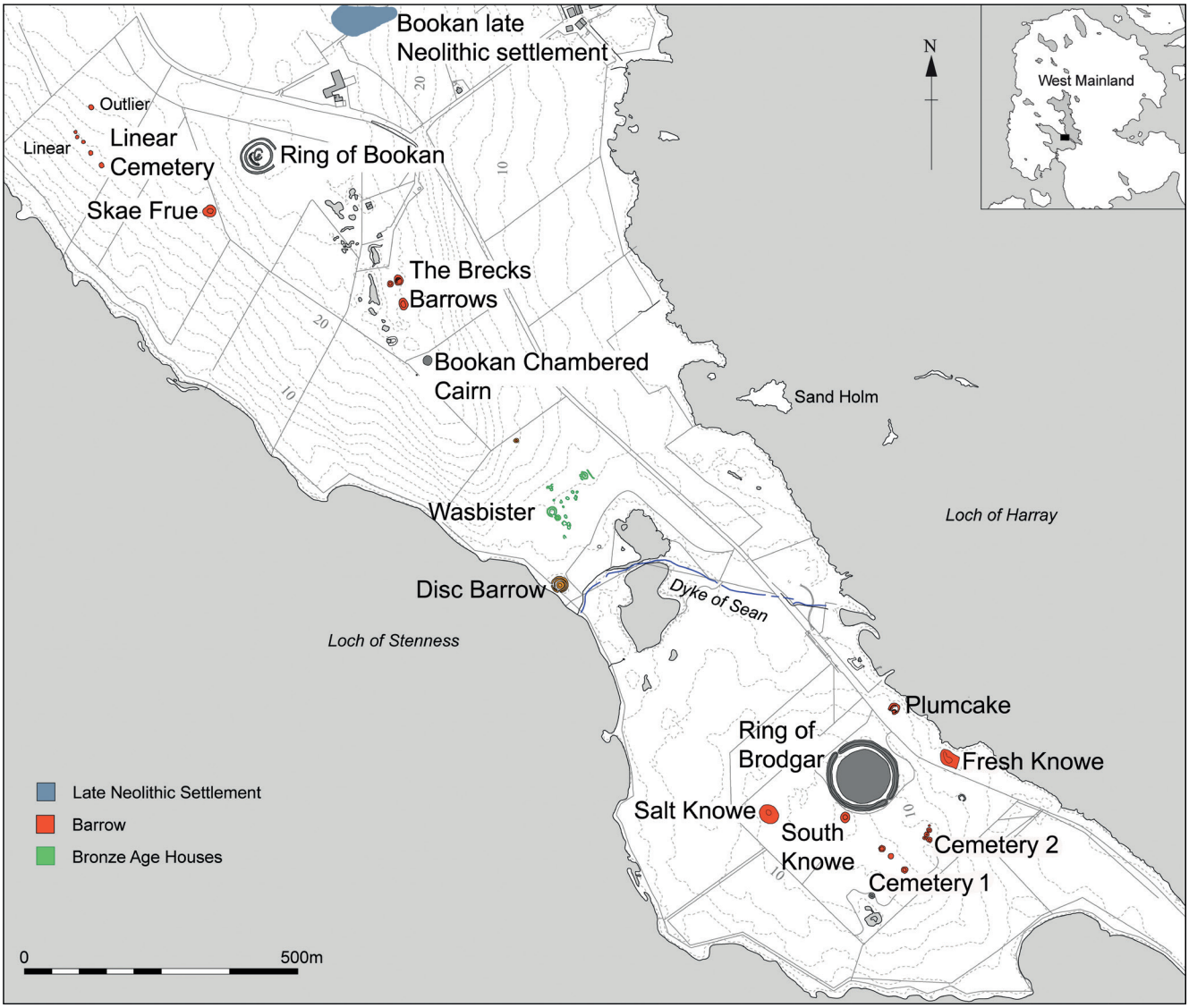


Fig. 8.8 Settlements and barrows to the north-west of the Ring of Brodgar.

The late inhumation in the main chamber at Quanterness has already been mentioned, and another inhumation at the nearby Cuween Hill was inserted into the passage at a similar time being dated to 2150–1930 cal BC (UB-6422) (Sheridan 2005b). The cache of objects at Isbister (the Tomb of the Eagles), South Ronaldsay (Hedges 1983), which included a V-perforated button of albertite, possibly derived from Strathpeffer (Mary Davis pers. comm.) may well relate to three later third millennium inhumations within the chamber (Lawrence and Lee-Thorpe 2012). Early in the second millennium cists and 'graves' were dug into a number of chambered cairns, for example, Cuween Hill (Charleson and Turner 1902, 734), Isbister (Hedges and Haigh 1983, 302), Roeberry, South Walls, Hoy (Lee and Thomas 2012) and Tresness, Sanday (Anderson-Whymark and Cummings 2021), Taversoe Tuick, Rousay (Turner 1903; Grant 1939; Mamwell 2018, 140–2) and Crantit (Ballin Smith 2014) where the cremated remains in an urn have been dated to 2130–1740 cal BC (Sheridan 2003a, 169).

At the same time, human burial took on a different complexion, one that was suspected 40 years ago by John Hedges (1980, 49). Indeed, the discovery of a Bronze Age cist cemetery at Armadale, Skye (Peteranna 2009, 113; 2011), would not have surprised Hedges at all, although the apparent contemporaneity of inhumation and cremation burials may have done so. At Armadale, a typical chronological progression from a timber to stone circle became the context for seven burial cists and seven pits containing cremations (Fig. 8.10). The largest cist with a massive capstone occupied the centre of the stone circle which may have been



Fig. 8.9 The Grey House at Crossiecrown under excavation as viewed from the north-east with the opposed Red House visible to the left (Angus Mackintosh).



Fig. 8.10 View of the Bronze Age cist cemetery at Armadale, Skye (Mary Peteranna).

dismantled during the sequence of burials. Here, the dating sequence of the site is of greater concern, especially as it has been the focus of Bayesian modelling (Krus and Peteranna 2016). Burial activity began during the third millennium cal BC with the deposition of a cremation in 2880–2570 cal BC (SUERC-33909) which was followed by the building of a sequential timber and stone circle which unfortunately remain undated (Krus and Peteranna 2016, 703). Two cists, one of which was centrally placed and contained an inhumation, were constructed within the stone circle, which was now considered to be partially dismantled. This was because a possible re-used monolith, a massive rhomboid-shaped basalt slab weighing c. 2 tons, was employed as the capstone for the central cist (Peteranna 2011, 12). The remaining five cists had different alignments and different contents: Cist 1 had cremated remains overlying the partial remains of an inhumation with a food vessel in the northern corner; Cist 2 had an intact food vessel in the southern area; Cist 4 had degraded unburnt skeletal material; Cist 6 had a cremation, and was constructed over an earlier pit containing a cremation; Cist 7 a probable flexed inhumation accompanied by several flint knives (Peteranna 2011, 50–8). The burial activity at Armadale begins 2220–1985 cal BC and ends 1880–1660 cal BC (Krus and Peteranna 2016, 704).

In April 1928, Mr Coghill was ploughing a field at Lochside Farm, Stenness, Orkney, to the north-west of Maeshowe (Fig. 1.2) when, to his surprise, the horses dragged several large flagstones to the surface (see Section 2.2). After reporting the discovery to the Orkney Antiquarian Society, members were afforded the opportunity to investigate the area further. This resulted in a group of unobtrusive cists being discovered which were all 'about 18 inches to 21 inches' (0.45–0.53cm) below the surface and identified as a 'prehistoric cemetery' (Greig 1931, 61). This was an unusual situation as under normal circumstances when a cist was discovered it was simply emptied of any contents and reburied, but fortunately Mr Coghill allowed a wider area to be examined resulting in another six cists being uncovered and fully investigated (Fig. 8.11). Each was found to be different. For example, Cist 1 was c. 1.4 × 0.7m, and 0.8m deep; it had two large, superimposed capstones and appeared to be empty. Given the large size this was almost certainly constructed to receive an inhumation which had either decayed or been removed. The construction pit was not examined so it is uncertain whether this was a side-accessed cist. Cist 2 was smaller, measuring c. 0.73 × 0.53m, and 0.58m deep. Again, this cist was found to be empty and covered by a large hexagonal capstone. The third cist (Cist 3) was smaller, being c. 0.53 × 0.4m, and 0.33m deep and covered by two adjacent capstones: it was also empty. Cist 4 was c. 1 × 0.58m, and 0.6m deep, containing a heap of cremated bones in the northern end. To the north-west of Cist 4 was Cist 5 which measured c. 0.6 × 0.33m, and 0.45m in depth, and was covered by two superimposed flagstones: it too was empty. The final example, Cist 6, was interesting as it was a double arrangement, with the larger compartment measuring c. 0.8 × 0.3 and 0.5m in depth. Both the large and small cists were covered by a substantial capstone and yet again found to be devoid of contents. The lack of burials in most of the cists is curious, as they seemed undisturbed with capstones in place, with two having substantial dual capstones that were superimposed. Whilst the possibility exists that inhumations had been removed from the 'empty' cists a much more likely occurrence is that the inhumations they contained had dissolved in the acidic conditions of these fields (virtually no bone survived at the nearby Barnhouse village). If this was the case, then the Lochside Farm cists would have strongly resembled the Armadale cist cemetery albeit presumably lacking the timber and stone circles.

As Hedges (1980) recognised, Lochside Farm, Stenness, is not alone. At Isbister, Rendall, three cists of varying sizes

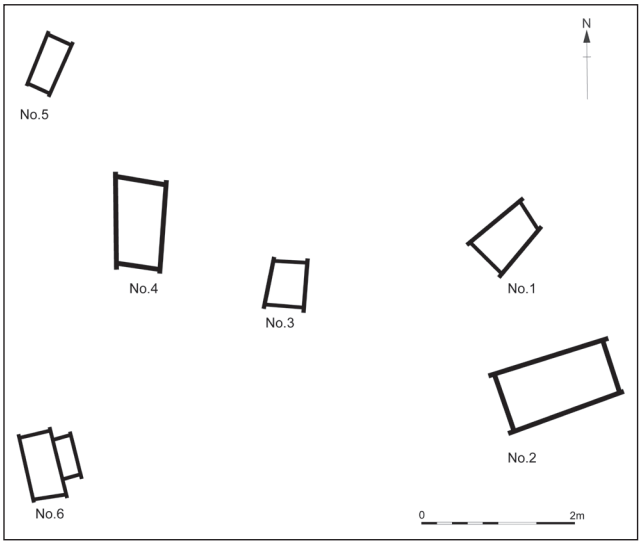


Fig. 8.11 Plan of the cists examined at Lochside Farm, Stenness, West Mainland by the Orkney Antiquarian Society (after Greig 1931).

and architecture were found closely associated with one and probably two being 'double-deckers' (Sections 2.3 and 3.2; Petrie 1866). To these three can be added a fourth situated c. 30m away. This was a large cist measuring c. 1.3m long by 0.65m wide, almost certainly built to house an inhumation but, interestingly, was found to contain a cremation (Kirkness 1927, 239). Whether the identification by Fraser (1927, 53) of several cists being inserted into the Muckquoy Late Neolithic settlement mound, Rendall, constitutes a cist cemetery is difficult to establish with no number being given. The same is true for another group of cists, also in Rendall, situated c. 50m south of the Queenamuckle cairn (Section 6.5), that were discovered during land improvement works in 1859 (RCAMS 1946, 86; NHRE ID: 2691). Although the number of cists is unrecorded, they contained ashes and appear to have been concentrated on a low platform or mound.

When a group of four cists were discovered by tenant farmer, Mr Slater, on the brow of Groundwater Hill, Orphir, Hugh Marwick anticipated these future discoveries when he concluded it highly unlikely that 'these four cists exhaust the burials at this site' which were 'in all probability … a kind of Bronze Age cemetery' (Marwick 1929b, 381). He was also of the opinion that 'it is of the utmost importance to note that it [Groundwater Hill cemetery] dates from a period at which burnt and unburnt burials took place side by side' (Marwick 1929b, 381). From these observations, and the presence of cist cemeteries beyond Orkney, such as Armadale, Skye, we can modify the suspicion of Hedges that although many 'cists may be found singly they belong to cemeteries' (1980, 48), to the probability that a number of single cists may have formed a component of a cemetery going forward from the end of the third millennium cal BC (see also Hunter 2000, 170).

Judging from the chronology of the Armadale cist cemetery it would seem likely that the Orcadian cemeteries are being assembled towards the end of the unobtrusive cist burial period from the final centuries of the third into the early second millennium cal BC. This observation raises two important issues. First is the appearance of cremation and the significance of cremated remains becoming placed in cists either alone or with earlier inhumations (see Section 8.4). The second is the social imperative necessary to aggregate cists within a cemetery. In discussing a similar but poorly dated cemetery of nine cists at West Water Reservoir, West Linton in the Scottish Borders, which also contained a mixture of inhumation and cremation burials, Hunter (2000, 172) considered it to be 'a relatively short-lived cemetery for a small community' with the caveat that this was 'before the focus of burial shifted, arguably to cremation in cists'. Yet, if we accept that when first introduced cremation did not really manifest itself as 'a substantial shift in terms of concerns and practices between inhumation and cremation graves' (Sørensen and Rebay-Salisbury 2023, 125; see also Sørensen and Bille 2008, 257), then the change identified by Hunter (2000, 172) is negated. Instead, the West Water Reservoir cemetery becomes one of longer duration and the sequence of burials (both inhumations and cremations) relates to the maintenance of community, with genealogical and kin-relations being expressed through proximity in death (Johnston 2021, 81–7).

Intriguingly, in all the above examples, the cemetery contains both inhumation and cremation burials. Although an overlap between these two forms of mortuary practices has been acknowledged for a number of years (e.g. Burgess 1980, 297–300), an assumption remains that once introduced, cremation superseded inhumation as the dominant form of burial rite. This has seemed justified to some degree as in numerous cases – some discussed in this book – the cremation deposit is a later addition to the cist which already 'houses' one or more inhumations as at Backakeldy, Holm, Mainland (Fig. 3.7; Marwick 1928). On the other hand, there are also examples of inhumations succeeding cremations, as occurs at Holland, St Ola (Section 2.4; Neil 1981). The recent discovery by Hazel Moore and Graeme Wilson of a cemetery associated with double-houses at Links of Noltland, Westray (Fig. 8.5), effectively confirms that in Orkney the two mortuary practices overlapped and ran concurrently (Fig. 8.12; Moore *et al.* 2022, 550–2). Excavations revealed '56 graves, representing approximately 105 individuals, almost half of whom had been inhumed (estimated n = 49) and the remainder cremated' (Moore *et al.* 2022, 545). Whereas the Skye and Scottish Borders examples were restricted in discussions of genealogy and social relatedness, this is not true of the Links of Noltland cemetery. Here, aDNA evidence revealed a striking pattern of persisting local Neolithic male lineages, along with a degree of external male and substantial female infusion (see Section 8.6).

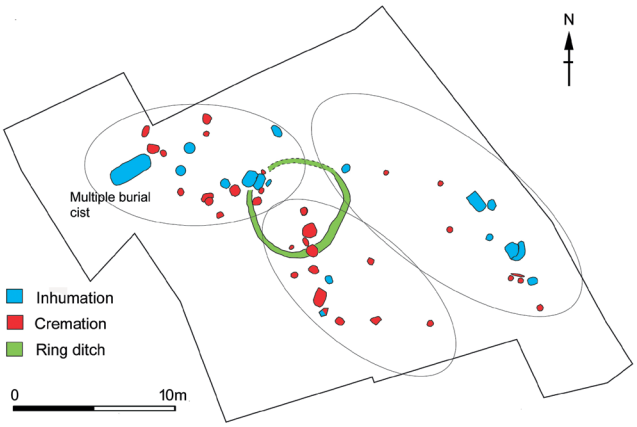


Fig. 8.12 Plan of the cemetery at Links of Noltland, Westray, showing the combination of inhumation and cremation burials (reproduced by kind permission of EASE Archaeology).

To conclude this section, an argument can be made that the abandonment of a Late Neolithic village does not demonstrate an abdication of its vitality as a material expression of the house society. This is especially true if the decaying houses and architecture of the villages are considered to still form part of a 'community assemblage' (cf. O.J.T. Harris 2014, 88–92). A consequence of this attribution is that through time the village communities of the Late Neolithic do not fail as such but merely metamorphose into a new structure of spatially discrete double-house units whose inhabitants become increasingly kin-based. The house societies may continue but group cohesion is no longer achieved and dependent on people physically dwelling next to one another, having been fractured by internal tensions and competition. Instead, the structuring principle that binds people together in the present alters to being firmly fixed in the past. In this way, the imagined form of community grounded in the abandoned and decaying village unavoidably elevates ancestry and lines of descent. Inevitably, the almost reified house society becomes increasingly a more abstract entity that necessarily still embraces group relatedness to some degree but now through villages and communities of the dead, as opposed to the living. As a direct consequence the community of the dead becomes a stronger focus for negotiating and creating relatedness among the living.

After the abandonment of the villages the development of cist cemeteries (and barrow cemeteries) expresses this turn towards the relational character of the dead. As Barrett says 'the requirement was always present, demanding each succeeding funeral to make some reference to those burials which had gone before … a new kind of history was being written in these rites' (1994, 125). In terms of mortuary practices, this 'new history' replaced the concern with maintaining the relational person as expressed in the storage and housing of the 'living' corpse/body within the unobtrusive accessible cists (see discussion in Sørensen and Rebay 2008, 60–1; Sørensen and Rebay-Salisbury 2023, 42–7). There was no longer a need to suspend death and maintain the integrity of the dead body, a process so common through the third millennium cal BC. Because the corpse was deemed to be still 'living', any drama surrounding death was necessarily minimalised and concealed to enable the partial survival of the relational person (cf. Sørensen and Rebay-Salisbury 2023, 49–50). It in this context that we come to appreciate the significance of the process of mumification which is also a technology for achieving the same goal (Parker Pearson 2023). As kin relations now manifest in households of the dispersed larger double-houses strengthened so the need to store the corpse in a cist as a 'living relational person' receded. Instead, death and the destruction of the body could now be celebrated in the most ostentatious of ways because the 'relational dead' comes to the fore. The technology and performance of cremation and the prominence of cist and barrow/cairn cemeteries, now become emblematic of that dramatic end to the relational person as a living entity. The cremation and distribution of the body substances (burnt bone and cramp) now articulate relatedness and social position; in short, cist and barrow cemeteries become the new 'villages' which are inhabited by communities of the dead.

8.4 Cremation, cramp and the identification of cremation grounds in Bronze Age Orkney

Due to the use of fire, the act of cremation is one of drama and spectacle (Fig. 7.8; see also Barrett 1994, 128; Downes 1999a; Sørensen and Bille 2008; Johnston 2021, 87). As Mike Parker Pearson observes, 'cremations can be outrageously extravagant affairs' (1999, 6), and we suggest that this is the most important aspect influencing the adoption of cremation in Orkney; it choreographs and exhibits the destruction of the body in the most spectacular manner. In this respect we do not envisage the emergence of cremation as entirely one of 'competing discourses' (see Garrow *et al.* 2014, 226; also Braithwaite 1984), but rather the introduction of expedient practice to display to all the destruction of the body/person (cf. Sørensen and Rebay 2008). Cremation does not merely provide a mechanism for the transformation of the deceased; it celebrates that transformation in a most ostentatious manner. As mentioned earlier, it has been noticed in several areas of northern Europe that despite this shift to a totally different way of treating the body in death, initially the mode of burial remains the same (Sørensen and Bille 2008, 257; Crellin 2017, 121; Sørensen and Rebay-Salisbury 2023, 125). This is also true of the burial of cremated remains at the beginning of the second millennium cal BC in Orkney. There are numerous examples of secondary cremation deposits being interred with inhumations in unobtrusive accessible cists, such as Backakeldy, Holm, where 'in the larger cist a skeleton was found in rather

poor preservation, and in the south-west corner lay a heap of calcined bones' (Marwick 1928, 265; Fig. 3.7). In other examples, unobtrusive cists may just contain cremation deposits as at Blomuir, Holm, (Section 3.3.1), or Cist 4 at Lochside Farm, Stenness (Greig 1931, 61).

On 13 January 1933, Walter Grant received an unexpected phone call from Dr Hugh Marwick, Director of Education for Orkney, who informed him that an urn burial had been discovered by Mr Aim of Blows Farm, Deerness, Mainland, Orkney. This discovery was of particular interest to Dr Marwick as it was close to a cist containing a steatite urn that he had excavated four years earlier in March 1929 (Marwick 1929). Together with Mr Aim, they visited the site and found that 'a sufficient cavity had been excavated in the soft clayey rock and the urn simply placed therein without any enclosing stone cist' (Grant and Callander 1933, 343). During its excavation 'at a distance of feet' a second cremation in a pit was discovered, and 'though the cavity was urn-shaped not the slightest trace of pottery was to be seen' (Grant and Callander 1933, 345). Professor Alexander Low of Aberdeen University subsequently examined the cremated bones and noticed that some of the bones 'were coated with a slag-like material' (Grant and Callander 1933, 345). This mirrored an observation he had made four years earlier on the cremated bones from a cist discovered at Groundwater Hill, Orphir, Orkney, where 'on the lower end of the humerus [were] small greenish-glazed deposits' which were found to be 'of the nature of a slag, due to the fusion of sand grains' (Marwick 1929b, 383).

This was the first reporting of the fusion of cramp (Section 7.4) and calcined bone in the literature and provided direct evidence that its creation had occurred within the cremation pyre. As discussed in Chapter 7, cramp is not merely a by-product of the cremation process but through fire (intense heat) is a newly created substance of fused bodily fluids, calcined skeletal parts and the earth upon which the cremation pyre is set. In this respect cramp really is a new materiality: a substance of blood, bone and soil created in the heat of the cremation pyre

However, there was no evidence of pyres at either Blows Farm or Groundwater Hill, and apart from odd instances where indirect evidence has been discovered such as at Kewing, Rendall, where cramp 'took the shape of the cist indicating it was still warm when it was placed inside' (Ballin-Smith 2014, 95), there is a lack of association between unobtrusive cists, cremation deposits and funerary pyres. If the main purpose of cremation at the time was to highlight and produce a spectacle of the destruction of the corpse, this raises the interesting question of where the majority of cremations occurred if not at the place of burial.

In the search for cremation places, one line of enquiry draws on the observation of Professor Low cited above and involves the presence of cramp as a proxy for cremation pyres. Apart from cremated bone frequently being a constituent of cramp, the presence of this slag-like material in so many of the cremation deposits and pyre sites discussed in this volume testifies to it being a new material generated during the high levels of heat – up to and over 1000°C – necessary for complete cremation (McKinley 1997, 13). Cramp has been suggested to form at temperatures between 650°C and 850°C (Carter: Appendix 23; Photos-Jones *et al.* 2007, 19–20). But under certain conditions cremation pyres could exceed this temperature resulting in 'sheets' of cramp being formed by the surface of the soil beneath the pyre actually melting (Carter: Appendix 23). This is likely to occur when the flames are fanned by a draught or wind, and here we may begin to understand why cramp is so frequently created as part of the cremation process (Section 7.4.6.1).

We have claimed that the adoption of cremation in Orkney was primarily to exhibit and display the destruction of the body in a most ostentatious and spectacular manner. Under these circumstances it may be expected that the position of the pyre would be in a highly visible location, allowing the drama of the occasion to be magnified, as occurs at the Knowes of Trotty where the large pyre site was placed on an elevated glacial knoll (Fig. 4.43). In such a location just a small breeze could easily facilitate a dramatic increase in the pyre temperature. The same conditions would have been created at Linga Fiold (Chapter 5) where numerous pyres were in an elevated position on the hillside. What is not known is whether these were individual events or multiple cremations across the hillside, which would have presented an extraordinary display of blazing pyres, especially if events ran into the twilight of evening. Hence, at both Linga Fiold and Knowes of Trotty barrow cemeteries, the elevated position of the cremation pyres ensured a highly visible, dramatic event with the potential to generate extremely high temperatures.

8.4.1 Enclosing cremation

In early August 2009, Dave Cowley of the then Royal Commission on Ancient and Historical Monuments in Scotland decided to take advantage of the dry conditions and undertake an aerial survey of parts of Mainland, Orkney. In many ways this was experimental in that aerial survey 'had not been much tested' in Orkney (RCAHMS 2009, 194). The results were extremely good and one of the discoveries was a substantial slightly oval-shaped enclosure on the summit of Hundland Hill, Birsay (Fig. 8.13). The enclosure measures c. 67m (north-east–south-west) by 64m (north-west–south-east) and, being situated at a height of 106m OD, it assumes a highly visible position in the landscape of north-west Mainland (Fig. 8.14). Within the eastern area of the enclosure is a mound upon which a trig point has been set. The enclosure also overlooks a number of Early Bronze Age barrows with two being situated downslope to the south-west, and a cemetery of eight barrow lies in

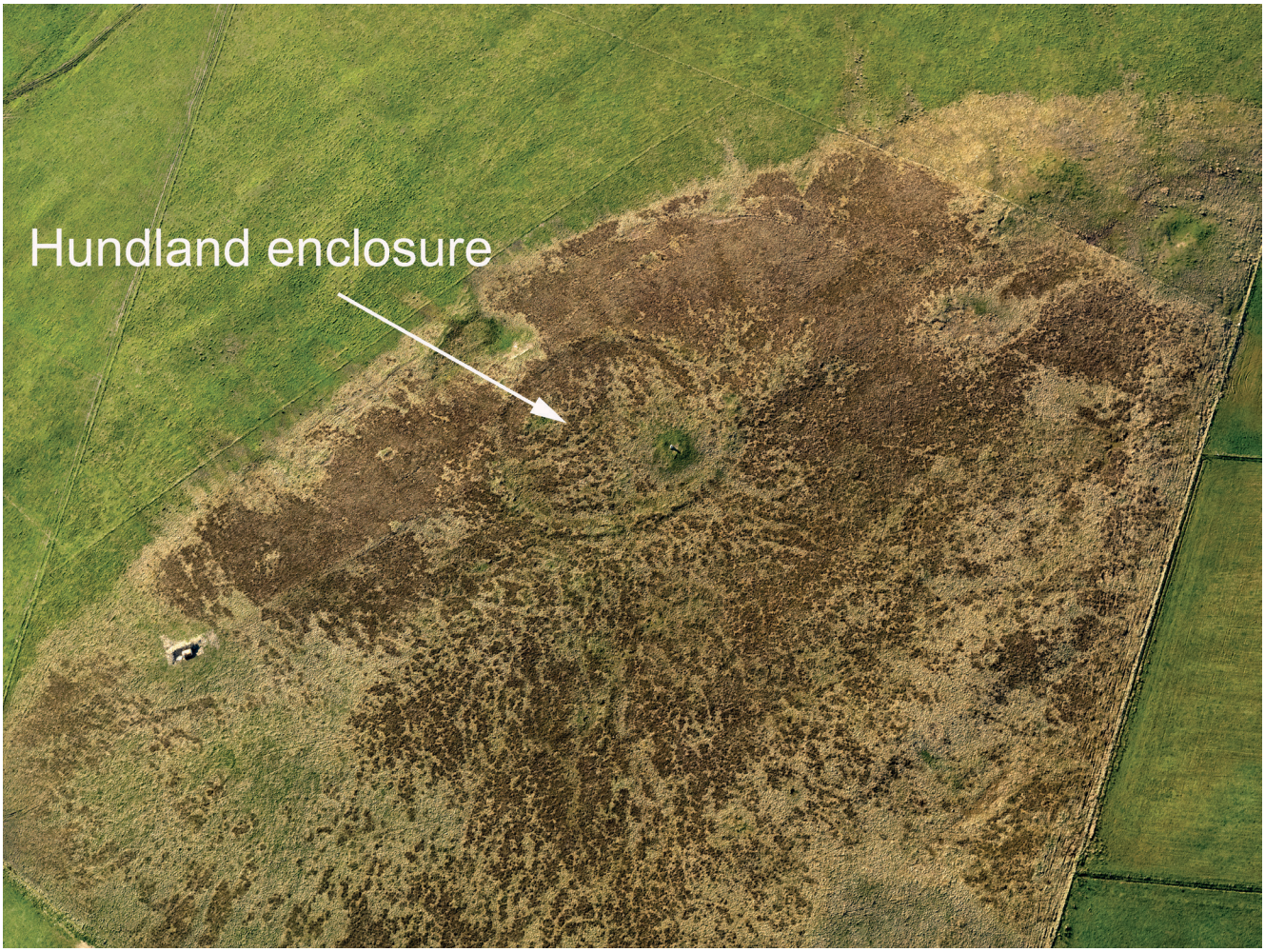


Fig. 8.13 Aerial view of the Hundland Hill enclosure, Birsay, Mainland, Orkney discovered in 2009 by Dave Cowley. The internal trig point is set on a round mound in the eastern area of the enclosure (© Historic Environment Scotland).

full view 1.6km to the west on the east slopes of Kirbister Hill. Indeed, this is an area of considerable early second millennium cal BC burial activity, including cist burials.

Shortly after its discovery, a site visit by Kenny Brophy, Dave Cowley and Martin Carruthers resulted in the recovery of cremated human bones from rabbit upcast in the enclosure bank, together with substantial lumps of cramp, some of which contained calcined bone, from cattle scrapes nearby (Cowley 2011, 52; Martin Carruthers pers. comm.). The cremated bone, some of which was fused with cramp, was identified as human (Ingrid Mainland pers. comm.). The presence of this material clearly identifies the Hundland Hill enclosure as a potential cremation ground and the presence of a mound within the enclosure may well have been the focus of such events. Moreover, the elevated enclosure provided a dramatic location for cremation events, and it



Fig. 8.14 Hundland Hill, Birsay, West Mainland, viewed from the west.



● = Cremation enclosure

1 = Hundland Hill, Birsay
2 = Vestra Fiold, Sandwick
3 = Bookan, Sandwick
4 = Elsness, Sanday

Fig. 8.15 Map showing location of identified second millennium cal BC cremation grounds in Orkney.

is easy to imagine blazing pyres and drifting smoke being highly visible over a wide area of north-west Mainland.

Although Vestra Fiold Hill in West Mainland is visible in the distance from Hundland Hill, the barrows just to the south of the summit and the lower-lying megalithic quarry are not (see Section 6.4). West of the quarry is a banked enclosure of irregular egg shape, measuring c. 260m across at the widest (east–west) point (Fig. 6.38). Today, little remains of the bank with only part of the circuit being visible in the east but originally it was composed of massive

stone uprights over a metre in height. The remainder have been robbed for building purposes and destroyed through cultivation. These stones are clearly derived from the adjacent outcropping that provided a number of monoliths for both the Ring of Brodgar and Stones of Stenness (Richards 2013). Consequently, when originally standing the enclosure would have appeared extremely impressive with its megalithic boundary.

Just as with Hundland Hill, at least one mound once stood within the Vestra Fiold enclosure, as when visiting the site in 1928, Mr Corrie reported it to be '12 to 14 ft. [c. 3.66–4.3m] in diameter, and at its centre there are two small stone slabs set on edge' (RCAMS 1946, 269). What is not mentioned in the Royal Commission Inventory is the presence of large amounts of cramp that had been discovered in and around the enclosure since it was cultivated in the nineteenth century. In 1892, George Marwick observed that 'a great deal of fire had been used in the vicinity of the quarry, the ground being in some places covered with ashes and vitrified bones' (quoted in Muir and Irvine 2014). This occurrence was further mentioned by J. Graham Callander when he reported that 'there were great quantities [of cramp] lying on the surface, some of the masses being used as copestones on a garden wall' (1936, 445).

It is interesting that the spreads of cramp and burnt bone at Hundland Hill and Vestra Fiold (Fig. 8.15) are contained within substantial banks. This may also have been the case at a possible third cremation ground located 'about 500 yards [455m] slightly north of west of the Ring of Brodgar stone circle' (Callander 1936, 445). Here, Mr Corrie informed Graham Callander that 'there are a number of burial mounds showing much cramp scattered about; one of these mounds, now measuring about 34 feet [c. 10.4m] in diameter and 2½ feet [0.75m] in height, and showing the stones of an exposed cist on the top, had cramp spread all over it' (Callander 1936, 445). This spread of cramp has been suggested to be located at the badly damaged barrow cemetery lying south-west of the Bookan enclosure by Brend *et al.* (2020, 165), but this is unlikely as it lies nearly 2km from the Ring of Brodgar. Instead, the barrows at the Brecks (see Fig. 8.8) are more likely to be those identified by Mr Corrie overlooking the stone circle and the Wasbister Bronze Age double-house settlement (Thomas 1851; RCAMS 1946, 263; Robertson 2005). Although only partially revealed, to the north of the barrows geophysical survey and LiDAR have both traced the eastern side of an oval enclosure measuring c. 60m north–south (Brend *et al.* 2020, 123), of identical size and shape to the enclosure on Hundland Hill. Given the spreads of cramp and cremated bone within the enclosures it is reasonable to identify them as cremation grounds in elevated positions and contained within substantial banks.

Such cremation enclosures are not restricted to Mainland, Orkney, but also occur in the northern isles. Elsness is a promontory to the south of Sanday, which is best known for Quoyness passage grave (Childe 1951). Further to the south is an enclosure (Fig. 8.16) that was first mentioned by the Rev. Walter Traill when he observed that 'from Augmund's Howe, there may be traced the remains of a wall thickly studded with circular forts, running to the north-west across the Ness, and thus enclosing fully a third of the whole Ness' (Traille and Smellie 1845, 136–7), first noted by Hibbert in 1831 (see Section 2.4 above). The 'forts' referred to are actually cairns and 'the enclosed space is literally covered with tumuli and heaps of ruins … most of these tumuli which have been opened, contained burned stones, ashes, bones and seashells' (Traill and Smellie 1845, 137). From his description these finds had been deposited within stone cists, but of particular interest is the observation that 'a number of smaller heaps within the walls are formed of what country people call *cramp* … it is plain they must have been the sites of strong and long-continued fires' (Traill and Smellie 1845, 137). Mr Corrie first visited this site in 1928, noting that more than 20 small mounds were visible along with traces of more that had been nearly destroyed by ploughing. He also observed that 'those that survive seem to have been formerly connected by a rudely built wall or setting of stones' (RCAMS 1946, 170). Of the individual mounds or barrows, he notes that 'it is noticeable that on each there is distinct evidence of burnt material, locally known as cramp' (RCAMS 1947, 170). In describing the presence of cramp to Graham Callander, Mr Corrie goes further in stating the burial mounds to be 'literally covered with it' (Callander 1936, 445). Today, the wall has virtually disappeared but at least 28 mounds have been recorded (Fig. 8.16; Downes 1998).

There are almost certainly more Bronze Age cremation enclosures awaiting discovery in Orkney. In the context of an Early Bronze Age world of material fluidity it is hardly surprising that the transformation affected by burning the body until just the calcined bones and fuel ash and cramp remain requires containment and separation. In the Elsness example, we see a conjunction of a very large barrow cemetery with a cremation enclosure. The inclusion of small cairns and cists in the enclosure wall is of particular interest in demonstrating the need to wrap the place of cremation with the buried remains of the dead. This may be a feature which extends beyond Elsness, as the cremated bone at Hundland Hill was discovered in a rabbit scrape *in the enclosure bank*. The prominence of extensive amounts of cramp at each site demonstrates not only the magnitude of cremation events occurring within the enclosures but the special or transcendental qualities of the material itself. As noted above cramp is not merely a by-product of the cremation process but through the heat of burning and destroying the body is a new materiality; a substance created from the fusion of blood, bone and soil.

For John Barrett one of the distinctions between inhumation burial and cremation was that of immediacy, with cremation 'creating a greater spatial and temporal distance between the living and the dead' (1991, 122). We argue

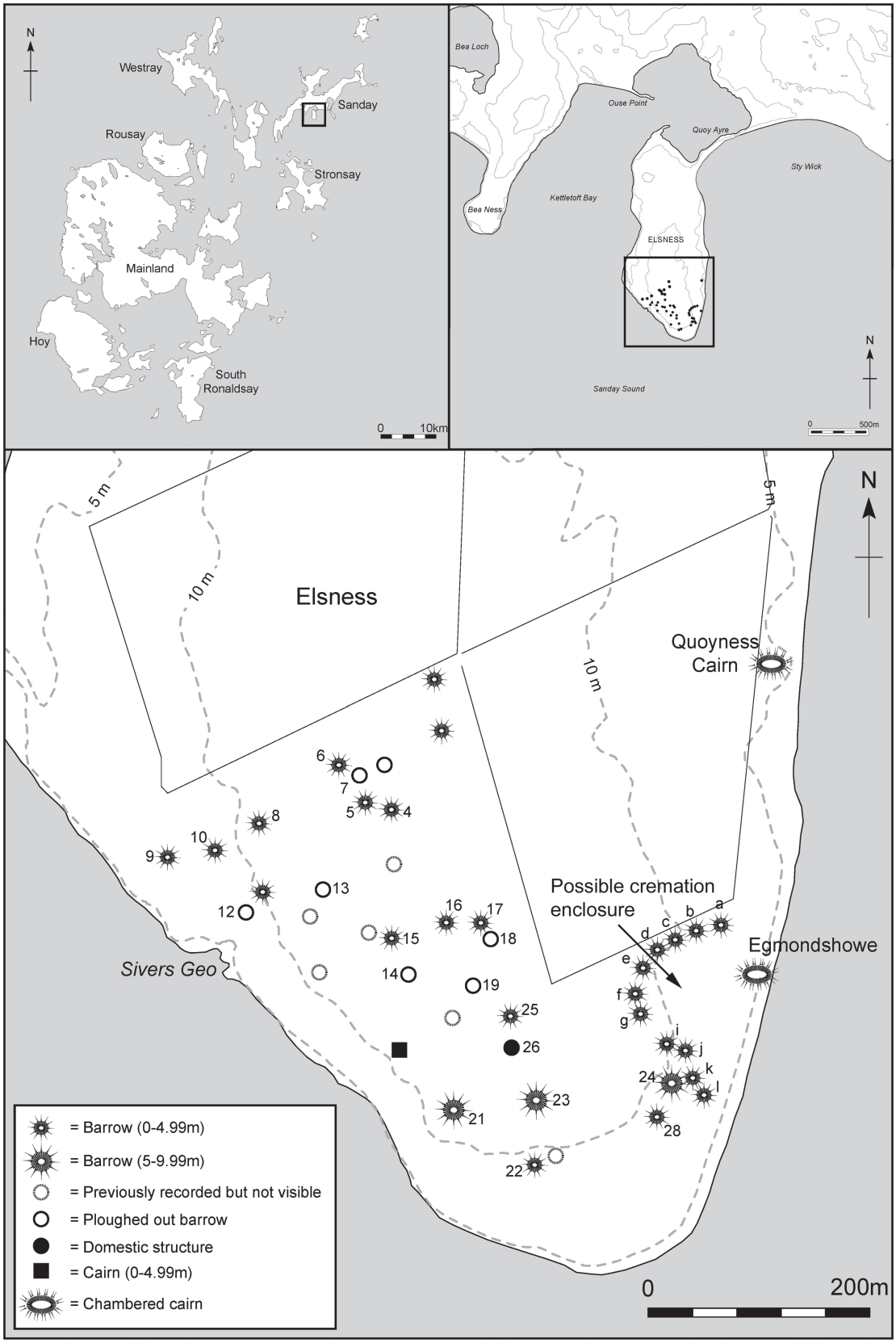


Fig. 8.16 Plan and location of Elsness enclosure, Sanday. The absence of barrows on the east side of the ness is due to agricultural improvement that had already taken place when Dr Hibbert was describing the barrows in 1831 (see Section 2.4).

that through the process of cremation with the spectacle of bodily destruction through fire, a distance between the living and dead is ensured, but such dislocation may have been accentuated through physical movement of the corpse to a space enclosed for cremation. Sørensen and Rebay-Salisbury note that 'it is generally assumed that pyres were constructed uniquely for each individual grave ... there are, however, some examples of locations that were repeatedly used for the construction of pyres' (2023, 129–30). Current evidence from the four enclosures described above indicates these to be such locations.

8.5 Barrow cemeteries in Orkney: altering the landscapes of West Mainland

Over the years much has been written about barrow cemeteries, particularly those in Wessex, and much of this commentary revolves around themes of the sequential mounds materialising group relatedness and affiliation (e.g. Peterson 1972, 39; Barrett 1994, 127; Garwood 2007; Johnston 2021, 86–7). Also, barrow cemeteries referencing older monuments have been a prominent theme (e.g. Case 1982), which Richard Bradley in particular has consistently returned to over a 30-year period (e.g. Bradley 1993, 103–111; 2024, 85–92). In Orkney these themes are of equal relevance for interpreting barrow cemeteries, but here their construction and development can be situated in a wider social context.

One aspect which make narratives of the Neolithic and Bronze Age in Orkney so rich and robust is the presence of settlements. As such it is possible to chart in some detail the relationship between burial practices and settlement organisation over long periods of time. In doing so a rather interesting relationship becomes apparent. Beginning in the Early Neolithic when settlement is more dispersed, we see collective burial in chambered tombs or cairns. As settlement begins to conglomerate into villages during the final century or two of the fourth millennium cal BC and people reside in close proximity, so burials begin to become dispersed in unobtrusive cists, many of which are accessible. In the latter half of the third millennium, we see the emergence of cist cemeteries as many of the Late Neolithic villages become abandoned and settlement fragments. During the early centuries of the second millennium, after initially remaining closely associated with the abandoned villages (see Section 8.3), in many places – apart from the Links of Noltland – residential units become increasingly dispersed, frequently downslope from associated barrow cemeteries (Downes and Thomas 2013).

As discussed in Section 8.3, although many of the villages become abandoned after the mid-third millennium, they appear to maintain a visible focal point for the changing house societies. The villages remain relevant as places for different depositional events which include burial but with the main emphasis being on activities involving the deposition of red deer (Sharples 2000; Richards *et al.* 2015; Clarke *et al.* 2017, 68–70). In the previous section it was also suggested that these activities occur alongside the development of cist cemeteries, each of which appears to be unmarked and of low visibility, basically maintaining the qualities of the unobtrusive cists. In the development of cist cemeteries, we begin to witness a trajectory towards the relational dead as substituting for a physical collective of the living as occurred within the Late Neolithic villages: the abandoned villages now take on a different status in providing a context for what Barrett describes as ancestor rituals (1988, 31–2; 1991).

Through time, the double-houses of the early second millennium cal BC begin to spread more widely from the immediate environs of the abandoned settlements, and it is at this point that the strategy of collective burial as manifest in the cist cemeteries changes. As settlement, now represented by extended families in double-houses leaves the environs of the ruined villages (which become increasingly of less importance to the reproduction of the house society community), burial rituals become spectacularly visible in the construction of round barrows and development of barrow cemeteries.

Building barrows and barrow cemeteries in close vicinity to older Neolithic monuments occurs elsewhere in the British Isles, most famously at Stonehenge (see Woodward and Woodward 1996; Woodward 2000, 88; Bradley 2007, 166–8; 2024, 87–8) an occurrence that has been recognised over many years (e.g. Grinsell 1941a, 79; Ashbee 1960, 33–5). A similar trend is apparent in Orkney (Figs 2.9 and 8.8; Edmonds 2019: 292–96), and intriguingly, of the two stone circles it is only the Ring of Brodgar that attracts four of the largest round barrows in Orkney: Salt Knowe, South Knowe, Plumcake and Fresh Knowe (Fig. 8.8). Farrer's excavation of Plumcake was reported by Petrie (1856, 58–60) and found to contain two cists with cremations and urns, one of which was steatite. This cremated bone has been dated to 1745–1566 cal BC (SUERC-76110) which appears a little late and Farrer may have excavated secondary cist burials higher in the substantial mound (Sheridan *et al.* 2017, 209–14). Subsequently, both Salt Knowe and Fresh Knowe were partially excavated by Farrer (1862, 18; Mamwell 2018, 133), who discovered no burials. Judging from Paul Garwood's scheme these are the earliest barrows which tend to be 'distributed in extensive disbursed groups' (2007, 44), during the final centuries of the third millennium (see also Woodward 2000, 80–5).

At the beginning of Chapter 1, the question of anticipation was raised in relation to the construction and use of burial architecture, and this was certainly a feature of the unobtrusive accessible cists of the third millennium cal BC (Chapter 3). The idea of projected futures may also be a productive way to think about the development of barrow cemeteries because by the first centuries of the second



Fig. 8.17 View from the north-east of the barrows and linear cemetery running east from the Ring of Brodgar (Keith Wisbey).

millennium, a number of the large, dispersed barrows, some associated with ancient Neolithic sites and monuments seem to become founder barrows of linear cemeteries. Of the four large barrows around the Ring of Brodgar, South Knowe is in the most ruinous condition, but nonetheless, it was once a substantial mound and is the only one of the four that acts as a founder barrow on which the three barrows comprising linear Cemetery 1 are aligned (Fig. 8.8). Similar linear cemeteries occur to the north-west around the Ring of Bookan (Fig. 8.8; Brend *et al.* 2020, fig. 5.10). From this point in time further barrow cemeteries, many linear were constructed beyond the monuments, mainly within the confines of the large central bowls of West Mainland (Figs 2.9 and 8.19), and in a number of instances still referenced older Neolithic sites (Sections 4.3 and 6.2.3.1).

This raises the question of the founder barrow and whether there existed any intentionality of expansion into a cemetery at the time of construction. Alternatively, was the addition of burial mounds merely a consequence of subsequent 'reinterpretation' (Bradley 1993, 106)? Whilst it can be agreed that it is likely that 'all prehistoric societies orientated their actions in the present with the past in mind' (Gosden and Locke 1998, 2) this does not militate against a keen anticipation of future events. This would be particularly relevant in the context of a shift in the focus from the relational person as buried within the unobtrusive accessible cist to the relational dead as cremated entities deposited beneath and within monumental barrows and cairns. Under these circumstances 'it is possible that many mound-builders imagined a future process of architectural elaboration and future burial events when they built these new monuments, whether this was realised or not' (Garwood 2007, 37; see also Bradley 2024, 87). More recent critical attention (e.g. Garrow *et al.* 2014, 232), has tended to confirm the traditional notion that barrows were added sequentially to the founding mound in the development of linear cemeteries.

At the Knowes of Trotty (Chapter 4) two lines of barrows run south from the ruined Early Neolithic settlement on slightly different alignments (Fig. 4.5). This association would seem to be an attempt 'to evoke specific references to the past, indicating direct lines of mythical ancestors amongst whom the dead were to be placed' (Barrett 1990, 185). Whilst genealogical descent may be claimed by incorporating an ancient place, this is a discourse grounded more in establishing origins and relatedness, as Garwood

describes as 'mythologies of belonging ... related to significant ancestral locales' (2007, 47). Once established a different discourse comes into play, one concerned more with creating continuity (Bradley 1987) and relatedness between the dead – and the dead and the living – through what Johnston terms 'kinwork' (2021, 81). However, this is not necessarily about constructing or manipulating social memory, but the instigation of an entirely pragmatic and vital strategy deployed to provide a material focus or hub for the reproduction of a now dispersed and fragmented house society community. Moreover, given the fluidity of claims and relational strategies (and possibly an attempt to construct dynasties, real or fictional), the picture is far more complex than merely consecutive barrow building even if they incorporate additional burials (often called secondary or satellite). At Knowes of Trotty (Chapter 4) and Linga Fiold (Chapter 5) 'genealogies' as represented by the spatial ordering of burial mounds appear to be constantly manipulated through burials being inserted between barrows. A good example of this practice was revealed in Trench F situated between Mounds 8 and 9 at Knowes of Trotty (Section 4.6.1; Figs 4.7 and 4.35) where a series of cists containing cremations were uncovered.

We suggest that the communities creating the cemeteries were actively involved in shaping their future, the preplanned, linearity of the cemetery expressive of a forward looking rather than backward looking discourse. The linear arrangement could be seen as a directional flow both of movement and of time and, as Barrett (1994) suggests, different images of temporality would have almost certainly co-existed. Ingold in his analysis of the temporality of social life describes temporality as not just one rhythmic cycle 'but a complex interweaving of very many recurrent cycles' (2000, 197). In the account of funerary architecture that focuses upon genealogy, historicity is given prominence and stands opposed to temporality. Ingold, in his discussion of temporality and 'taskscapes' (Ingold 2000, 194) describes historical time as isolated events 'strung out in time like beads on a thread' and proposes that by merging temporality and historicity, events comprise both past experience and future intentions.

Linear arrangements of barrows may have 'offered physical expression to lineages and the stage for performing those lineages' (Johnston 2021, 83), but we suggest that in Early Bronze Age Orkney the building of barrow cemeteries was both a fluid and expedient strategy of kinwork where the 'relational' construction of the dead effectively assembled and reassembled the communities that now lay dispersed in double-houses across the landscape. Here, the barrow cemetery can be appreciated as gradually replacing the abandoned Late Neolithic villages in providing a physical manifestation of the house society; a community of the dead with all the tensions and struggles that such a social order embodied.

8.6 Conclusion: changing times with strangers in a strange landscape

In a recent reconsideration of Bronze Age barrow cemeteries, Richard Bradley (2024, 86–8) makes an important point when, in drawing on Parker Pearson *et al.* (2019), he suggests that 'as many as approximately half the individuals commemorated by Early Bronze Age barrows in Britain did not live near the places where they were buried' (2024, 86). If this pattern were repeated in Orkney, it would have great consequence in assessing the clustering and concentration of barrows and barrow cemeteries within the large natural bowl of West Mainland, Orkney. Here the distribution of barrows runs north-west from the Ring of Brodgar and then around the hillslopes ringing the Loch of Harray (Fig. 8.19). This is an uneven spread, and whilst there appears to be an initial focus on the Ring of Brodgar, it is intriguing as to why there is a marked absence of barrows and barrow cemeteries around the Stones of Stenness.

As numerous cemeteries spread away from the monuments and develop through time, for instance Linga Fiold (Chapter 5), an attendance to the Ring of Brodgar (and Ring of Bookan) is maintained (Fig. 8.8), However, there are subtleties at work here, for instance, the situation of some of the West Mainland barrow cemeteries such as Knowes of Trotty combines views across the Loch of Harray towards the Late Neolithic monuments in tandem with close association and alignment with even older sites, particularly Early Neolithic settlement (Fig. 4.5). Obviously, there is no certainty but if the results of the *Beaker People Project* (Parker Pearson *et al.* 2019) are applicable to Orkney, then it is possible that a portion of the burials present in the barrow cemeteries of West Mainland, came from beyond this area. Again, Richard Bradley's words resonate for the West Mainland, barrows when he muses whether the people interred in the concentration of barrow cemeteries around Stonehenge whilst possibly being 'descendants of those who had built it' may equally have been related to immigrants from northern Europe (Bradley 2024, 86; see also Olalde *et al.* 2018). Given the results of the recent aDNA analysis of burials from the second millennium cal BC flat cemetery at the Links of Noltland, Westray (Moore *et al.* 2022; Dulias *et al.* 2022), which demonstrate a similar influx of people mixing with local people, this is certainly a possibility in relation to the Stones of Stenness and Ring of Brodgar.

When taken together, the proximity of barrows and barrow cemeteries to the Ring of Brodgar, the probability that some of the people buried within the barrows derived from different places across Orkney, and the aDNA results from the Links of Noltland cemetery, create an uncertain and intriguing picture. At the Links of Noltland it is interesting that the fragmentation of settlement, in the form of dispersed double-houses, did not involve a complete disjunction with either the older adjacent village or kin-related descent,

with in some cases a maintenance of descent which was interpreted as a continuation of male lineages (Dulias *et al.* 2022; Moore *et al.* 2022, 552–5). However, the social group at Links of Noltland does appear to incorporate both women and men incomers in the loosely arranged double-house settlement, a situation not inconsistent with a reconfigured house society. Although this evidence does not provide a clear or complete picture of the Links of Noltland cemetery, let alone the entirety of Orkney, it does show that in the second millennium there was immigration but not complete population replacement. In some cases, the barrow cemeteries may relate to descendants of those who dwelt in the Late Neolithic villages and participated in monument building, but in others this may not be the case. In this context it is worth returning to Bradley's comments on the influx of people into Wessex:

> It is improbable that new settlers would be able to account for the presence of older constructions if they were occupying unfamiliar landscapes. The survival of ancient earthworks and other features must have presented a challenge and their presence had to be explained. (Bradley 2002)
>
> In order to do so, new memories were contrived. (Bradley 2024, 92)

The above quote is salient in relation to one of the themes in this volume; that the architecture of death in the third and second millennia cal BC was created within discourses of anticipation and expectation. In particular, Bradley's suggestion poses a counter-question of whether a few or many of the burials in the barrows across West Mainland were actually descendants of incomers who found themselves in a strange land. If so, does the construction of 'new memories' becomes a replacement discourse manifest in barrow building?

This possibility throws considerable light on a curious practice of creating fictional barrow cemeteries by incorporating barrows with glacial mounds. The appropriation of glacial knolls to situate burial mounds was shown in Chapter 4 to be a strong component of the organisation of the Knowes of Trotty cemetery, but elsewhere glacial knolls are being exploited in quite a different manner. Some 4.3km south-west of Knowes of Trotty, and c. 1.3km north of Maeshowe lies the Vola bell barrow (NHRE ID: 2155). This is an unusual monument as there are few true bell barrows with a surrounding ditch in Orkney. However, as a reasonable well-preserved mound of c. 17.5m diameter, at first glance it appears to be a component of what can been termed a small, nucleated cemetery (cf. Woodward 2000, 76), which shows up well on a LiDAR image (Fig. 8.18). But this is an illusion as the remainder of the cemetery mounds are all glacial in origin and in reality, this is not a barrow cemetery at all.

The ability to manipulate topography in this manner does not merely illustrate the potency of constructing new or alternative narratives of the relational dead but also provides

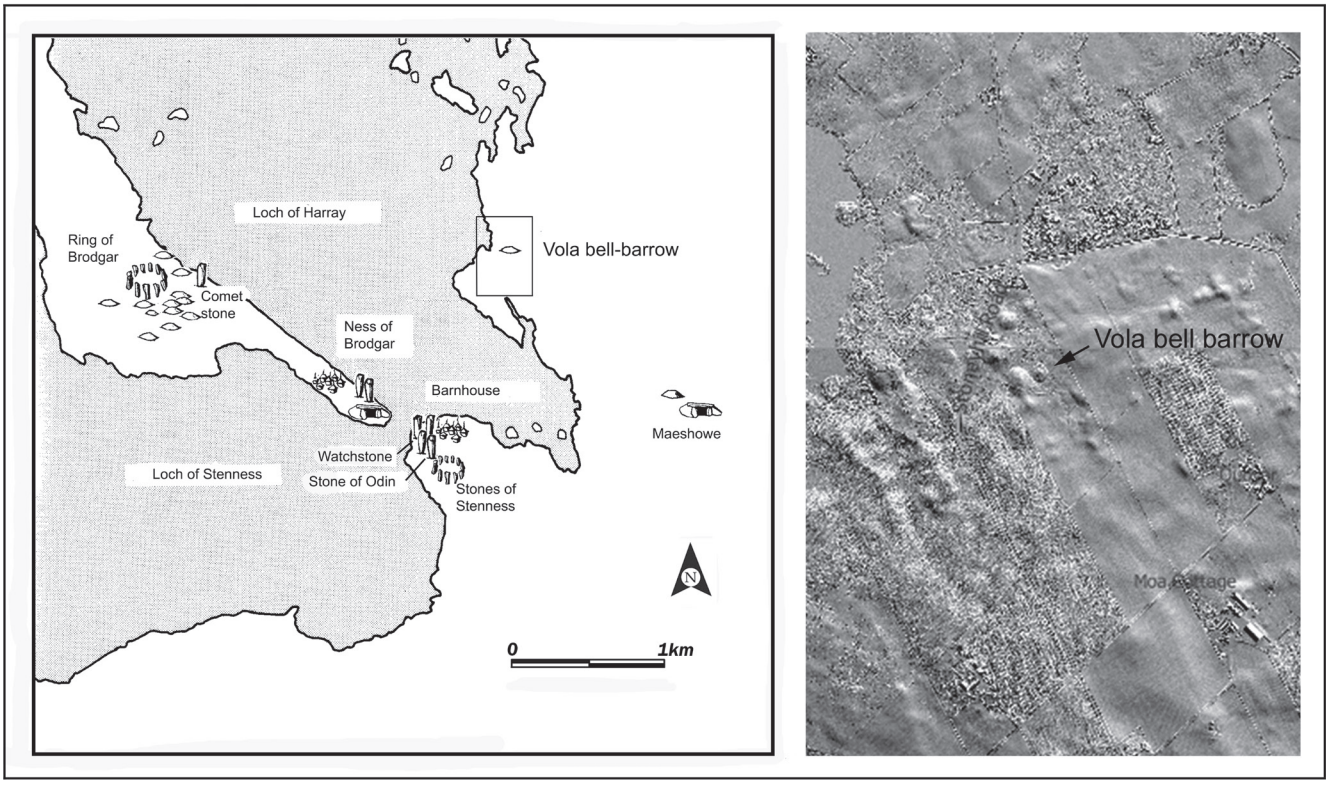


Fig. 8.18 Airborne Laser Scanning (LiDAR) image of Vola bell barrow, Stenness, West Mainland, among a group of glacial knolls (Crane Begg).

a commentary on the relationship between social groups, the barrow cemeteries of West Mainland, and an understanding of landscape. The use of natural mounds for burial elsewhere in the Early Bronze Age has been suggested to represent

> a forgetting of the significance of certain locations and/or monuments and the subsequent re-invention of these places as locales with meaning, open to manipulation and exploitation… disarticulation, confusion and mis-identification may have played a part in the use and explanation of monuments and forgetting may have played just as active a role as remembering. (Mullin 2001, 537)

But on the basis of aDNA evidence (Dulias *et al.* 2022; Moore *et al.* 2022) to some these would be landscapes lacking known history, and therefore 'without the assumed continuity of the significance of particular places, how would new people coming into unfamiliar landscapes engage with these previously unencountered worlds?' (Cummings and Richards 2021, 229). An answer lies in the necessity to generate new memories from unknown places and monuments in unfamiliar landscapes as suggested by Bradley (2024, 92). Moreover, this would only be an effective strategy if aimed at those who also possessed little knowledge of these landscapes. It is the development of this strategy that may also have led to the re-use of barrows within older cemeteries as contexts for discrete burial areas in small cists and pits as present to the north of Mound 7 at Linga Fiold (Fig. 5.58; Section 5.9.5.3) and north-east of Knowe 1 at Quoyscottie (Fig. 6.61; Hedges 1977, 134).

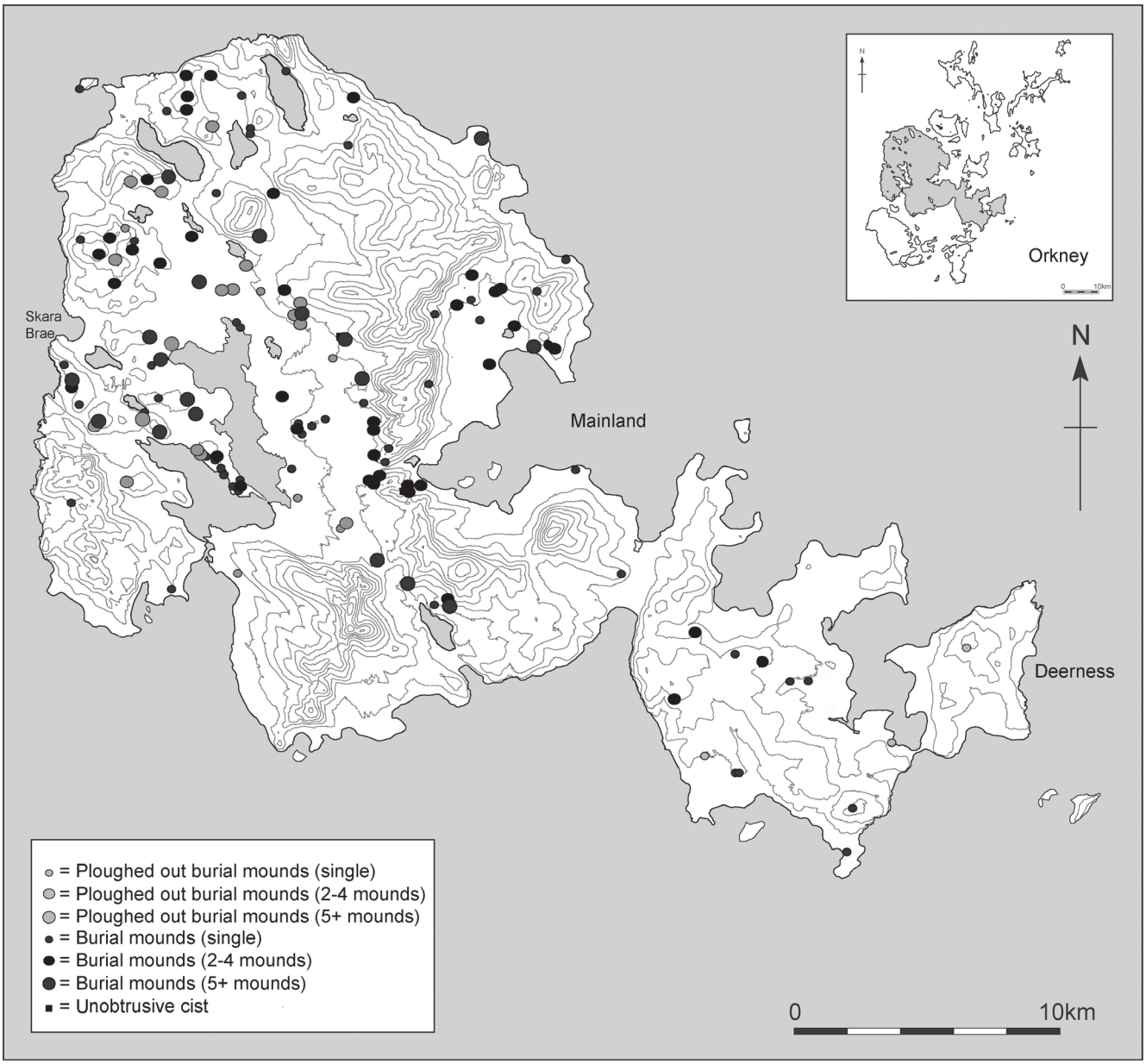


Fig. 8.19 Distribution of barrows and barrow cemeteries in Mainland, Orkney; note the concentration in West Mainland.

With the lack of early Beaker burials as occurs just across the Pentland Firth on the Scottish mainland, this influx into Orkney does not appear as a replacement population. Judging from the aDNA evidence mentioned earlier, the Links of Noltland cemetery presents a far more subtle picture of partial integration with the pre-existing population occurring over several centuries in the second millennium cal BC (Dulias *et al.* 2022). Although Moore *et al.* (2022) interpret these results as representing 'the persistence of male lineages', they also see the infusion of people as representing a rupturing of the previous social organisation. This process is described in the following way:

> The presence of largely continental European genome-wide ancestry, alongside predominantly indigenous Y-chromosomes, suggests a patrilocal marriage tradition. By virtue of the scale of social networks implied by this, patrilocality is unlikely to have been unique to Westray, and it is tempting to view the Bronze Age female of continental ancestry buried at Lopness, Sanday, in this light (Olalde *et al*. 2018). Whether patrilocality was new in the Late Neolithic, or the continuation of an existing system with new people being drawn into it, requires further exploration. (Moore *et al.* 2022, 554)

Despite the evidence for incomers entering Orkney during the final centuries of the third millennium cal BC, this could merely reflect the maintenance of an established tradition of kin ties, possibly involving patrilocal marriage practices, existing between Orkney and the Scottish mainland since the late fourth millennium cal BC. Such practices would only be revealed through aDNA evidence when the immigrants become identifiable through their Steppe ancestry. Hence, it remains possible that far less social 'rupture' occurred as a direct consequence of immigration during the final centuries of the third and early centuries of the second millennia. Indeed, some of the most substantial changes in mortuary practices and settlement organisation discussed in this volume occur towards the end of the fourth millennium cal BC. At this point two final strands of evidence can be introduced concerning immigrants and the movement of people within and between the Northern Isles.



Fig. 8.20 One of the authors (JD) visiting the Links of Skaill cist just after it had been revealed by a machine (Sigurd Towrie).

Whilst digging a hole on sloping ground overlooking the Bay of Skaill, West Mainland, during snowy conditions in early 2021, the farmer accidently lifted a large, buried flagstone. This formed part of the lid of a deeply buried unobtrusive cist (Fig. 8.20) which was subsequently excavated by Stuart Wilson and the AOC human remains call-out team (Wilson *et al.* 2021). The deeply buried cist contained a crouched male inhumation which was thought at the time to be of typical Early Bronze Age date. When the inhumation was dated to 3099–2918 cal BC (SUERC-107827), it generated a degree of surprise, which increased when the strontium analysis indicated a non-local origin for the deceased with a c. 80% chance of his having been brought up in the Highland area of Scotland, and a c. 20% chance of a northern European origin (Leggett and Johnson 2021, 7–8). If the most probable origin for this person in the Highlands of Scotland is accepted, then this provides some indication that immigration into Orkney from the Scottish mainland during the early third millennium cal BC was far more common than has been thought. It also suggests that the presence of incomers during the second millennium may have merely maintained a more fluid population movement during the preceding Late Neolithic period.

The second strand of evidence is broader combining both house architecture and steatite burial urns, which together present evidence for a more fluid pattern of movement between Orkney, Fair Isle and Shetland, which only becomes apparent in the first centuries of second millennium (Downes and Thomas 2013; O'Connell 2018). Curiously, there is little evidence during the Late Neolithic period (c. 3200–2400 cal BC) for extensive contact between Orkney, Fair Isle and Shetland. Certain stone objects such as cushion maceheads that are common in Orkney do occur in Shetland but not in great numbers (Sheridan 2014, 84). In the latter centuries of the third millennium, cist burial and similar Beaker pottery at the Ness of Gruting, Mainland, Shetland and Ha' Breck, Wyre, perhaps reveal increasing contact (Sheridan 2014, 84–5). The only third millennium Orcadian settlement displaying any difference to the 'typical' Orcadian Neolithic assemblage is Tofts Ness, Sanday, which does have a slightly 'Shetland feel' about it. For instance, the ceramic assemblage is not of the expected Grooved Ware, and sherds of five steatite vessels from Shetland are present (Dockrill *et al.* 2007). Of these vessels, one is similar to a steatite cremation urn found at Blows, Deerness, East Mainland (Smith 2007, 285).

Nevertheless, by the early centuries of the second millennium cal BC two areas of evidence indicate a convergence between Orkney, Fair Isle and Shetland (see Section 1.4). The first is double-house architecture (Fig. 8.6; Downes and Thomas 2013; O'Connell 2018) which appears in the final centuries of the third millennium in both Orkney and Shetland (Downes and Lamb 2000, fig. 30). Interestingly in both island groups the trajectory towards this distinctive architecture exhibits similarities and differences. For example, not only does Hut 8 at Skara Brae possess an architecture like Chalcolithic Shetland houses, but in having an added porch follows the developments seen at the Benie Hoose, Whalsay, Shetland (Fig. 8.21; Calder 1961, 31–8). However, in other Orkney examples, double-house architecture is actually present much earlier in the Late Neolithic villages such as Barnhouse where Houses 1 and 6 combine to form a double-house arrangement (Fig. 1.3; Richards *et al*. 2016c, fig. 9.31; O'Connell 2018). From the late third through the second millennium this form of house architecture dominates settlement in both Orkney and Shetland (Turner 1998, 34–40; Downes and Thomas 2013; O'Connell 2018).

Investigations at the barrow cemetery at Linga Fiold were the subject of Chapter 5, and one of the most unexpected and exciting discoveries of the excavation was that of the massive composite steatite vessel containing the primary cremation burial beneath Mound 6 (Section 5.8.1). This is the largest steatite cremation urn yet found in Orkney or Shetland (Sharman: Appendix 13). Another unexpected feature of the Linga Fiold material assemblage was the predominance of pottery vessels also manufactured in Shetland. For example, sherds of 13 vessels were recovered from different contexts of Mound 9, of these at least ten were manufactured from steatitic clay or contained steatite filler (Table 5.39; Campbell *et al.*: Appendix 11). Equally, vessels with steatite filler were present at Mound 3 (Section 5.6.1) and Mound 4 (5.6.3). Indeed, it seems likely that a number of these broken vessels may have held and transported the cremations before they were deposited. The presence of the large steatite composite urn (Fig. 5.39), together with substantial numbers of steatite tempered vessels raises the question of why this cemetery should have such a high proportion of containers and urns manufactured in Shetland.

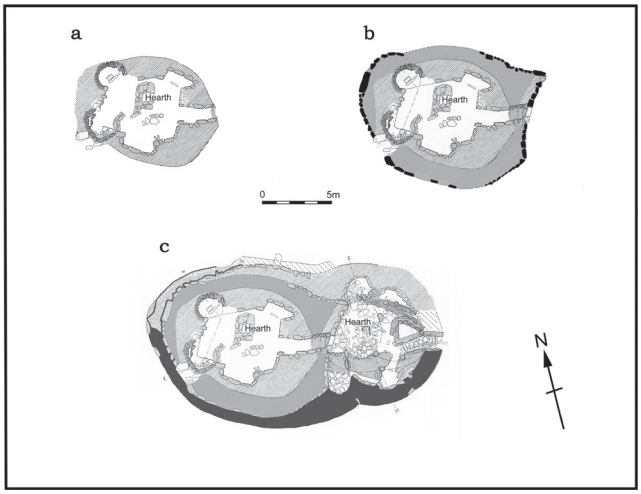


Fig. 8.21 The Benie Hoose, Whalsay, Shetland, was continually modified leading to a double-house arrangement (after Calder 1961).

Linga Fiold is not alone, cremation burial within steatite vessels during the Bronze Age does occur in Orkney (Table 8.1). In Chapter 6 (Section 6.5) a second example at Queenamuckle was presented which was interesting in that a large portion of its base had broken before being positioned within the cairn. The extent of the damage appears to have prohibited its use as a container and McLaren (Section 6.5.2) proposes that it was set in place before receiving the cremated bones, which may have been transported and inserted in a bag. In an examination of the ritual process involving cremation, Oestigaard notes the different 'multi-vocal' qualities between funerary vessels that have had a previous role 'but with a secondary function as urns', and those 'whose primary function is as urns in the burial of cremated remains' (1999, 351). Oestigaard suggests that if the latter role – the urn being primarily created as a receptacle for cremated bones – when urns appear outside the production area it 'probably reflects the movement of people from other regions that have lived and died in the area where the urns were made … thus, the urn represents the place where the deceased died' (1999, 351–2). Alternatively, where urns containing cremations have served an earlier role they may simply relate to 'circles of acquaintances rather than places where the deceased has been' (1999, 352).

Due to the prior breakage of the base, it is clear that the Queenamuckle steatite vessel had a previous role before being employed as a cremation container. Similarly, Sharman notes that the lower section of the Linga Fiold steatite urn 'is so badly burnt and flaking, and there are carbonised accretions over a lot of the surface … indicating that it had been used for something else before it was buried' (2009, 45). Given the less abraded and sooted condition of the upper section, the two may have been two separate vessels serving entirely different functions and been remodelled to become a large composite urn (Sharman 2009, 46). However, the burnt condition of the basal section could be due to its having sat within the pyre.

How does the employment of steatite urns in Orcadian cremation burials relate to the theme of this final section; the movement of people between the Northern Isles in the second millennium cal BC? Here we can modify Oestigaard's (1999, 351–2) interpretation of urns representing a place where someone died. First, a number of steatite funerary vessels have lids such as at Queenamuckle (Fig. 6.47; Section 6.5) that serve to emphasise closure and containment, qualities which have been identified by Sørensen and Rebay-Salisbury as 'important features of most of the cremation burials' (2023, 164). In this way the steatite vessel forms another skin that wraps and embraces the cremated remains of the deceased, sometimes within the second wrapping of a cist as at Blows, Deerness, East Mainland (Fig. 8.22; Marwick 1929b, 377–9) or a cairn as at Queenamuckle (Fig. 6.45). Second, in this case the wrapping is formed from a material only found in Shetland, and the same would be true for the clay vessels with steatitic clay and filler. In this intimate contact, could we be seeing either incomers from Shetland or Fair Isle who died in Orkney during the second millennium cal BC being buried in the rock or materiality of Shetland? Perhaps such burial could have extended to people with strong kinship links to Shetland or Fair Isle?

From the evidence of converging traditions of house architecture and the presence of steatite urns and vessels formed from steatitic clay, it is clear that from the late third millennium cal BC there is increased contact between

Table 8.1 Details of steatite urns from Orkney (P. Sharman).

Height (mm)	*Mouth dimensions (mm)*	*Shape*	*Provenance*	*Reference*
630	**395 × 345**	**Sub-4-sided**	**Linga fiold (composite)**	This volume
500+	600 × 500	Oval/sub-4-sided	Wilkie's Knowe, Westray	Anderson 1883
495	572 × 572	Subcircular	Plumcake Knowe, Stenness	Petrie 1856
432	527 × 457	Oval/sub-4-sided	Orem's Fancy, Stronsay	Petrie 1870
420	430 × 430	Oval	Sebay, St Andrews and Deerness	Lamb 1987
381	483 × 381	Oval	Orem's Fancy, Stronsay	Petrie 1870
370	**270 × 250**	**Subcircular/4-sided**	**Linga fiold (lower)**	This volume
335	**312 × 420**	**Sub-oval**	**Queenamuckle**	This volume
279	406 × 381	Uncertain	Gyron hill, sandwick	Watt 1885
273	254 × 254	Uncertain	Esholm, Shapinsay	PSAS 21, 134 1892
260-230	**395 × 345**	**Oval/sub-4-sided**	**Linga fiold (upper)**	This volume
229	229 × 229	Oval	Newbigging, Kirkwall	Anderson 1874
190	279 × 254	Sub-oval	?Mansie's Knowes, Rousay	Anderson 1883
178-165	200 × 178	Oval/sub-4-sided	Quandale, Rousay	Grant 1937
178-159	304 × 290	Circular	Loth road, Sanday	Sharman 2007



Fig. 8.22 Dr Hugh Marwick and members of the Orkney Antiquarian Society examine finds from the Blow cist discovered in 1929 in Deerness, East Mainland, Orkney (top), which included a steatite urn with cremation (bottom), (Tom Kent Collection, courtesy of the Orkney Archive).

communities in the Northern Isles. This eventuality raises an interesting point concerning the aDNA work undertaken on the inhumations at Links of Noltland which provides evidence for incoming women and men (Moore *et al.* 2022). It is implicitly assumed that the immigrants are arriving from the south, and this may be true for a large number, but it remains a possibility that a more circuitous route via Shetland is taken or that there is even greater fluidity of movement between Orkney and Shetland than has been appreciated.

It is becoming increasingly clear that the shift, over the last 50 years, from a discourse of the movements of people in the Late Neolithic and Bronze Age periods that was so important for culture-history accounts to one of indigenous developments, is to a degree erroneous. There is now increasing evidence for far greater mobility during these periods than has been assumed (e.g. Olalde *et al.* 2018), which includes immigration and the movement of people into the north of Scotland (Hoole *et al.* 2017) and the Northern Isles (Dulias *et al.* 2022; Moore *et al.* 2022). The complete consequence of this shift in accounts of the changing nature of burial in the third and second millennia cal BC of the Northern Isles remains to be seen. In this book we have drawn out some of these changes and in this final chapter situated them in a broader social context. However, the full implications of barrow cemeteries such as Knowes of Trotty where the 'exotic' grave goods in Mound 1 seem to look to the south, as opposed to Linga Fiold with its extensive Shetland material assemblage, may be yet to be fully realised.

Nevertheless, the extensive and broad-based evidence of the Orcadian Neolithic, Chalcolithic and Bronze Age periods, particularly settlement, has allowed the mortuary sites presented in this volume to be grounded in a very rich narrative of social change. This narrative covers a period in excess of 2000 years allowing a deep time perspective in which the ebb and flow of dispersed settlement may be compared to similar trends in the burial record. The prehistory of Orkney reaches out in a similar way to that of Wessex, yet in the past this has been mainly restricted to the Neolithic period. In this volume we have attempted to redress this balance. By investigating the end of the Neolithic and ensuing Chalcolithic and Bronze Age, fascinating evidence has come to light and, as a consequence, we hope to have dispelled the myth of an impoverished Orcadian Bronze Age: it is merely a question of difference.

Bibliography

Alldritt, D. 2007. Identification and analysis of carbonized plant remains, in P. Sharman, *Excavation of a Bronze Age Funerary Site at Loth Road, Sanday, Orkney*. Scottish Archaeological Internet Report 25, 11–13. https://doi.org/10.5284/1017938.

Anderson, J. 1874. Notes on the relics of the Viking period of the Northmen in Scotland. *Proceedings of the Society of Antiquaries of Scotland* 10, 536–94.

Anderson, J. 1883. *Scotland in Pagan Times: the Iron Age*. Edinburgh: David Douglas.

Anderson-Whymark, H. 2020. Ness of Brodgar flaked stone assemblage: 2004–2018, in Card *et al*. (eds) 2021, 208–23.

Anderson-Whymark, H. and Cummings, V. 2021. Excavations at Tresness, Sanday, Orkney, 2021. Unpublished Data Structures Report, University of Central Lancashire.

Anderson-Whymark, H. and Cummings, V. 2024. Blomuir: a lost passage tomb found. *Orkney Archaeology Review* 9, 110–19.

Anderson-Whymark, H., Chatterton, R., Edmonds, M. and Wickham-Jones, C. 2016. Flaked lithic artefacts from Neolithic sites around the Bay of Firth: Wideford Hill, Knowes of Trotty, Brae of Smerquoy, Stonehall, Crossiecrown and Ramberry, in Richards and R. Jones (eds) 2016a, 413–44.

Armit, I. and Reich, D. 2021. The return of the beaker folk? Rethinking migration and population change in British prehistory. *Antiquity* 95(384), 1464–77.

Ashbee, P. 1960. *The Bronze Age Round Barrow in Britain*. London: Phoenix House.

Ashmore, P.J. 1974. Excavations at Summersdale, Orkney by F T Wainwright in July 1960. *Proceedings of the Society of Antiquaries of Scotland 10, 41–2*.

Ashmore, P.J. 1996. *Neolithic and Bronze Age Scotland*. London: Batsford/Historic Scotland.

Ashmore, P.J. 2003. Orkney burials in the first millennium AD, in J. Downes and A. Ritchie (eds), *Sea Change: Orkney and Northern Europe in the Later Iron Age AD 300–800*. Balgavies: Pinkfoot Press, 35–51.

Ashmore, P.J. 2005. Dating Barnhouse, in Richards (ed.) 2005, 385–8.

Atkinson, R.J.C. 1947. A middle Bronze Age barrow at Cassington, Oxon. *Oxoniensia* 11–12: 5–26.

Ballin Smith, B. 1994. *Howe, Four Millennia of Orkney Prehistory*, Edinburgh: Society of Antiquaries of Scotland Monograph Series 9.

Ballin Smith, B. 2014. *Between Tomb and Cist: the funerary monuments of Crantit, Kewing and Nether Onston, Orkney*. Kirkwall: Orcadian Press.

Baker, L., Sheridan, A. and Cowie, T. 2003. An Early Bronze Age 'dagger grave' from Rameldry Farm, near Kingskettle, Fife. *Proceedings of the Society of Antiquaries of Scotland* 133, 85–123.

Barber, J. 1982. A short cist at Mordington Mains, Berwickshire, Borders Region. *Proceedings of the Society of Antiquaries of Scotland* 112, 536–41.

Barber, J. 1997. *The Excavation of a Stalled Cairn at the Point of Cott, Westray, Orkney*. Edinburgh: Scottish Trust for Archaeological Research Monograph 1.

Barber, J., Duffy, A. and O'Sullivan, J. 1996. The excavation of two Bronze Age burial cairns at Bu Farm, Rapness, Westray, Orkney. *Proceedings of the Society of Antiquaries of Scotland 126, 103–20*.

Barclay, A. 1999. The monument complex in its regional context, Chapter 9: Discussion, in A. Barclay and C. Halpin (eds), *Excavations at Barrow Hills, Radley, Oxfordshire. Vol. 1: the Neolithic and Bronze Age monument complex*. Oxford: Oxford Archaeological Unit Thames Valley Landscapes 11, 320–5.

Barclay, A. and Halpin, C. 1999. *Excavations at Barrow Hills, Radley, Oxfordshire. Volume I. The Neolithic and Bronze Age Monument Complex*. Oxford: Oxford Archaeological Unit. Thames Valley Landscapes 11.

Barnatt, J. 1996a. Moving beyond the monuments: paths and people in the Neolithic landscapes of the Peak District. *Northern Archaeology* 13–14, 43–59.

Barnatt, J. 1996b. Barrows in the Peak District: a review and interpretation of extant sites and past excavations, in J. Barnatt and

J. Collis (eds), *Barrows in the Peak District: recent research*. Sheffield: Sheffield Academic Press, 3–94.

Barnatt, J. 1999. Taming the land: Peak District farming and ritual in the Bronze Age. *Derbyshire Archaeological Journal* 119, 19–78.

Barrett, J.C. 1988. The living, the dead, and the ancestors: Neolithic and early Bronze Age mortuary practices, in J.C. Barrett and I.A. Kinnes (eds), *The Archaeology of Context in the Neolithic and Bronze Age: recent trends*. Sheffield: Collis Publications, 30–41.

Barrett, J.C. 1990. The monumentality of death: the character of Early Bronze Age mortuary mounds in southern Britain. *World Archaeology* 22(2), 179–89.

Barrett, J.C. 1991. Towards an archaeology of ritual, in P. Garwood, D. Jennings, R. Skeates and J. Toms (eds), *Sacred and Profane*. Oxford: Oxford University Committee for Archaeology, 321–9.

Barrett, J.C. 1994. *Fragments from Antiquity: an archaeology of social life in Britain, 2900–1200 BC*. Oxford: Blackwell.

Barrett, J.C. 2001. Agency and the archaeological record, in I. Hodder (ed.), *Archaeological Theory Today*. Cambridge: Polity Press, 141–64.

Barrett, J.C. and Boyd, M. 2019. *From Stonehenge to Mycenae: the challenges of archaeological interpretation*. London: Bloomsbury.

Barrett, J.C., Bradley, R. and Green, M. 1991. *Landscape, Monuments and Society. The prehistory of Cranbourne Chase.* Cambridge: Cambridge University Press.

Barry, G. 1805. *The History of the Orkney Islands*. Edinburgh: Archibald Constable & Co.

Barth, F. 1993. *Balinese Worlds*: Chicago IL: University of Chicago Press.

Bass, W.M. 1987. *Human Osteology: a laboratory and field manual* (3rd edn). Columbia MO: Missouri Archaeology Society.

Bayliss, A., Marshall, P., Richards, C. and Whittle, A. 2017. Islands of history: the Late Neolithic timescape of Orkney. *Antiquity* 91, 1171–88.

Becker, K. 2014. Token explanations: Rathgall and the interpretation of cremation deposits in later prehistoric Ireland. *Archaeology Ireland* 28(1), 13–15.

Bender, B., Hamilton, S. and Tilley, C. 2007. *Stone Worlds: narrative and reflexivity in landscape archaeology*. Walnut Creek CA: Left Coast Press.

Bennett, J. 2010. *Vibrant Matter*. Durham NC: Duke University Press.

Berry, R.J. 1985. *A Natural History of Orkney*. London: Collins.

Birch, S. and Noble, G. 2019. Tarradale through time Project: archaeological excavations at the Tarradale barrow cemetery, Tarradale, Muir of Ord Highland. Aberdeen: West Coast Archaeological Services and University of Aberdeen, Unpublished structures report. https://her.highland.gov.uk/api/LibraryLink5WebServiceProxy/FetchResourceFromStub/1-2-7-5-5-8_2fc15377d92ac53-127558_dce91eca9fe8fcd.pdf

Bloch, M. and Parry, J. (eds). 1982. *Death and the Regeneration of Life*. Cambridge: Cambridge University Press.

Bond, J.M., Braby, A.R., Dockrill, S.J., Downes, J. and Richards, C. 1995. Stove Bay, a new Orcadian Grooved Ware settlement. *Scottish Archaeological Review* 9, 125–30.

Booth, T.J. and Brück, J. 2020. Death is not the end: radiocarbon and histo-taphonomic evidence for the curation and excarnation of human remains in Bronze Age Britain. *Antiquity* 94(377), 1186–203.

Booth, T., Chamberlain, A. and Parker Pearson, M. 2015. Mummification in Bronze Age Britain. *Antiquity* 89, 1155–73.

Bourgeois, Q.P.J. and Fontijn, D.R. 2015. The tempo of Bronze Age barrow use: modelling the ebb and flow in monumental funerary landscapes. *Radiocarbon* 57(1), 47–64.

Boyle, A. 1999. Human remains, in Barclay and Halpin 1999, 171–83.

Bradley, R. 1987. Time regained: the creation of continuity. *Journal of the British Archaeological Association* 140(1), 1–17.

Bradley, R. 1993. *Altering the Earth: the 1992 Rhind Lectures*. Edinburgh: Society of Antiquaries of Scotland Monograph 8.

Bradley, R. 1998. *The Significance of Monuments*. London: Routledge.

Bradley, R. 2000a. *The Good Stones: a new investigation of the Clava Cairns*. Edinburgh: Society of Antiquaries of Scotland Monograph 17. https://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-2301-1/dissemination/pdf/17_2000_BRADLEY_ Good_Stones.pdf.

Bradley, R. 2000b. *An Archaeology of Natural Places*. London: Routledge.

Bradley, R. 2002. *The Past in Prehistoric Societies*. London: Routledge.

Bradley, R. 2005. *The Moon and the Bonfire: an investigation of the stone circles of north-east Scotland*. Edinburgh: Society of Antiquaries of Scotland Monograph.

Bradley R. 2006. Danish razors and Swedish rocks: cosmology and the Bronze Age landscape. *Antiquity* 80, 372–89.

Bradley, R. 2007. Afterword: barrows as projects, in Last (ed.) 2007a, 176–80.

Bradley, R. 2024. *Monumental Times: pasts, presents, and futures in the prehistoric construction projects on Northern and Western Europe*. Oxford: Oxbow Books.

Bradley, R. and Fraser, E. 2010. Bronze Age barrows of the heathlands of southern England: construction forms and interpretations. *Oxford Journal of Archaeology* 29(1), 15–33.

Bradley, R. and Watson, A. 2019. Found architecture: interpreting a cup-marked outcrop in the southern Highlands of Scotland. *Time and Mind* 12(1), 3–31.

Bradley, R., Stoglund, P. and Wehlin, J. 2010. Imaginary vessels in the late Bronze Age of Gotland and south Scandinavia: ship settings, rock carvings and decorated metalwork. *Current Swedish Archaeology* 18, 79–103.

Braithwaite M. 1984. Ritual and prestige in the prehistory of Wessex c. 2,200–1,400 BC: a new dimension to the archaeological evidence, in D. Miller and C. Tilley (eds), *Ideology, Power and Prehistory*. Cambridge: Cambridge University Press, 93–110.

Brend, A., Card, N., Downes, J., Edmonds, M. and Moore, J. 2020. *Landscapes Revealed: geophysical survey in the heart of Neolithic Orkney World Heritage area 2002–2011*. Oxford: Oxbow Books.

Brewer, J. 2022. Revisiting the barrows: preservation of Bronze Age funerary monuments in West Mainland, Orkney. Unpublished MSc dissertation, University of the Highlands and Islands.

Brickley, M. and McKinley, J.I. (eds). 2004. *Guidelines to the Standards for Recording Human Remains*. Reading: BABAO/Institute of Field Archaeologists Technical Paper 7.

Brittain, M. 2004. Layers of life and death: aspects of monumentality in the early Bronze Age of Wales, in V. Cummings and C. Fowler (eds), *The Neolithic of the Irish Sea: materiality and traditions of practice*. Oxford: Oxbow Books, 224–32.

Brittain, M. 2007. Do barrows matter? Politics, production and practice of the Welsh Bronze Age, in Last (ed.) 2007a, 140–55.

Brittain, M. and Harris, O. 2010. Enchaining arguments: reconsidering the fragmentation debate in archaeology. *World Archaeology* 42(4), 581–94.

Brophy, K. and Noble, G. 2012. Henging, mounding and blocking: the Forteviot henge group, in A. Gibson (ed.), *Enclosing the Neolithic: recent studies in Britain and Europe.* Oxford: British Archaeological Report S2440, 21–36.

Brothwell, D.R. 1981. *Digging up Bones*. Oxford: Oxford University Press.

Brück, J. 2001. Body metaphors and technologies of transformation in the English Middle and Late Bronze Age, in J. Brück (ed.), *Bronze Age Landscapes: tradition and transformation.* Oxford: Oxbow Books, 149–60.

Brück, J. 2004a. Early Bronze Age burial practices in Scotland and beyond, in I.A.G. Shepherd and G.J. Barclay (eds), *Scotland in Ancient Europe: the Neolithic and Early Bronze Age of Scotland in their European context*. Edinburgh: Society of Antiquaries of Scotland, 179–88.

Brück, J. 2004b. Material metaphors: the relational construction of identity in Early Bronze Age burials in Ireland and Britain. *Journal of Social Archaeology* 4(3), 307–33.

Brück, J. 2006a. Fragmentation, personhood and the social construction of technology in Middle and Late Bronze Age Britain. *Cambridge Archaeological Journal* 16(3), 297–315.

Brück, J. 2006b. Death, exchange and reproduction in the British Bronze Age. *European Journal of Archaeology* 9, 73–101. DOI: http://dx.doi.org/10.1177/1461957107077707

Brück, J. 2019. *Personifying Prehistory: relational ontologies in Bronze Age Britain and Ireland*. Oxford: Oxford University Press.

Brück J. and Booth, T.J. 2022a. The power of relics: the curation of human bone in British Bronze Age burials. *European Journal of Archaeology* 25(4), 440–62.

Brück, J. and Booth, T.J. 2022b. The ambivalent dead: curation, excarnation and complex post-mortem trajectories in Middle and Late Bronze Age Britain. *Proceedings of the Prehistoric Society* 88, 193–220.

Bryce, J. 1862. An account of excavations within the stone circles of Arran. *Proceedings of the Society of Antiquaries of Scotland* 4, 499–524.

Bunting, M.J., Tipping, R. and Downes, J. 2001. 'Anthropogenic' pollen assemblages from a Bronze Age cemetery at Linga Fiold, West Mainland, Orkney. *Journal of Archaeological Science* 28(5), 487–500.

Burgess, C. 1980. *The Age of Stonehenge*. London: Dent.

Burl, A. 1977. *The Stone Circles of the British Isles*. London: Yale University Press.

Buteux, S. 1997. *Settlements at Skaill, Deerness, Orkney. Excavations by Peter gelling of the Prehistoric, Pictish, Viking and Later periods, 1963–1981*. Oxford: British Archaeological Report 260.

Calder, C.S.T. 1950. Report on the excavation of a Neolithic temple at Stanydale in the parish of Sandsting, Shetland. *Proceedings of the Society of Antiquaries of Scotland* 84, 185–205.

Calder, C.S.T. 1956. Report of the discovery of numerous stone age house sites in Shetland. *Proceedings of the Society of Antiquaries of Scotland* 89, 340–97.

Calder, C.S.T. 1961. Excavations in Whalsay, Shetland, 1954–55. *Proceedings of the Society of Antiquaries of Scotland* 94*,* 28–45.

Callander, J.G. 1930. Two short cists at Kilspindie Golf Course, Aberlady, East Lothian. With a report on the skeletal remains. *Proceedings of the Society of Antiquaries of Scotland* 64, 191–9.

Callander, J.G. 1931. Notes of (1) certain prehistoric relics from Orkney and (2) Skara Brae, its culture and its period. *Proceedings of the Society of Antiquaries of Scotland* 65, 78–114.

Callander, J.G. 1936. Bronze Age urns of clay from Orkney and Shetland, with a note on vitreous material called 'cramp'. *Proceedings of the Society of Antiquaries of Scotland* 70, 441–52.

Callander, J.G. and Grant, W.G. 1934. A long stalled chambered cairn or mausoleum (Rousay type) near Midhowe, Rousay, Orkney. With a description of the skeletal remains by Professor Alex Lowe. *Proceedings of the Society of Antiquaries of Scotland* 68, 320–50.

Callander, J.G. and Grant, W.G. 1935. A long stalled cairn, the Knowe of Yarso, in Rousay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 69, 325–51.

Callander, J.G. and Grant, W.G. 1936. A stalled chambered cairn, the Knowe of Ramsay, at Hullion, Rousay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 70, 407–19.

Campbell, R.E.M. 1894. Cremation among the Maoris. *Journal of the Polynesian Society* 3, 134–5.

Card, N. and Edmonds, M. 2021. Late buildings, in Card *et al.* (eds) 2021, 102–21.

Card, N. and Towrie. 2021.Hidden in plain sight, in Card *et al*. (eds) 2021, 12–23.

Card, N., Edmonds, M. and Mitchell, A. (eds). 2021. *The Ness of Brodgar: as it stands*. Kirkwall: The Orcadian.

Card, N., Downes, J., Murray, D. and Sharman, P. 2004. Mine Howe and Long Howe Geophysical Survey and Excavation 2004. Orkney Historic Records, Kirkwall Orkney Archaeological Trust Unpublished Archive Report.

Card, N., Downes, J., Richards, C., Jones, R., Challands, A., French, C. and Thomas, A. 2016. The settlement of Crossiecrown: the Grey and Red Houses, in Richards and Jones (eds) 2016a, 160–95.

Card, N., Mainland, I., Timpany, S., Towers, R., Batt, C., Ramsey, C.B., Dunbar, E., Reimer, P., Bayliss, A., Marshall, P. and Whittle, A. 2017. To cut a long story short: formal chronological modelling for the Late Neolithic site of Ness of Brodgar, Orkney. *European Journal of Archaeology* 21(2), 217–63.

Card, N., Edmonds, M. and Mitchell, A. (eds). 2021. *The Ness of Brodgar: as it stands*. Kirkwall: The Orcadian.

Carr, C. 2021. *Being Scioto Hopewell: ritual drama and personhood in cross-cultural perspective*. Cham: Springer Nature.

Carsten, J. 2000. Introduction: cultures of relatedness, in J. Carsten (ed.), *Cultures of Relatedness*. Cambridge: Cambridge University Press, 1–36.

Carsten, J. and Hugh-Jones, S. 1995. *About the House*. Cambridge: Cambridge University Press.

Carter, S., Mills, C.M., Powers, A.H., Tipping, R. and Tomlinson, P. 1999. Plant remains from the cist, in Dalland 1999, 387–99.

Case, H. 1982. The Vicarage Field, Stanton Harcourt, in H. Case and A. Whittle (eds), *Settlement Patterns in the Oxford Region: excavations at the Abingdon causewayed enclosure and other sites*. London: Council for British Archaeology Research Report 44, 103–17.

Caswell, E. and Roberts, B.W. 2018. Reassessing community cemeteries: cremation burials in Britain during the Middle Bronze Age (*c*. 1600–1150 cal BC). *Proceedings of the Prehistoric Society* 84, 329–57.

Challands, A., Edmonds, M. and Richards, C. 2005. Beyond the village: Barnhouse Odin and the Stones of Stenness, in Richards 2005, 205–27.

Chapman, J. 1994. The living, the dead and the ancestors: time, life cycles and the mortuary domain in Later European prehistory, in J. Davies (ed.), *Ritual and Remembrance: responses to death in human societies*. Sheffield: Sheffield Academic Press, 40–86.

Chapman, J.C. 2000a. *Fragmentation in Archaeology: people, places and broken objects in the prehistory of south–eastern Europe*. London: Routledge.

Chapman, J.C. 2000b. Tension at funerals: social practices and the subversion of community structure in later Hungarian prehistory, in M-A. Dobres and J. Robb (eds), *Agency in Archaeology*. London: Routledge, 169–96.

Chapman, J.C. and Gaydarska, B.I. 2007. *Parts and Wholes: fragmentation in prehistoric context*. Oxford: Oxbow Books.

Charleson, M.M and Turner, W. 1902. Notice of a chambered cairn at Kewing Hill, in the parish of Firth, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 36, 733–8.

Chesson, M.S. 2001. *Social Memory, Identity, and Death: anthropological perspectives on mortuary rituals*. Arlington VA: Archaeological Papers of the American Anthropological Association 10.

Childe, V.G. 1931. *Skara Brae: a Pictish village in Orkney*. London: Kegan Paul.

Childe, V.G. 1951. Re-excavation of the chambered cairn of Quoyness, Sanday, on behalf of the Ministry of Works in 1951–2. *Proceedings of the Society of Antiquaries of Scotland* 86, 121–39.

Childe, V.G. and Grant, W.G. 1939. A Stone Age settlement at the Braes of Rinyo, Rousay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 73, 6–31.

Childe, V.G. and Grant, W.G. 1947. A Stone Age settlement at the Braes of Rinyo, Rousay, Orkney (second report), *Proceedings of the Society of Antiquaries of Scotland* 81, 16–42.

Childe, V.G. and Paterson, J.W. 1929. Provisional report on the excavations at Skara Brae, and on finds from the 1927 and 1928 campaigns. With a report on bones. *Proceedings of the Society of Antiquaries of Scotland* 63, 225–80.

Christie, P.M. 1967. A barrow cemetery of the second millennium BC in Wiltshire, England. *Proceedings of the Prehistoric Society* 33, 336–66.

Christie, P.M. 1985. Barrows on the North Cornish Coast: wartime excavations by C.K. Croft Andrew 1939–1944. *Cornish Archaeology* 24, 23–122.

Clark, G. 1940. *Prehistoric England*. London: Batsford.

Clarke, A. 2006. *Stone Tools and the Prehistory of the Northern Isles*. Oxford: British Archaeological Report 406.

Clarke, D.L. 1970. *Beaker Pottery of Great Britain and Ireland*. Cambridge: Cambridge University Press.

Clarke, D.V and Sharples, N. 1990. Settlements and subsistence in the third millennium BC, in C. Renfrew (ed.), *The Prehistory of Orkney* (revised edition). Edinburgh: Edinburgh University Press, 54–82.

Clarke, D.V., Cowie, T.G. and Foxon, A. 1985. *Symbols of Power at the Time of Stonehenge*. Edinburgh: HMSO Books.

Clarke, D.V., Ritchie, A. and Ritchie, G. 1984. Two cists from Boatbridge Quarry, Thankerton, Lanarkshire. *Proceedings of the Society of Antiquaries of Scotland* 114, 557–60.

Clarke, D.V., Sheridan, J.A., Shepherd, A.N., Sharples, N.M., Armour-Chelu, M.J., Hamlet, L., Bronk-Ramsay, C., Dunbar, E., Reimer, P., Marshall, P. and Whittle, A. 2017. The end of the world, or just 'goodbye to all that'? Contextualising the red deer heap from Links of Noltland, Westray, within late 3rd-millennium cal BC Orkney. *Proceedings of the Society of Antiquaries of Scotland* 146, 57–89.

Cleal, R.M.J. and Allen, M.J. 1994. Investigation of tree-damaged barrows on King Barrow Ridge and Luxenborough Plantation, Amesbury. *Wiltshire Archaeological and Natural History Magazine* 87, 54–84.

Clouston, C. 1845. Parish of Sandwick: Presbytery of Cairston, Synod of Orkney. *New Statistical Account of Scotland: Sandwick, County of Orkney* 15. Edinburgh: Blackwoods and Sons, 41–67.

Clouston, W. 1795. United Parishes of Sandwick and Stromness. *Old Statistical Account* 21. Edinburgh: Blackwoods and Sons, 409–68.

Coles, F.R. 1908. Report on stone circles surveyed in Perthshire – north eastern section; with measured plans and drawings (obtained under the Gunning Fellowship). *Proceedings of the Society of Antiquaries of Scotland* 42, 95–162.

Coles, J.M. 1969. Scottish early Bronze Age metalwork, *Proceedings of the Society of Antiquaries of Scotland* 101, 1–118.

Cooney, G, 2003. Introduction: seeing land from the sea. *World Archaeology* 35(3), 323–8.

Cooper, A. 2016a. Other types of meaning: relationships between round barrows and landscapes from 1500 BC–AC 1086. *Cambridge Archaeological Journal* 26(4), 665–96.

Cooper, A. 2016b. 'Held in place': round barrows in the later Bronze Age of lowland Britain. *Proceedings of the Prehistoric Society* 82, 291–322.

Cooper, A., Garrow, D., Gibson, C. and Giles, M. 2019. Covering the dead in later prehistoric Britain: elusive objects and powerful technologies of funerary performance. *Proceedings of the Prehistoric Society* 85, 223–50.

Cooper, A., Garrow, D., Gibson, C., Giles, M. and Wilkin, N. 2022. *Grave Goods: objects and death in later prehistoric Britain*. Oxford: Oxbow Books.

Copper, M., Whittle, A. and Sheridan, A. (eds). 2024. *Revisiting Grooved Ware: understanding ceramic trajectories in Britain and Ireland, 3200–2400 cal BC*. Oxford: Neolithic Studies Seminar Group Papers 20.

Corrie, J.M. 1929. A short cist at West Puldrite, in the Parish of Evie and Rendall, Orkney. Proceedings of the Society of Antiquaries of Scotland 63, 190–3.

Cotswold Archaeology. 2023. Bronze Age antler tool. Cirencester: Cotswold Archaeology unpublished report http//Cotswold archaeology.co.uk/bronze-age-antler-tool/.

Cowie, T.G. 1978. *Bronze Age Food Vessel Urns*. Oxford British Archaeologic Report 55.

Cowley, D. 2011. Remote sensing for archaeological heritage management – site discovery, interpretation and registration, in D. Cowley (ed.), *Remote Sensing For Archaeological Heritage Management*. Brussels: Europae Archaologia Consilium 5, 43–58.

Craw, J.H. 1934. A mound containing short cists at Trumland, Rousay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 68, 68–70.

Crellin, R.J. 2017. Changing assemblages: vibrant matter in burial assemblages. *Cambridge Archaeological Journal* 27(1), 111–25.

Crellin, R.J., Tsoraki, C., Standish, C.D., Pearce, R.B., Barton, H. Morris, S. and Harris, O.J.T. 2023. Materials in movement: gold and stone in process in the Upton Lovell G2a burial. *Antiquity* 97(391), 86–103.

Cressey, M. and Sheridan A. 2003. The excavation of a Bronze Age cemetery at Seafield West, near Inverness, Highland. *Proceedings of the Society of Antiquaries of Scotland* 133, 47–84.

Crozier, R. 2018. *A Taphonomic Approach to the Re-analysis of the Human Remains from the Neolithic Chamber Tomb of Quanterness, Orkney*. Oxford: British Archaeological Report 635.

Crozier, R., Richards, C., Robertson, J. and Challands, A. 2016. Reorientating the dead of Crossiecrown: Quanterness and Ramberry Head, in Richards and Jones (eds) 2016a, 196–223.

Cummings, V. and Fowler, C. 2023. Materialising descent: lineage formation and transformation in Early Neolithic Southern Britain. *Proceedings of the Prehistoric Society* 89, 1–21.

Cummings, V. and Richards, C. 2017. Passage graves as technologies of wrapping, in P. Bickle, V. Cummings, D. Hoffman and J. Pollard (eds), *The Neolithic of Europe: papers in honour of Alasdair Whittle*. Oxford: Oxbow Books, 235–48.

Cummings, V. and Richards, C. 2021. *Monuments in the Making: Raising the Great dolmens in Early Neolithic Northern Europe*. Oxford: Windgather Press.

Cunningham, C., Scheuer, L. and Black, S. 2016. *Developmental juvenile Osteology*. Cambridge MA: Academic Press.

Cursiter, J.W. 1910. Notice of a stone cist of unusual type found at Crantit, near Kirkwall. *Proceedings of the Society of Antiquaries of Scotland* 44, 215–7.

Dalland, M. 1999. Sand Fiold: the excavation of an exceptional cist in Orkney. *Proceedings of the Prehistoric Society* 65, 373–413.

Dalland, M. and Barber, J. 1999. Radiocarbon dates, in Dalland 1999, 404–8.

Davidson, J.L. and Henshall, A.S. 1989. *The Chambered Cairns of Orkney*. Edinburgh: Edinburgh University Press.

Davidson, J.M. 1935. A Bronze Age cemetery at Knappers, Kilbowie, Dumbartonshire. *Proceedings of the Society of Antiquaries of Scotland* 69, 352–8.

Day, J.C., Heron, S.F., Markham, A., Downes, J., Gibson, J., Hyslop, E. Jones, R.H. and Lyall, A. 2019. *Climate Risk Assessment for Heart of Neolithic Orkney World Heritage Property: an application of the Climate Vulnerability Index*. Edinburgh: Historic Environment Scotland.

Dickson, J.H. 1992. North American driftwood, especially *Picea* (spruce) from archaeological sites in the Hebrides and Northern Isles of Scotland. *Review of Palaeobotany and Palynology* 73, 49–56.

Dobres, M-A. 2000. *Technology and Social Agency. Outlining a Practice Framework for Archaeology*. Oxford: Blackwell.

Dockrill, S.J., Bond, J.M., Nicholson, R. and Smith, A. (eds). 2007. *Investigations in Sanday, Orkney Vol 2: Tofts Ness, Sanday: an island landscape through 3000 years of prehistory*. Kirkwall: The Orcadian.

Downes, J. 1994. Excavation of a Bronze Age burial at Mousland, Stromness, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 124, 141–54.

Downes, J. 1997. The Orkney Barrows Project: survey results and management strategy. HES Archives and Library, Edinburgh. Unpublished report for Historic Scotland.

Downes, J. 1998. Elsness, Sanday (Lady parish), survey of burial mounds. *Discovery and Excavation in Scotland* 1998, 71.

Downes, J. 1999a. Cremation: a spectacle and a journey, in J. Downes and T. Pollard (eds), *The Loved Body's Corruption: archaeological contributions to the study of human mortality*. Glasgow: Cruithne Press, 19–30.

Downes, J. 1999b. Orkney Barrows Project Stage 3: Fieldwork and Education. Sheffield: ARCUS unpublished archive report 245c.1.

Downes, J. 2009. The construction of barrows in Bronze Age Orkney – an 'assuagement of guilt'?, in M.J. Allen, N. Sharples and T. O'Connor (eds), *Land and People: papers in memory of John G. Evans*. Oxford: Prehistoric Society Research Papers 2, 126–35.

Downes, J. and Lamb, R. 2000. *Prehistoric Houses at Sumburgh in Shetland: excavations at Sumburgh Airport 1976–74*. Oxford: Oxbow Books.

Downes, J. and Richards, C. 2005. The dwellings at Barnhouse, in Richards (ed.) 2005, 57–127.

Downes, J. and Richards, C. 2021. The late Neolithic midden in Orkney: decay, assemblages and the efficacy of unwanted things, in M. Boyd and R. Doonan (eds), *Far from Equilibrium: an archaeology of energy, life and humanity*. Oxford: Oxbow Books, 45–56.

Downes, J. and Thomas, A. 2013. Where mythical space lies: land ownership versus land use in the northern Bronze Age, in M. Relaki and D. Catapoti (eds), *An Archaeology of Land Ownership*. London: Routledge, 70–92.

Downes, J., Richards, C., Brown, J., Creswell, A. J., Ellen, R., Davies, D., Hall, A., McCulloch, R., Sanderson, D. C. W. and Simpson, I. A., 2013. Investigating the great Ring of Brodgar, in C. Richards (ed.), *Building the great stone circles of the north*. Oxford: Windgather Press, 80–118.

Downes, J., Sharman, P., Challands, A. Voke, P.D., Guttman-Bond, E., McKenzie, J. and Towers, R. 2016. Place in the past: an early Neolithic house at the Knowes of Trotty barrow cemetery, Harray, Mainland, Orkney, in Richards and Jones (eds) 2016a, 41–63.

Drewett, P. 1985. The excavation of Barrows V–IX at West Heath, Harting, 1980. *Sussex Archaeological Collections* 123, 35–60.

Duffy, P.R.J. 2005. *The Excavation of a Mound and Three Cists at Ferndale, Rendall, Orkney.* Scottish Archaeological Internet Report 16. https://archaeologydataservice.ac.uk/

archiveDS/archiveDownload?t=arch-310-1/dissemination/pdf/sair16.pdf

Duffy, P.R.J. 2007. Excavations at Dunure Road, Ayrshire: a Bronze Age cist cemetery and standing stone. *Proceedings of the Society of Antiquaries of Scotland* 137, 69–116.

Dulias, K.M., Foodya, G.B., Justeaua, P., Silvaa, M., Martinianod, R., Oteo-Garc, G., Ficheraa, A., Rodriguesa, S., Gandinia, F., Meynerte, A., Donnelly, K., Aitman, T.J., The Scottish Genomes Partnership, Chamberlain, A., Lelong, O., Kozikowskii, G., Powlesland, D., Waddington, C., Mattiangel, V., Bradley, D.G., Bryka, J., Soares, P., Wilson, J.F., Wilson, G., Moore, H., Pala, M., Edwards, C.J. and Richards, M.B. 2022. Ancient DNA at the edge of the world: continental immigration and the persistence of Neolithic male lineages in Bronze Age Orkney. *Proceedings of the National Academy of Sciences* 119(8), 1–10.

Edmonds, M. 2019. *Orcadia: Land, Sea and Stone in Neolithic Orkney*. London: Head of Zeus.

Elgee, H.W. and Elgee, F. 1949. An Early Bronze Age burial in a boat-shaped wooden coffin from north-east Yorkshire. *Proceedings of the Prehistoric Society* 9, 87–105.

English Heritage. 1988. Monuments Protection Programme Single Monument Class Description: Bowl Barrows and Round Barrow Cemeteries. London: English Heritage unpublished internal report.

Entwistle, R. 2001. A Bronze Age round barrow and Deverel Rimbury cremation cemetery at Zionshill Copse, Chandler's Ford, Hampshire. *Proceedings of the Hampshire Field Club & Archaeological Society* 56, 1–20.

Farrell, M. 2009. The Environmental Context of Later Prehistoric Human Activity in Orkney, Scotland. Unpublished PhD thesis, University of Hull.

Farrer, J. 1862. *Maes-Howe Notice of Runic Inscriptions Discovered During Recent Excavations in the Orkneys*. Edinburgh: R & R Clark.

Fenton, A. 1978. *The Northern Isles: Orkney and Shetland*. Edinburgh: John Donald.

Field, D. 1998. Round barrows and the harmonious landscape: placing Early Bronze Age burial monuments in south-east England. *Oxford Journal of Archaeology* 17, 309–26.

Field, N. 1985. A multi-phased barrow and possible henge monument at West Ashby, Lincolnshire. *Proceedings of the Prehistoric Society* 51, 103–36.

Fitzpatrick, A.P. and Powell, A.B. 1997. Pyre sites and other pyre-related features, in A.P. Fitzpatrick, *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992. Volume 2: the Cemeteries*. Salisbury: Wessex Archaeology Report 12, 18–35.

Fleet, A.J. 1976. 'Cramp' from the Stones of Stenness, Orkney, in Ritchie 1976, 46–8.

Fleming, A. 1971. Territorial patterns in Bronze Age Wessex. *Proceedings of the Prehistoric Society* 37(1), 138–66.

Fleming, A. 1998. Prehistoric landscapes and the quest for territorial pattern, in P. Everson and T. Williamson (eds) *The Archaeology of Landscape: studies presented to Christopher Taylor.* Manchester: Manchester University Press, 42–66.

Fowler, C. 2004. *The Archaeology of Personhood: aanthropological approach*. London: Routledge.

Fowler, C. 2013. *The Emergent Past: a relational realist archaeology of Early Bronze Age mortuary practices*. Oxford: Oxford University Press.

Fowler, C. 2017. Relational typologies, assemblage theory and Early Bronze Age burials. *Cambridge Archaeological Journal* 27(1), 95–109.

Fowler, C., 2022. Social arrangements. Kinship, descent and affinity in the mortuary architecture of Early Neolithic Britain and Ireland. *Archaeological Dialogues* 29(1), 67–88.

Fowler, C., Olalde, I., Cummings, V., Armit, I., Büster, L., Cuthbert, S., Rohland, N., Cheronet, O., Pinhasi, R. and Reich, D. 2022. A high-resolution picture of kinship practices in an Early Neolithic tomb. *Nature* 601, 584–7.

Fox, C. 1959. *Life and Death in the Bronze Age: an archaeologist's field work.* London: Routledge and Kegan Paul.

Fraser, J. 1913. Note on the discovery of a steatite urn in Harray, now presented to the Museum. *Proceedings of the Society of Antiquaries of Scotland* 47, 420–2.

Fraser, J. 1923. *Some antiquities in Harray Parish. Proceedings of the Orkney Antiquarian Society 1,* 31–8.

Fraser, J. 1924. *Antiquities of Sandwick Parish. Proceedings of the Orkney Antiquarian Society 2,* 23–30.

Fraser, J. 1927. Antiquities of Firth Parish. *Proceedings of the Orkney Antiquarian Society* 3, 51–6.

French, C.A.I. 1994. *Excavations of the Deeping St Nicholas Barrow Complex, South Lincolnshire*. Lincoln: Lincolnshire Archaeological Heritage Report 1.

Frieman, C. 2012. Going to pieces at the funeral: completeness and complexity in early Bronze Age jet 'necklace' assemblages. *Journal of Social Archaeology* 12, 334–55.

Gal, E.L. 2019. The Archaeological Potential of Windblown Sand and its Impacts on Prehistoric Settlements nd Landscapes in the Orkney Islands, Scotland. Unpublished PhD thesis, University of St Andrews.

Garrow, D., Meadows, J., Evans, C. and Tabor, J. 2014. Dating the dead: a high resolution radiocarbon chronology of burial within an Early Bronze Age barrow cemetery at Over, Cambridgeshire. *Proceedings of the Prehistoric Society* 80, 207–36.

Garwood, P. 1999. The chronology of depositional contexts and monuments, Chapter 9: Discussion, in A. Barclay, and C. Halpin (eds), *Excavations at Barrow Hills, Radley, Oxfordshire. Vol. 1: the Neolithic and Bronze Age monument complex*. Oxford Archaeological Unit Thames Valley Landscapes Volume 11. Oxford: Oxbow Books, 275–320.

Garwood, P. 2007. Before the hills in order stood: chronology, time and history in the interpretation of Early Bronze Age round barrows, in Last (ed.) 2007a, 30–52.

Gee, C., Richards C. and Robertson, M. 2016. Local histories of passage grave building communities, in Richards and Jones (eds) 2016, 64–90.

Gell, A. 1998. *Art and Agency: and anthropological theory*. Oxford: Clarendon Press.

Gibson, A.M. 1978. *Bronze Age Pottery in the North-East of England*. Oxford: British Archaeological Report 56

Gillespie, S.D. 2000a. Beyond kinship, in R.A. Joyce and S.D. Gillespie (eds), *Beyond Kinship: social and material reproduction in house societies*. Philadelphia PA: University of Pennsylvania Press, 1–21.

Gillespie, S.D. 2000b. Levi Strauss: *Maison and société à maisons*, in R.A. Joyce and S.D. Gillespie (eds), *Beyond Kinship: social and material reproduction in house societies*. Philadelphia PA: University of Pennsylvania Press, 22–52.

Gillies, W.A. 1925. Notes on old wells and a stone circle at Kenmore. *Proceedings of the Society of Antiquaries of Scotland* 59, 75–8.

Gosden, C. and Locke, G. 1998. Prehistoric histories. *World Archaeology* 30(1), 2–12.

Gourlay, R.B. 1984. A short cist beaker inhumation from Chealamy, Strathnaver, Sutherland. *Proceedings of the Society of Antiquaries of Scotland* 114, 567–71.

Grant, W.G. 1933. Excavation of a denuded cairn containing fragments of steatite urns and cremated remains. *Proceedings of the Society of Antiquaries of Scotland* 67, 24–6.

Grant, W.G. 1937. Excavation of Bronze Age burial mounds at Quandale, Rousay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 71, 72–84.

Grant, W.G. 1939. Excavations on behalf of H.M. Office of Works at Taversoe Tuick, Trumland, Rousay. *Proceedings of the Society of Antiquaries of Scotland* 73, 155–66.

Gray, H. 1977. *Anatomy Descriptive and Surgical*. (T. Pickering and R. Howden (eds): revised American edition from the fifteenth English edition). New York: Bounty Books.

Green, C. and Rollo-Smith, S. 1984. The excavation of eighteen round barrows near Shrewton, Wiltshire. *Proceedings of the Prehistoric Society* 50, 255–318.

Greig, W.M. 1931. Prehistoric cemetery at Lochside, Stenness. *Proceedings of the Orkney Antiquarian Society* 9, 6.

Griffiths, S. 2016. Beside the ocean of time: a chronology of Neolithic burial monuments and houses in Orkney, in Richards and Jones (eds) 2016a, 254–301.

Grinsell, L.V. 1941a. The Bronze Age round barrows of Wessex. *Proceedings of the Prehistoric Society* 7, 73–113.

Grinsell, L.V. 1941b. The boat of the dead in the Bronze Age. *Antiquity* 15, 360–70.

Guttmann, E.B.A. 2004. Knowes of Trotty Soil Micromorphology. Orkney Historic Environment Records, Kirkwall. Unpublished archived report.

Halperin, R.H. 1994. *Cultural Economies Past and Present*. Austin TX: University of Texas Press.

Harding, A.F. 2000. *European Societies in the Bronze Age*. Cambridge: Cambridge World Archaeology.

Harding, J. and Healy, F. 2007. *A Neolithic and Bronze Age Landscape in Northamptonshire. Volume 1 English Heritage Series Raunds Area Project*. Swindon: English Heritage.

Harris, O.J.T. 2014. (Re)assembling communities. *Journal of Archaeological Method and Theory* 21, 76–97.

Harris, O.J.T. 2021. *Assembling Past Worlds: materials, bodies and architecture in Neolithic Britain*. London: Routledge.

Harris, S. 2014. Woven material, in Lelong 2014, 93–6.

Hawkes, C. and Hawkes, J. 1943. *Prehistoric Britain.* Harmondsworth: Pelican Books.

Heald, A. and Tate, J. 2004. Vitrified Material or Cramp from Geroin, Orkney. Orkney Historic Environment Records, Kirkwall. Unpublished archived report.

Healy, F. 1999. The complex in its wider context, in A. Barclay and C. Halpin (eds), *Excavations at Barrow Hills, Radley, Oxfordshire. Vol. 1: the Neolithic and Bronze Age monument complex*. Oxford: Oxford Archaeological Unit Thames Valley Landscapes Volume 11. Oxbow Books, 325–8.

Hedges, J.W. 1975. Excavation of two Orcadian burnt mounds at Liddle and Beaquoy. *Proceedings of the Society of Antiquaries of Scotland* 160, 39–98.

Hedges, J.W. 1980. Short cists recently excavated at Lower Ellibister and other locations in Orkney. *Proceedings of the Society of Antiquaries of Scotland* 110, 44–71.

Hedges, J.W. 1983. *Isbister: a chambered tomb in Orkney.* Oxford: British Archaeological Report 115.

Hedges, J.W. 1984. *Tomb of the Eagles: a window on stone age tribal Britain*. London: Hodder & Stoughton.

Hedges, J.W. and Haigh, D. 1983. Recent work on the site, in Hedges 1983, 301.

Hedges, M.E. 1977. The excavation of Knowes of Quoyscottie, Orkney: a cemetery of the first millennium BC. *Proceedings of the Society of Antiquaries of Scotland* 108, 130–55.

Helms, M.W. 1988. *Ulysses' Sail: an ethnographic odyssey of power, knowledge and geographical distance*. Princeton NJ: Princeton University Press.

Hendon, J. 2000. Having and holding: storage, memory, knowledge and social relations. *American Anthropologist* 102(1), 42–53.

Henshall, A.S. 1963. A Bronze Age cist burial at Masterton, Pitreavie, Fife. *Proceedings of the Prehistoric Society* 96, 145–54.

Hibbert, S. 1831. Notice of the discovery of very extensive vitrified remains at Elsness, in the Island of Sanday, Orkney. *Edinburgh Journal of Science* NS 5, 309–18.

Hill, J. and Richards, C. 2005. Structure 8: monumentality at Barnhouse, in C. Richards (ed.), *Dwelling among the monuments: the Neolithic village of Barnhouse, Maeshowe passage grave and surrounding monuments at Stenness, Orkney.* Cambridge: McDonald Institute Monographs, 157–94.

Hilts, C. 2022. Prehistoric pioneers: how female migrants changed the face of Bronze Age Orkney. *Current Archaeology* 387, 18–24.

Hodges, D. 1978. A calendar of Bee plants. *Bee World* 59(3), 97–100.

Holden, J.L., Phakey, P.P. and Clement, J.G. 1995. Scanning electron microscope observations of heat-treated human bone. *Forensic Science International* 74, 29–45.

Holten, L. 2000. Death, danger, destruction and unintended megaliths: an essay on human classification and its material and social consequences in the Neolithic of south Scandinavia, in A. Ritchie (ed.), *Neolithic Orkney in its European Context*. Cambridge: McDonald Institute Monograph, 287–98.

Homer. 2003. *The Iliad* (trans. E.V. Rieu, edited by P. Jones). London: Penguin.

Hoole, M, Sheridan, A.S., Boyle, A, Booth, T. Brace, S., Diekmann, Y., Olalde, I., Thomas, M., Barnes, I., Evans, J., Chenery, C., Sloane, H., Morrison, H., Fraser, S., Timpany, S. and Hamilton, D. 2017. 'Ava': a Beaker-associated woman from a cist at Achavanich, Highland, and the story of her (re-) discovery and subsequent study. *Proceedings of the Society of Antiquaries of Scotland* 147, 73–118.

Hoskins, J. 1998. *Biographical Objects: how things tell the stories of peoples' lives*. London: Routledge.

Hunter, F. 2000. Excavation of an Early Bronze Age cemetery and other sites at West Water Reservoir, West Linton, Scottish Borders. *Proceedings of the Society of Antiquaries of Scotland* 130, 115–82.

Hunter, J.R. 2007. The Neolithic, in J.R. Hunter, J.M. Bond and A.N. Smith (eds), *Excavations at Pool, Sanday, a Multi-period Settlement from Neolithic to Late Norse Times:*

Investigations in Sanday, Orkney Volume 1. Kirkwall: The Orcadian, 9–19.

Hunter, J. and Woodward, A. 2015. *Ritual in Early Bronze Age grave goods: an examination of ritual and dress equipment from Chalcolithic and Early Bronze Age graves in England*. Oxford: Oxbow.

Ingold, T. 1983. The significance of storage in hunting societies. *Man* NS 18(3), 553–71.

Ingold, T. 1986. *The Appropriation of Nature: essays on human ecology and social relations.* Manchester: Manchester University Press.

Ingold, T. 2000. *The Perception of the Environment.* London: Routledge.

Ingold, T. 2010. The round mound is not a monument, in J. Leary, T. Darvill and D. Field (eds), *Round Mounds and Monumentality in the British Neolithic and beyond*. Oxford: Neolithic Studies Group Seminar Papers 10, 253–60.

Innes, L. 2016. *The Cist on the Foreshore at Lopness, Sanday*. Glasgow: Archaeological Reports Online 19 (ARO19) Guard Archaeology Ltd. www.archaeologyreportsonline.com

Johnson, N. 2015. From Malvern to the Irish Sea: Early Bronze Age round barrows in a border landscape. Unpublished PhD thesis, University of Worcester.

Johnston, R. 2021. *Bronze Age Worlds: a social prehistory of Britain and Ireland*. London: Routledge.

Johnstone, A.W. and Johnstone, A. (eds). 1920. *Old-Lore Miscellany of Orkney, Shetland, Caithness and Sutherland* 8. London: Viking Society for northern research, University of London.

Jones, A.M. 2001a. *Archaeological Theory and Scientific Practice*. Cambridge: Cambridge University Press.

Jones, A.M. 2001b. Enduring images? Image production and memory in earlier Bronze Age Scotland, in J. Brück (ed.), *Bronze Age Landscapes: tradition and transformation.* Oxford: Oxbow Books, 217–28.

Jones, A.M. 2007. *Memory and Material Culture*. Cambridge: Cambridge University Press.

Jones, A.M. 2017. The art of assemblage: styling Neolithic art. *Cambridge Archaeological Journal* 27(1), 85–94.

Jones, A.M. and Richards, C. 2003. Animals into ancestors: domestication, food and identity in late Neolithic Orkney, in M. Parker Pearson (ed.), *Food, Culture and Identity in the Neolithic and Early Bronze Age*, Oxford: British Archaeological Report S1117, 45–52.

Jones, A.M. and Richards, C. 2005. Living in Barnhouse, in Richards (ed.) 2005, 23–56.

Jones, R. 2016. Rare earth analysis of the Queenamuckle Steatite Urn. Orkney Historic Environment Records, Kirkwall. Unpublished archived report.

Jones, A.M., Jones, R., Tully, G., Maritan, L., Mukherjee, A., Evershed, R., MacSween, A., Richards, C. and Towers, R. 2016. Prehistoric pottery from sites within the Bay of Firth, Stonehall, Crossiecrown, Wideford Hill, Brae of Smerquoy, Muckquoy, Ramberry and Knowes of Trotty, in C. Richards and R. Jones (eds), *The development of Neolithic house societies in Orkney*. Oxford: Windgather Press, 303–412.

Karlo, C.A., Stolzmann, P., Habernig, S., Müller, L., Saurenmann, T. and Kellenberger, C.J. 2010. Size, shape and age-related changes of the mandibular condyle during childhood. *European Radiology* 20, 2512–17.

Kirkness, W. 1927. Report on the discovery of two short cists containing cremated human remains at Hundatown, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 61, 238–40.

Kirkness, W. 1935. Note on the discovery of a plate from an early Bronze Age Necklace. *Proceedings of the Orkney Antiquarian Society* 13, 41.

Klooss, W. 2014. Coast and beach: contested spaces in cultural and literary discourse, in A-M. Horatschek, Y. Rosenberg and D. Schäbler (eds), *Navigating Cultural Spaces: maritime places*. Leiden: Brill, 193–220.

Kristiansen, K and Larsson, T.B. 2005. *The Rise of Bronze Age Society: travels, transmissions and transformations*. Cambridge: Cambridge University Press.

Krus, A.M. and Peteranna, M. 2016. Bayesian modelling of an Early Bronze Age cemetery at Armadale, Isle of Skye, Scotland. *Radiocarbon* 58(3), 693–708.

Lamb, R.G. 1987. *The Archaeological Sites and Monuments of Shapinsay, St Andrews and Deerness*. Edinburgh: RCAHMS.

Lamb, R.G. 1980. *The Archaeological Sites of Sanday and North Ronaldsay*. Edinburgh: RCAHMS.

Lane, P. 1986. Past practices in the ritual present: examples from the Wesh Bronze Age. *Archaeological Review from Cambridge* 5(2), 181–92.

Lanting, J.N. and van der Plicht, H. 2003. De 14C chronologie van de Nederlandse Pre- en Protohistorie IV: Bron stijd en Vroege Ijzertijd. *Palaeohistoria* 43–4, 117–261.

Last, J. 1998. Books of life: biography and memory in a Bronze Age barrow. *Oxford Journal of Archaeology* 17(1), 43–53.

Last, J. (ed.) 2007a. *Beyond the Grave: new perspectives on barrows*. Oxford: Oxbow Books

Last, J. 2007b. Covering old ground, barrows as closures, in Last (ed.) 2007a, 156–75.

Last, J. 2010. The mystery of the hill, in J. Leary, T. Darvill and D. Field (eds), *Round Mounds and Monumentality in the British Neolithic and Beyond*. Oxford: Neolithic Studies Group Seminar Papers 10, 174–81.

Last, J. 2019. The prehistoric sequence – discussion, in P. Andrews, J. Last, R. Osgood and N. Stoodley (eds), *A Prehistoric Burial Mound and Anglo-Saxon cemetery at Barrow Clump, Salisbury Plain, Wiltshire, English Heritage and Operation Nightingale Excavations 2003–14*. Salisbury: Wessex Archaeology Report 40, 107–24.

Lawrence, D. 2006. Neolithic mortuary practice in Orkney. *Proceedings of the Society of Antiquaries of Scotland* 136, 47–60.

Lawrence, D. and Lee-Thorpe, J. 2012. New radiocarbon dates from Isbister, Orkney. *Discovery and Excavation in Scotland* 13, 203.

Lawson, A.J. 1986. *Barrow Excavations in Norfolk 1950–82*. East Dereham: East Anglian Archaeology 29.

Lee, D. 2011. Banks Chambered Tomb, South Ronaldsay, Orkney (South Ronaldsay parish), excavation. *Discovery and Excavation in Scotland 12,* 138.

Lee, D. and Thomas, A. 2011. Braes of Ha'Breck, Wyre, Orkney: excavation 2011. Kirkwall: Archaeology Institute, University of the Highlands and Islands unpublished ORCA report 270.

Lee, D. and Thomas, A. 2012. Roeberry Barrow, Cantick, South Walls, Orkney, with excavations at Hesti Geo settlement, 2011

Excavations. Kirkwall: Archaeology Institute, University of the Highlands and Islands: unpublished ORCA Data Structure Report.
Lee, F. 1997. The human bone, in Barber 1997, 37–44.
Leggett, S. and Johnson A. 2021. Isotopic analysis, in S. Wilson, M. Tesorieri and A. Johnson, A Traveller Laid to Rest. Excavation of a Late Neolithic cist at Bay of Skaill, Orkney. Edinburgh: AOC Scotland unpublished report.
Leivers, M., Roberts, J. and Peterson, R. 2000. The cairn at East Finnecy, Dunecht, Aberdeenshire. *Proceedings of the Society of Antiquaries of Scotland* 130, 183–95.
Lelong, O. 2014. Wrappings of power: a woman's burial in cattle hide at Langwell Farm, Strath Oykel. *Proceedings of the Society of Antiquaries of Scotland* 144, 65–131.
Lelong, O. 2018. *Fluid Identities, Shifting Sands: Early Bronze Age burials at Cnip Headland, Isle of Lewis* Scottish Archaeological Internet Reports 75. https://doi.org/10.9750/issn.2056-7421.2018.75.
Lévi-Strauss, C. 1982. *The Way of the Masks* (trans. S. Modelski). Seattle WA and London: University of Washington Press.
Lévi-Strauss, C. 1987. *Anthropology and Myth: lectures 1951–1982*. Oxford: Blackwell.
Lewis, J. 2007. The creation of barrows on the Mendip Hills, Somerset, in Last (ed.) 2007a, 72–82.
Longworth, I.H. 2009. *Collared Urns of the Bronze Age in Great Britain and Ireland*. 2nd edition. Cambridge: Cambridge University Press.
Lopez, B. 1999. *Arctic Dreams: imagination and desire in a northern landscape*. London: Harvill Press.
Lorimer, D.H. 1999. The unburnt human bone, in Dalland (ed.) 1999, 399–40.
Lovejoy, C.O., Meindl, R.S., Pryzbeck, T.R. and Mensforth, R.P. 1985. Chronological metamorphosis of the auricular surface of the ilium: a new method for the determination of adult skeletal age at death. *American Journal of Physical Anthropology* 68, 15–28.
Low, G. 1879. *A Tour through the Islands of Orkney & Shetland Containing Hints Relative to their Ancient, Modern and Natural History Collected in 1774 by George Low Author of 'Fauna Orcadensis' with Illustrations from Drawings by the Author and with an Introduction by Joseph Anderson*. Kirkwall: William Peace & Son
Luke, D.A. 1980. Appendix 3: cremated bones from five of the cists, in Hedges 1980, 66–70.
Lysaght, A.M. 1972. Note on a grave excavated by Joseph Banks and George Low at Skaill in 1772. *Proceedings of the Society of Antiquaries of Scotland* 104, 285–9.
Lysaght, A.M. 1974. Joseph Banks at Skara Brae and Stennis, Orkney, 1772. *Notes and Records of the Royal Society of London* 28(2), 221–34.
Macbeath, J.M. 1892. *The Orkneys in early Celtic Times*. Kirkwall: William Peace and Son.
MacGregor, G. 2009. Elemental bodies: the nature of transformative practices during the late third and second millennium bc in Scotland. *World Archaeology* 40(2), 268–80.
MacLaren, A. 1969. A cist cemetery at Glenreasdell Mains, Kintyre, Argyll. *Proceedings of the Society of Antiquaries of Scotland* 101, 111–8.
MacSween, A. 1997. The pottery, in J. Barber, *The Excavation of a Stalled Cairn at the Point of Cott, Westray, Orkney*. Edinburgh: Scottish Trust for Archaeological Research Monograph 1, 27–9.
MacSween, A., Hunter, J., Sheridan, A., Bond, J., Ramsey, C.B., Reimer, P., Bayliss, A, Griffiths, S., and Whittle, A. 2015. Refining the chronology of the Neolithic settlement at Pool, Sanday, Orkney: implications for the emergence and development of Grooved Ware. *Proceedings of the Prehistoric Society* 81, 283–310.
Mainland, I., Blanz, M., Ayres, J. and Webster, C. 2021, Cattle and other animals: human–animal relationships at the Ness of Brodgar, in Card *et al.* (eds) 2021, 266–77.
Mainland, I., Card, N., Saunders, M.K., Webster, C., Isaksen, L., Downes, J. and Littlewood, M. 2014. 'SmartFauna': a microscale GIS-based multi-dimensional approach to faunal deposition at the Ness of Brodgar, Orkney. *Journal of Archaeological Science* 41, 868–78.
Mamwell, C.J. 2018. It rained a Lot and Nothing Much Happened: settlement and society in Bronze Age Orkney. Unpublished PhD thesis, University of Edinburgh. https://era.ed.ac.uk/bitstream/handle/1842/28679/Mamwell2018.pdf?sequence=1andisAllowed=y
Marshall, A. 2011. *Experimental Archaeology: 1. Early Bronze Age Cremation Pyres*. Oxford: British Archaeological Report 530.
Marwick, G. 2014 [1892] The standing stones of Stenness – traces of the ancient road from the quarries, in Muir and Irvine (eds) 2014, 69–76.
Marwick, H. 1928. Cist burials in Holm, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 62, 263–8.
Marwick, H. 1929a. Skerrabrae. *Proceedings of the Orkney Antiquarian Society* 7, 17–26.
Marwick, H. 1929b. Some cist-burials in Orkney. *Proceedings of the Society of Antiquaries of Scotland* 63, 377–83.
Marwick, H. 1949. Notes on archaeological remains found in Orkney. *Proceedings of the Society of Antiquaries of Scotland* 83, 236–40.
Marwick, J.G. 1926. Discovery of stone cists at Stenness. *Proceedings of the Society of Antiquaries of Scotland* 60, 34–6.
Maxwell, J.H. 1949. Bronze Age graves at Patrickholm Sand Quarry, Larkhall, Lanarkshire. Excavated during the autumn of 1947. *Proceedings of the Society of Antiquaries of Scotland* 83, 207–20.
McAdam, E. 1982. Comparative background: the cemetery, in Watkins 1982, 120–9.
McKinley, J.I. 1989. Cremations: expectations, methodologies and realities, in C.A. Roberts, F. Lee and J. Bintliff (eds), *Burial Archaeology: current research, methods and developments*. Oxford, British Archaeological Report 211, 65–76.
McKinley, J.I. 1993. Bone fragment size and weights of bone from modern British cremations and the implications for the interpretation of archaeological cremations. *International Journal of Osteoarchaeology* 3, 283–7.
McKinley, J.I. 1994. Pyre and grave goods in British cremations: have we missed something? *Antiquity* 68, 132–4.
McKinley, J.I. 1997a. Bronze Age barrows and funerary rites and rituals of cremation. *Proceedings of the Prehistoric Society* 63, 129–45.
McKinley, J.I. 1997b. Pyre technology and ritual, in A.P. Fitzpatrick, *Archaeological Excavations on the Route of the A27 Westhampnett Bypass, West Sussex, 1992. Volume 2: the Cemeteries*. Salisbury: Wessex Archaeology Report 12, 65.

McKinley, J.I. 2003. The cremated bone, in Cressey and Sheridan 2003, 69–72.

McKinley, J.I. 2004. Compiling a skeletal inventory: cremated human bone, in Brickley and McKinley (eds) 2004, 9–12.

McKinley, J.I. 2013. Cremation, in L. Nilsson Stutz and S. Tarlow (eds), *The Oxford Handbook of the Archaeology of Death and Burial*. Oxford: Oxford University Press, 147–71.

McKinley, J.I. 2016. Complexities of the ancient mortuary rite of cremation: an osteoarchaeological conundrum, in G. Grupe and G.C. McGlynn (eds), *Isotopic Landscapes in Bioarchaeology*. Berlin/Heidelberg: Springer, 17–41.

McKinley, J.I. and Kibble, H. 1999. Human cremation burials, in M. Dalland (ed.) Sand Fiold: The Excavation of an Exceptional Cist in Orkney. *Proceedings of the Prehistoric Society* 63, 400–2.

McNeil-Sale, R. 1982. Burial mound (Church Lawton South). *Cheshire Archaeological Bulletin* 8, 47–9.

McOmish, D., Field, D., Brown, G., Corney, M., Crutchley, S. and Cunliffe, D. 2002. *The Field Archaeology of the Salisbury Plain Training Area*. Swindon: English Heritage.

McSweeney, K. 1996. Cremated human remains, in Barber *et al.* 1996, 111–13.

McSweeney, K. 1997. Cremated human remains, in Mercer and Midgley 1997, 311–17.

Megaw, J.V.S. 2004. Banks and Braes: notes for a film-buff fellow, in A. Gibson and A. Sheridan (eds), *From Sickles to Circles: Britain and Ireland at the time of Stonehenge*. Stroud: Tempus, 14–26.

Megaw, J.V.S. and Simpson, D.D.A. 1979. *Introduction to British Prehistory*. Leicester: Leicester University Press.

Meinig, D.W. 1979. The beholding eye: ten versions of the same scene, in D.W. Meinig (ed.), *The Interpretation of Ordinary Landscapes*. Oxford: Oxford University Press, 33–48.

Mercer, R.J. and Midgley, M.S. 1997. The Early Bronze Age cairn at Sketewan, Balnaguard, Perth and Kinross. *Proceedings of the Society of Antiquaries of Scotland* 127, 281–338.

Metcalf, P. and Huntington, R. 1991. *Celebrations of Death: the anthropology of mortuary ritual*. Cambridge: Cambridge University Press.

Mizoguchi, K. 1992. A historiography of a linear barrow cemetery: a structurationist's point of view. *Archaeological Review from Cambridge* 11(1), 39–49.

Mizoguchi, K. 1993. Time in the reproduction of mortuary practices. *World Archaeology* 25(2), 223–35.

Moffat, B. 1987. Food Residue Analysis of the Redland urn. Orkney Historic Environment Records, Kirkwall archived report.

Moore, H. and Wilson, G. 1995. Two Orcadian cist burials: excavations at Midskaill, Egilsay, and Linga Fiold, Sandwick. *Proceedings of the Society of Antiquaries of Scotland* 125, 237–51.

Moore, H. and Wilson, G. 1999. Food for thought: a survey of burnt mounds of Shetland and excavations at Tangwick. *Proceedings of the Society of Antiquaries of Scotland* 129, 203–37.

Moore, H. and Wilson, G. 2011. *Shifting Sands. Links of Noltland, Westray, Interim Report on Neolithic and Bronze Age Excavations*. Edinburgh: Historic Environment Scotland.

Moore, H., Wilson, G., Challanain, M.N., McCormick, M., Marshall, P.D., Dulias, K., George, M., Foody, B., Justeau, P., Pala, M., Richards, M.B. and Edwards, C.J. 2022. Migration and community in Bronze Age Orkney: innovation and continuity at the Links of Noltland. *Antiquity* 96 (387), 541–59.

Morris, C.D. 1989. *The Birsay Bay Project: coastal sites beside the Brough Road, Birsay, Orkney. Excavations 1976–82*. Durham: University of Durham, Department of Archaeology.

Mortimer, J.R. 1905. *Forty Years' Researches in British and Saxon Burial Mounds Of East Yorkshire, Including Romano-British Discoveries and a Description of the Ancient Entrenchments on a Section of the Yorkshire Wolds*. London: A. Brown and Sons.

Muir, T. and Irvine, J. (eds). 2014. *George Marwick: Yesnaby's master storyteller*. Kirkwall: The Orcadian.

Mullin, D. 2001. Remembering, forgetting and the invention of tradition: burial and natural places in the English Early Bronze Age. *Antiquity* 75, 533–7.

Needham, S.P. 2015. Discussion: reappraising 'Wessex' goldwork, in J. Hunter and A. Woodward, *Ritual in Early Bronze Age Grave Goods*. Oxford: Oxbow Books, 255–60.

Needham, S.P., Hunter, J. and Woodward, A. 2015. Items of personal adornment II: gold and the regalia from Bush Barrow, in J. Hunter and A. Woodward, *Ritual in Early Bronze Age Grave Goods*. Oxford: Oxbow Books, 208–54.

Needham, S.P., Parker Pearson, M., Tyler, A., Richards, M. and Jay, M. 2010. A first 'Wessex I' date from Wessex. *Antiquity* 84, 363–73.

Neil, R.J. 1981. A Bronze Age burial mound at Holland, St Ola, Orkney. *Glasgow Archaeological Journal* 8(1), 32–45.

Noble, G., Brophy, K. and Sheridan, A. 2020. The Forteviot dagger burial and Henge 1 modification, in K. Brophy and G. Noble (eds), *Prehistoric Forteviot: excavations of a ceremonial complex in eastern Scotland*. York: Council for British Archaeology Research Report 176, 157–208.

Nowakowski, J.A. 2007. Digging deeper into barrow ditches: investigating the making of Early Bronze Age memories in Cornwall, in Last (ed.) 2007a, 91–112.

O'Connell, K. 2018. Double Houses in the 3rd millennium BC in Orkney and Shetland. Unpublished MA dissertation, University of the Highlands and Islands.

Oestigaard, T. 1999. Cremations as transformations: when the dual cultural hypothesis was cremated and carried away in urns. *European Journal of Archaeology* 2(3), 345–64.

Oestigaard, T. 2004. Death and ambivalent materiality – human flesh as culture and cosmology, in T. Oestigaard, N. Anfinset and T. Saetersdal (eds), *Combining the Past and the Present: archaeological perspectives on society*. Oxford: British Archaeological Report S1210, 23–30.

Olalde, I., Brace, S., Allentoft, M. *et al.* 2018. The Beaker phenomenon and the genomic transformation of northwest Europe. *Nature* 555(7695), 190–6.

Olivier, A.C.H. 1987. Excavation of a Bronze Age funerary cairn at Manor Farm, near Borwick, north Lancashire. *Proceedings of the Prehistoric Society* 53, 129–86.

Ortner, S.B. 1984. Theory in anthropology since the sixties. *Comparative Studies in Society and History* 26(1), 126–66.

Owen, O. and Lowe, C. 1999. *Kebister: the four-thousand-year-old story of one Shetland township*. Edinburgh: Society of Antiquaries of Scotland Monograph 14.

Owoc, M.A. 2000. Aspects of Ceremonial Burial in the Bronze Age of South-west Britain. Unpublished PhD dissertation, University of Sheffield.

Owoc, M.A. 2001. The times they are a changin': experiencing continuity and development in the early Bronze Age funerary rituals of southwestern Britain, in J. Brück (ed.) *Bronze Age Landscapes: tradition and transformation*. Oxford: Oxbow Books, 193–206.

Owoc, M.A. 2002. Munselling the mound: the use of soil colour as metaphor in British Bronze Age funerary ritual, in A. Jones and G. MacGregor (eds), *Colouring the Past: the significance of colour in archaeological research*. Oxford: Berg, 127–40.

Owoc, M.A. 2005. From the ground up: agency, practice, and community in the southwestern British Bronze Age. *Journal of Archaeological Method and Theory* 12(4), 257–81.

Owoc, M.A. 2007. To build or not to build: Bronze Age monument construction as technological practice, in J. Last (ed.), *Beyond the Grave: new perspectives on barrows*. Oxford: Oxbow Books, 113–26.

Øvrevik, S. 1985. The second millennium and after, in C. Renfrew (ed.), *The Prehistory of Orkney*. Edinburgh: Edinburgh University Press, 131–49.

Parker Pearson, M. 1982. Mortuary practices, society and ideology: an ethnoarchaeological study, in I. Hodder (ed.), *Symbolic and Structural Archaeology*. Cambridge: Cambridge University Press, 99–113.

Parker Pearson, M. 1993. The powerful dead: archaeological relationships between the living and the dead. *Cambridge Archaeological Journal* 3(2), 203–29.

Parker Pearson, M. 1999. *The Archaeology of Death and Burial*. Stroud: Sutton.

Parker Pearson, M. 2004. Island prehistories: a view of Orkney from South Uist, in J. Cherry, C. Scarre and S. Shennan (eds), *Explaining social change: studies in honour of Colin Renfrew*. Cambridge: McDonald Institute Monographs, 127–40.

Parker Pearson, M. 2023. Living with the dead: mummification and post-mortem treatment in Bronze Age Britain. *Archaeology International* 26(1), 145–66.

Parker Pearson, M., Mulville, J., Smith, H. and Marshall, P., 2021. *Cladh Hallan: roundhouses and the dead in the Hebridean Bronze Age and Iron Age. Part I: stratigraghy, spatial organisation and chronology.* Oxford: Oxbow Books.

Parker Pearson, M., Sheridan, A., Jay, M., Chamberlain, A., Richards, M. and Evans, J. (eds). 2019. *The Beaker People: isotopes, mobility and diet in prehistoric Britain*. Oxford: Prehistoric Society Research Papers 7.

Parker Pearson, M., Chamberlain, A.T., Collins, M.J., Craig, O.E., Marshall, P., Mulville, J., Smith, H., Chenery, C., Cook, G., Craig, G., Evans, J., Hiller, J., Montgomery, J., Schwenninger, J.-L., Taylor, G. and Wess, T. 2005. Evidence for mummification in Bronze Age Britain. *Antiquity* 79, 529–46.

Peteranna, M. 2009. Pier Road, Armadale, Isle of Skye. *Discovery and Excavation in Scotland* 10, 113.

Peteranna, M. 2011. *Excavation of a Bronze Age burial site at Pier Road, Armadale, Isle of Skye*. Data Structure Report, Ross and Cromarty Archaeological Services. https://rubhaphoil.org/wp-content/uploads/2020/12/210064.pdf

Peterson, F. 1972. Traditions of multiple burial in Later Neolithic and Early Bronze Age England. *Archaeological Journal* 129, 22–55.

Peterson, F.F. 1981. *The Excavation of a Bronze Age Cemetery on Knighton Heath, Dorset*. Oxford: British Archaeological Report 98.

Petrie, G. 1856. Description of antiquities in Orkney recently examined, with illustrative drawings. *Proceedings of the Society of Antiquaries of Scotland* 2, 56–64.

Petrie, G. 1859. Notice of a barrow at Huntiscarth in the Parish of Harray, Orkney, recently opened (communicated by James Farrer). *Proceedings of the Society of Antiquaries of Scotland* 3, 195.

Petrie, G. 1866. Notice of a barrow containing cists, on the farm of Newbigging, near Kirkwall: and at Isbister, in the parish of Rendall, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 6, 411–8.

Petrie, G. 1868a. Notice of some rude stone implements found in Orkney. *Proceedings of the Society of Antiquaries of Scotland* 7, 135–6.

Petrie, G. 1868b. Notice of ruins of ancient dwellings at Skara, Bay of Skaill, in the Parish of Sandwich, Orkney, recently excavated. *Proceedings of the Society of Antiquaries of Scotland* 7, 201–19.

Petrie, G. 1870. Notice of excavations and discovery of cists, containing large stone urns, in Stronsay, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 8, 347–51.

Petrie, G. 1927. Primeval antiquities of Orkney. *Proceedings of the Orkney Antiquarian Society* 5, 19–29.

Photos-Jones, E., Ballin Smith, B., Hall, A.J. and Jones, R. 2007. On the intent to make cramp: an interpretation of vitreous seaweed cremation 'waste' from prehistoric burial sites in Orkney, Scotland. *Oxford Journal of Archaeology* 26, 1–23.

Piggott, C.M. 1943a. Three turf barrows at Hurn, near Christchurch. *Proceedings of the Hampshire Field Club and Archaeological Society* 15(3), 248–62.

Piggott, C.M. 1943b. Excavation of fifteen barrows in the New Forest 1941–2. *Proceedings of the Prehistoric Society* 9, 1–27.

Piggott, S. 1938. The Early Bronze Age in Wessex. *Proceedings of the Prehistoric Society* 4(1), 52–106.

Piggott, S. 1939. Timber circles: a re-examination. *Archaeological Journal* 96, 193–222.

Piggott, S. 1943. Appendix 1: the grave structures in Beaulieu barrows II and IX, in C.M. Piggott 1943b, 24–5.

Piggott, S. 1962. Traders and metalworkers, in S. Piggott (ed.), *The Prehistoric Peoples of Scotland*. London: Routledge and Kegan Paul, 73–104.

Piggott, S. and Stewart, M. 1958. *Inventaria Archaeologica (Fifth set: GB. 25–34) Early and Middle Bronze Age grave-groups and hoards from Scotland*. London: Garraway.

Pollard, T. 1996. Time and tide: coastal environments, cosmology and ritual practice in early prehistoric Scotland, in T. Pollard and A. Morrison (eds), *The Early Prehistory of Scotland*. Edinburgh: Edinburgh University Press, 198–210.

Pope, R.E. 2015. Bronze Age architectural traditions: dates and landscapes, in F. Hunter and I.B.M. Ralston (eds), *Scotland in Later Prehistoric Europe*. Edinburgh: Society of Antiquaries of Scotland, 159–84.

Powell, A.B. 2005. The language of lineages: reading Irish court tomb design. *European Journal of Archaeology* 8(1), 9–28.

Ramsay, S. 2014. Archaeobotanical analysis: plant macrofossils, in Ballin Smith 2014, 74.

RCAHMS. 2009. Aerial survey. *Discovery and Excavation in Scotland* 10, 194.

RCAMS. 1946. *The Royal Commission on the Ancient and Historical Monuments of Scotland. Twelfth Report with an Inventory of the Ancient Monuments of Orkney and Shetland, 3v*. Edinburgh: HMSO.

Rebay-Salisbury, K. 2010. Cremations: fragmented bodies in the Bronze and Iron Ages, in K. Rebay-Salisbury, M.L.S. Sørensen and J. Hughes Bardy (eds), *Body Parts and Bodies Whole.* Oxford: Oxbow Books, 64–71.

Rebay-Salisbury, K. 2013. Inhumation and cremation: how burial practices are linked to beliefs, in K. Rebay-Salisbury and M.L.S. Sørensen (eds), *Embodied Knowledge: historical perspectives on belief and technology*. Oxford: Oxbow Books, 15–26.

Rees, S. 1977. The stone implements, in Hedges 1977, 144–5.

Reid, M. 2014. Once a sacred and secluded place: Early Bronze Age monuments at Church Lawton, near Alsager, Cheshire. *Proceedings of the Prehistoric Society* 80, 237–77.

Renfrew, C. 1973. Monuments, mobilization and social organisation in Neolithic Wessex, in C. Renfrew (ed.), *Explanation of Culture Change: Models in Prehistory*. London: Duckworth, 539–58.

Renfrew, C. 1979. *Investigations in Orkney*. London: Thames and Hudson.

Renfrew, C. 1985. *Approaches to Social Archaeology*. Edinburgh: Edinburgh University Press.

Richards, C. 1990. The late Neolithic House in Orkney, in R. Samson (ed.), *The Social Archaeology of Houses*. Edinburgh: Edinburgh University Press, 111–24.

Richards, C. 1991. Skara Brae, revisiting a Neolithic village in Orkney, in W.S. Hanson and E.A. Slater (eds), *New Perspectives in Scottish Archaeology*. Aberdeen: Aberdeen University Press, 24–47.

Richards, C. 1992. Doorways into another world: the Orkney–Cromarty chambered tombs, in N. Sharples and A.S. Sheridan (eds), *Vessels for the Ancestors: essays on the Neolithic of Britain and Ireland in honour of Audrey Henshall*. Edinburgh: Edinburgh University Press, 62–76.

Richards, C. 1996. Creating the centre of the world in late Neolithic Orkney. *World Archaeology* 28(2), 190–208.

Richards, C. (ed.). 2005. *Dwelling Among the Monuments. The Neolithic Village of Barnhouse, Maeshowe Passage Grave and Surrounding Monuments at Stennes, Orkney*. Cambridge: McDonald Institute Monographs.

Richards, C. 2013. Wrapping the hearth: constructing house societies and the tall stones of Stenness, in C. Richards (ed.), *Building the Great Stone Circles of the North*. Oxford: Windgather Press, 64–89.

Richards, C. and Cummings, V. 2024. *Stone Circles: a field guide*. London and New Haven: Yale University Press.

Richards, C. and Jones, A.M. 2016. Houses of the dead: the transition from wood to stone architecture at Wideford Hill, in Richards and Jones (eds) 2016a, 16–40.

Richards, C. and Jones, R. (eds) 2016a. T*he Development of Neolithic House Societies in Orkney.* Oxford: Windgather Press.

Richards, C. and Jones, R. 2016b. Images of Neolithic Orkney, in Richards and Jones (eds) 2016a, 1–15.

Richards, C. and Wright, J. 2013. Monuments in the making: the stone circles of western Scotland, in C. Richards (ed.), *Building the Great Stone Circles of the North*. Oxford: Windgather Press, 31–63.

Richards, C., Brown, J., Jones, S., Hall, A. and Muir, T. 2013a. Monumental risk: megalithic quarrying at Staneyhill and Vestra Fiold, in C. Richards (ed.), *Building the Great Stone Circles of the North*. Oxford: Windgather Press, 119–48.

Richards, C., Downes, J., Hambleton, E., Peterson, R. and Pollard, J. 2013b. Surface over substance: the Vestra Fiold horned cairn, Mainland, Setter cairn, Eday, and a reappraisal of late Neolithic funerary architecture, in C. Richards (ed.), *Building the Great Stone Circles of the North*. Oxford: Windgather Press, 149–83.

Richards, C., Clarke, A., Ingrem, C., Mulville, J. and Mainland, I. 2015. Containment, closure and red deer: a Late Neolithic butchery site at Skaill Bay, Mainland, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 145, 91–124.

Richards, C., Brophy, K., Carruthers, M., Jones, A.M., Jones, R. and Jones, S. 2016a. Good neighbours: Stonehall Knoll, Stonehall Meadow and Stonehall Farm, in Richards and Jones (eds) 2016a, 91–127.

Richards, C., Jones, R., Challands, A., Jeffrey, S., Jones, A.M., Jones, S. and Muir, T. 2016b. At Stonehall Farm, Late Neolithic life is rubbish, in Richards and Jones (eds), 2016b, 128–59.

Richards, C., Downes, J., Gee, C., and Carter, S. 2016c. Materializing Neolithic House Societies in Orkney, introducing Varme Dale and Muckquoy, in Richards and Jones (eds) 2016a, 224–53.

Richards, C., Jones, A.M., MacSween, A., Sheridan, A., Dunbar, E., Reimer, P., Bayliss, A., Griffiths, S., and Whittle, A. 2016d. Settlement duration and materiality: formal chronological models for the development of Barnhouse, a Grooved Ware settlement in Orkney. *Proceedings of the Prehistoric Society* 82, 193–225.

Ritchie, A. 1983. Excavations of a Neolithic farmstead at Knap of Howar, Papa Westray, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 113, 40–121.

Ritchie, A. 1995. *Prehistoric Orkney*. London: Batsford/Historic Scotland.

Ritchie, A. 2009. *On the Fringe of Neolithic Europe: excavation of a chambered cairn on the Holm of Papa Westray, Orkney*. Edinburgh: Society of Antiquaries of Scotland Monograph.

Ritchie, A. and Ritchie, J.N.G. 1974. Excavation of a barrow at Queenafjold, Twatt, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 105, 33–42.

Ritchie, J.N.G. 1976. The Stones of Stenness, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 107, 1–60.

Ritchie, J.N.G. and MacLaren, A. 1973. Ring-cairns and related monuments in Scotland. *Scottish Archaeological Forum* 4, 1–17.

Roberts, J.A. 1995. The Taphonomy of Cremated Human Remains: an experimental study of the fragmentation of bone from the Bronze Age cremation cemetery at Linga Fold, Orkney. Unpublished MSc. Dissertation, University of Sheffield.

Roberts, J.A. 1998. The Cremated Bone from Fordhouse Barrow, House of Dun. Orkney Historic Environment Records, Kirkwall: unpublished report for St Andrews Heritage Services.

Roberts, J.A. 2007. The cremated human remains, in Sharman 2007, 11–13. https://doi.org/10.5284/1017938.

Roberts, J.A. 2014a. The human remains [South Cist], in Ballin Smith (ed.) 2014, 58–9.

Roberts, J.A. 2014b. The cremated human remains [Kewing] – summary report, in Ballin Smith (ed.) 2014, 96–9.

Robertson, J. 2005. The Bronze Age Dwelling at Wasbister, Orkney WHS: an enhanced landscape interpretation. Unpublished MA dissertation, University of the Highlands and Islands.

Robertson, J. and Woodward, N. 2007. *Mine Howe and Long Howe* Orkney Historic Environment Records, Kirkwall ORCA Unpublished Archive Report.

Rowlands, M. 1980. Kinship, alliance and exchange in the European Bronze Age, in J. Barrett and R. Bradley (eds), *Settlement and Society in the British Later Bronze Age*. Oxford: BAR British Series 83, 15–55.

Russell, V. and Pool, P.A.S. 1964. Excavation of a menhir at Try, Gulval. *Cornish Archaeology* 3, 15–25.

Russell-White, C.J., Lowe, C.E. and McCullagh, R.P.J. 1992. Excavations at three Early Bronze Age burial monuments in Scotland. *Proceedings of the Prehistoric Society* 58, 285–323.

Scarre, C. 2002. A pattern of islands: the Neolithic monuments of north-west Brittany. *European Journal of Archaeology* 5(1), 24–41.

Scholma-Mason, O.D. 2018. Ceramics and Regionality in the Highlands and Northern Isles of Scotland. Unpublished PhD thesis, University of Edinburgh.

Schulting, R. 2004. An Irish Sea change: some implications for the Mesolithic–Neolithic transition, in V. Cummings and C. Fowler (eds), *The Neolithic of the Irish Sea: materiality and traditions of practice*. Oxford: Oxbow Books, 22–8.

Schulting, R. 2008. Foodways and social ecologies: early Mesolithic to Early Bronze Age, J. Pollard (ed.), *Prehistoric Britain*. London: Blackwell, 90–120.

Schulting, R., Sheridan, A., Crozier, R. and Murphy, E. 2010. Revisiting Quanterness: new AMS dates and stable isotope data from an Orcadian chamber tomb. *Proceedings of the Society of Antiquaries of Scotland* 140, 1–50.

Scott, J. 1991. The stone circles at Temple Wood, Kilmartin, Argyll. *Glasgow Archaeological Journal* 15, 53–124.

Sharman, P. 2007. *Excavation of a Bronze Age Funerary site at Loth Road, Sanday, Orkney*. Scottish Archaeological Internet Report 25. https://archaeologydataservice.ac.uk/archiveDS/archiveDownload?t=arch-310-1/dissemination/pdf/sair25.pdf

Sharman, P. 2009. Steatite funerary urns in the early prehistoric Northern Isles, in A.K. Forster and V.E. Turner (eds), *Kleber: Shetland's oldest industry. Shetland soapstone since prehistory*. Lerwick: Shetland Amenity Trust, 39–47.

Sharples, N. 2000. Antlers and Orcadian rituals: an ambiguous role for red deer in the Neolithic, in A. Ritchie (ed.), *Neolithic Orkney in its European Context*. Cambridge: McDonald Institute Monographs, 107–16.

Shepherd, A. 1996. A Neolithic ring-mound at Midtown of Pitglassie, Auchterless, Aberdeenshire. *Proceedings of the Society of Antiquaries of Scotland* 126, 17–52.

Shepherd, I.A.G. 1982. Comparative background: the assemblage, in Watkins, T., Barnetson, L., Henshall, A.S., Lunt, D., McAdam, E., Roe, F., Shepherd, I.A.G., McCawley, C.C., The excavation of an Early Bronze Age cemetery at Barns Farm, Dalgety, Fife. *Proceedings of the Society of Antiquaries of Scotland* 112, 129–32.

Shepherd, I.A.G. 1986. *Powerful Pots: Beakers in north-east prehistory*. Aberdeen: Anthropological Museum, University of Aberdeen.

Sheridan, J.A. 2003a. *The National Museums of Scotland Dating Cremated Bones Project: results obtained during 2002/3. Discovery and Excavation in Scotland* NS 4, 167–9.

Sheridan, J.A. 2003b. New dates for Scottish Bronze Age cinerary urns: results from the National Museums of Scotland *Dating Cremated Bones Project*, in A. Gibson (ed.), *Prehistoric Pottery: people, pattern and purpose.* Oxford: British Archaeological Report S1156, 201–*26*.

Sheridan, J.A. 2004. Scottish Food Vessel chronology revisited, in A. Gibson and J.A. Sheridan (eds), *From Sickles to Circles: Britain and Ireland at the time of Stonehenge*. Stroud: Tempus, 243–69.

Sheridan, J.A. 2005a. Cuween, Cuween-Wideford project. *Discovery and Excavation in Scotland* 6, 177.

Sheridan, J.A. 2005b. The National Museums Scotland radiocarbon dating programmes: results obtained during 2004/5. *Discovery and Excavation in Scotland* 6, 182–3.

Sheridan, J.A. 2006. The National Museums of Scotland radiocarbon dating programmes: results obtained during 2005/6. *Discovery and Excavation in Scotland* NS 7, 204–6.

Sheridan, J.A. 2007 Scottish Beaker dates: the good, bad and ugly, in M. Larsson and M. Parker Pearson (eds), *From Stonehenge to the Baltic: living with cultural diversity in the third millennium BC*. Oxford: British Archaeological Report S 1692, 91–108.

Sheridan, J.A. 2012. Neolithic Shetland: a view from the 'mainland', in D.L. Mahler (ed.), *The Border of Farming and the Cultural Markers*. Copenhagen: National Museum of Denmark, 6–36.

Sheridan, J.A. 2013. Plus ca change ...? Developments in Shetland, *c* 2500–1800 BC, in D.L. Mahler (ed.), *The Border of Farming. Shetland and Scandinavia Papers from the Symposium in Copenhagen September 19th–21st 2012*. Copenhagen: The National Museum of Denmark, 47–72

Sheridan, J.A. 2014. Shetland, from the appearance of a 'Neolithic' way of life to *c*. 1500 BC: a view from the 'mainland', in H.C. Gulløv (ed.), *Northern Worlds – Landscapes, Interactions and Dynamics*. Copenhagen: Publications from the National Museum, 67–94.

Sheridan, J.A. and Bradley, R.J. 2007. Radiocarbon dates arranged through National Museums of Scotland during 2006/7. *Discovery and Excavation in Scotland* 8, 220–1.

Sheridan, J.A. and Davis, M. 2002. Investigating jet and jet-like artefacts from prehistoric Scotland: the National Museums of Scotland project. *Antiquity* 76, 812–25.

Sheridan, J.A. and Higham, T. 2006. The redating of some Scottish specimens by the Oxford Radiocarbon Accelerator (ORAU). *Discovery and Excavation in Scotland* 7, 202–4.

Sheridan, J.A. and Higham, T. 2007. The redating of some Scottish specimens by the Oxford Radiocarbon Accelerator (ORAU): results received during 2007. *Discovery and Excavation in Scotland* 8, 225.

Sheridan, J.A., Kochman, W. and Aranauskas, R. 2003. The grave goods from the Knowes of Trotty, Orkney: reconsideration and replication, in J. Downes and A. Ritchie (eds), *Sea Change: Orkney and Northern Europe in the later Iron Age AD 300–800*. Forfar: Pinkfoot Press, 176–88.

Sheridan, J.A., Garrow, D., Mason, O., Schulting, R., Snoeck, C., Bradley, R., Waddington, C., Evershed, R.P., Whelton, H., Cook, G. and Naysmith, P. 2014. Radiocarbon dates associated with the Scottish History and Archaeology Department, National Museums Scotland, 2013/14. *Discovery and Excavation in Scotland* 15, 213–7.

Sheridan, A., Cook, G., Naysmith, P., Tripney, B., Dunbar, E., Reich, D., Olalde, I., Armit, I., Hunter, F., Farrar, S., Ritchie, G., Mitchell, J., Romera, A. and Herman, J. 2017. Radiocarbon dates associated with the Scottish History and Archaeology Department, National Museums Scotland, 2016/17. *Discovery and Excavation in Scotland* 18, 209–14.

Shipman, P., Foster, G. and Schoeninger, M. 1984. Burnt bones and teeth: an experimental study of colour, morphology, crystal structure and shrinkage. *Journal of Archaeological Science* 11, 307–25.

Sigvallius, B. 2005. Sailing towards the Afterlife. Analysis of a ship-formed burial monument at Hellerö by the Baltic Sea, in T. Artelius and F. Svanberg (eds), *Dealing with the Dead: archaeological perspectives on prehistoric Scandinavian burial ritual*. Stockholm: Riksantikvarieämbetet, 159–71.

Skoglund, P. 2008. Stone ships: continuity and change in Scandinavian prehistory. *World Archaeology* 40(3), 390–406.

Smith, A.N. 2007. The steatite, in Dockrill *et al.* (eds) 2007, 285–8.

Smith, G. 1984. Excavations on Goonhilly Down, The Lizard 1981. *Cornish Archaeology* 23, 3–46.

Smith, M.J., Allen, M.J., Delbarre, G., Booth, T., Cheetham, P., Bailey, L., O'Malley, F., Parker Pearson, M., Green, M. 2016. Holding on to the past: southern British evidence for mummification and retention of the dead in the Chalcolithic and Bronze Age. *Journal of Archaeological Science* 10, 744–56.

Snoeck, C., Brock, F. and Schulting, R.J. 2014. Carbon exchanges between bone apatite and fuels during cremation: impact of radiocarbon dates. *Radiocarbon* 56(2), 591–602.

Sørensen, M.L.S. and Rebay, K. 2008. From substantial bodies to the substance of bodies: analysis of the transition from inhumation to cremation during the Middle Bronze Age in Central Europe, in D. Borić and J. Robb (eds), *Past Bodies: body-centered research in archaeology*. Oxford: Oxbow Books, 59–68.

Sørensen, M.L.S. and Rebay-Salisbury, K. 2023. *Death and the Body in Bronze Age Europe: from inhumation to cremation*. Cambridge: Cambridge University Press.

Sørensen, T.F. and Bille, M. 2008. The role of fire in cremation practices. *World Archaeology* 40(2), 253–67.

Stapleton, C.P. and Bowman, S.G.E. 2005. An examination of the cramp from Barnhouse and Mouseland, Mainland, Orkney, in Richards (ed) 2005, 381–4.

Stenhouse, M.J. 1981. Radiocarbon dating, in Neil 1981, 45.

Strathern, M. 1992. *Reproducing the Future: essays on anthropology, kinship and the new reproductive technologies*. Manchester: Manchester University Press.

Strathern, M. 1996. Cutting the network. *Journal of the Royal Anthropological Institute* 2(3), 517–35.

Taylor, A.F. and Woodward, P.J. 1985. A Bronze Age barrow cemetery, and associated settlement at Roxton, Bedfordshire. *Archaeological Journal* 142, 73–149.

Taylor, J.J. 1970. Lunulae reconsidered. *Proceedings of the Prehistoric Society* 36, 38–81.

Taylor, J.J. 2005. The work of the Wessex master goldsmith: its implications. *Wiltshire Archaeological Magazine* 98, 316–26.

Taylor, M. 1998. A Report on the Organic Residue Analysis of pottery/ steatite vessels from excavations at Linga Fiold, Orkney. Sheffield: unpublished report for ARCUS.

The Orcadian. 1966. Bronze Age find. *The Orcadian* 26 May.

Thomas, A. and Lee, D. 2012. Orkney's first farmers: early Neolithic settlement on Wyre. *Current Archaeology* 268, 12–19.

Thomas, F.W.L. 1852. Account of some of the Celtic antiquities of Orkney, including the Stones of Stenness, Tumuli, Picts-houses, with plans. *Archaeologia* 34(1), 88–136.

Thomas, J. 2013. *The Birth of Neolithic Britain: an interpretive account*. Oxford: Oxford University Press.

Thomas, J. 2015. House societies and founding ancestors in Early Neolithic Britain, in C. Renfrew, M. Boyd and I. Morley (eds), *Death Rituals, Social Order and the Archaeology of Immortality in the Ancient World*, Cambridge: Cambridge University Press, 138–52

Thomas, N. 2005. *Snail Down, Wiltshire: The Bronze Age barrow cemetery and related earthworks in the parishes of Collingbourne Ducis and Collingbourne Kingston, Excavations 1953, 1955 and 1957*. Devizes: Wiltshire Archaeological and Natural History Society.

Tilley, C. 1996. *An Ethnography of the Neolithic: early prehistoric societies in southern Scandinavia*. Cambridge: Cambridge University Press.

Tilley, C. 2004. round barrows and dykes as landscape metaphors. *Cambridge Archaeological Journal* 14(2), 185–203.

Tilley, C., Bennett, W. and Field, D., forthcoming. Round barrow cemeteries, in M. Parker Pearson, J. Pollard, C. Richards, J. Thomas, C. Tilley, and K. Welham (eds), *After Stonehenge: later prehistory and the historical period in the Stonehenge landscape. Stonehenge Riverside Project* 4. Leiden: Sidestone Press.

Toolis, R. 2004a. Geroin, Harray: cist burial. *Discovery and Excavation in Scotland* NS 5, 95.

Toolis, R. 2004b. Geroin, Harray, Orkney, Mainland (HS call off contract 4077/4). Edinburgh: AOC Scotland; unpublished report.

Towers, R. and MacSween, A. 2020. The age of clay: pottery by another name, in Card, 254–65.

Towrie, S. 2019. Was There Disruption? How Real are the Perceived Settlement Changes in Orcadian Society in the third Millennium BC. Unpublished MLitt dissertation, University of the Highlands and Islands.

Traill, Rev. W and Smellie, Rev. G. 1845. Parish of Lady: Presbytery of North Isles, Synod of Orkney. *New Statistical Account of Scotland: Sandwick, County of Orkney* 15. Edinburgh: Blackwoods and Sons, 133–48.

Turner, V. 1998. *Ancient Shetland*. London: Batsford.

Turner, W. 1903. An account of a chambered cairn and cremation cists at Taversoe Tuick, near Trumland House, in the Island of Rousay, Orkney, excavated by Lieut. General Traill Burroughs, C.B., of Rousay, in 1898. *Proceedings of the Society of Antiquaries of Scotland* 37, 73–82.

Van de Noort, R. 2003. An ancient seascape: the social context of seafaring in the early Bronze Age. *World Archaeology* 35(3), 404–15.

Van Giffen, A.E. 1937. Tumuli-opgravingen in Gelder land, 1935/1936. *Gelre* 40, 3–18.

Walker, W.H. 2009. *Memory Work: archaeologies of material practice*. Santa Fe NM: SAR Press.

Wallace, J. 1883 [1693]. *A Description of the Isles of Orkney.* Edinburgh: William Brown.

Walsh, S. 2013. Identity as Process: an archaeological and osteological study of Early Bronze Age burials in northern England. Unpublished PhD thesis, University of Central Lancashire. https://clok.uclan.ac.uk/9620/1/Walsh%20Samantha%20Final%20e-thesis%20%28Master%20Copy%29%20Volume%201.pdf

Walton Rogers, P. 2013. Organic residue, in I. Arabaolaza, *Spinning the Yarn: a cist burial at Keas Cottage, Spinningdale* (AR05); Archaeology Reports Online 52, 13. https://www.archaeology-reportsonline.com/PDF/ARO5_Keas_Cottage.pdf

Walton Rogers, P. 2014. Brown cattle hide, in Lelong 2014, 88–92.

Waterson, R. 1995. Houses and hierarchies in island Southeast Asia, in Carsten and Hugh-Jones (eds) 1995, 47–68.

Waterson, R. 2000. House, place and memory in Tana Toraja (Indonesia), in R.A. Joyce and S.D. Gillespie (eds), *Beyond Kinship: social and material reproduction in house societies.* Philadelphia PA: University of Pennsylvania Press, 177–88.

Watkins, T. 1980. A prehistoric coracle in Fife. *International Journal of Nautical Archaeology and Underwater Exploration* 9, 277–86.

Watkins, T. 1982. The excavation of an Early Bronze Age cemetery at Barns Farm, Dalgety, Fife. *Proceedings of the Society of Antiquaries of Scotland* 112, 48–154.

Watson, A. 2001. Round barrows in a circular world: monumentalising landscapes in Early Bronze Age Wessex, in J. Brück (ed.), *Bronze Age Landscapes: tradition and transformation.* Oxford: Oxbow Books, 207–16.

Watt, W.G. 1885. Notice of the discovery of two cists with urns of steatite, in the Parish of Sandwick, Orkney. *Proceedings of the Society of Antiquaries of Scotland* 19, 160–1.

Welfare, H. 1977. A beaker cist at Newbiggingmill Quarry, Lanarkshire. *Proceedings of the Society of Antiquaries of Scotland* 108, 73–9.

Wells, C. 1960. A study of cremation. *Antiquity* 34, 29–37.

Whittle, A.W.R. 2000. Bringing plants into the taskscape, in A. Fairbairn (ed.) *Plants in Neolithic Britain and Beyond*. Oxford: Neolithic Studies Group Seminar Papers 5, 1–7.

Whittle, A.W.R. 2006. The temporality of enclosure. *Journal of Iberian Archaeology* 8, 15–24.

Wildmun, F. 2017. Experimental Archaeology: the efficiency of peat, wood and seaweed as fuel for a funerary cremation pyre and the production of cramp. Unpublished MSc Dissertation, Durham University.

Wilkin, N.C.A. 2011. Grave-goods, contexts and interpretation: towards a regional narrative of Early Bronze Age Scotland. *Scottish Archaeological Journal* 33(1/2), 21–37.

Wilkin, N.C.A. 2013. Food Vessel Pottery from Early Bronze Age Funerary Contexts in Northern England: a typological and contextual study. Unpublished PhD thesis, University of Birmingham. https://etheses.bham.ac.uk/id/eprint/5192/1/Wilkin14PhD_Redacted.pdf

Williams, A. 1950. Bronze Age barrows on Charmy Down and Lansdown, Somerset. *Antiquaries Journal* 30, 34–46.

Wilson, D. 1863. *Prehistoric annals of Scotland*. London: Macmillan.

Wilson, G. and Moore, H. 1998. Orkney coastal survey. *Discovery and Excavation in Scotland* 1997*,* 58–9.

Wilson, S., Tesorieri, M. and Johnson, A. 2021. A Traveller Laid to Rest. Excavation of a Late Neolithic cist at Bay of Skaill, Orkney. AOC Edinburgh: AOC Scotland unpublished report.

Wiseman, R. 2018. Random accumulation and breakage: the formation of Bronze Age scrap hoards in England and Wales. *Journal of Archaeological Science* 90, 39–49.

Wiseman, R., Allen, M.J. and Gibson, C. 2021. The inverted dead of Britain's Bronze Age barrows: a perspective from conceptual metaphor theory. *Antiquity* 95(381), 720–34.

Woodward, A. 1993. The cult of relics in prehistoric Britain, in M. Carver (ed.), *In Search of Cult: archaeological investigations in honour of Philip Rahtz*. Woodbridge: Boydell Press, 1–8.

Woodward, A. 2000. *British Barrows: a matter of life and death*. Stroud: Tempus.

Woodward, A. 2002. Beads and Beakers: heirlooms and relics in the British Early Bronze Age. *Antiquity* 76, 1040–7.

Woodward, A. and Hunter, J. 2015. *Ritual in Early Bronze Age Grave Goods: an examination of ritual and dress equipment from Chalcolithic and Early Bronze Age graves in England*. Oxford: Oxbow Books.

Woodward, A. and Woodward, P. 1996. The topography of some barrow cemeteries in Bronze Age Wessex. *Proceedings of the Prehistoric Society* 62, 275–91.

Young, A. 1943. Report on standing stones and other remains, near Fowlis Wester, Perthshire. *Proceedings of the Society of Antiquaries of Scotland* 77, 174–84.

Young, A. and Mitchell, M.E.C. 1939. Report on excavation at Monzi. *Proceedings of the Society of Antiquaries of Scotland* 73, 62–70.

Index

Numbers in *italic* denote pages with figures, those in **bold** denote pages with tables.
Places are in Orkney Mainland unless stated otherwise.

aDNA analysis 8, 353, 356, 358–9
aerial survey 346, *347*
amber artefacts *82*, 102, 103, *104*, 122–3
Amesbury G71, Wiltshire 157, 159
animal bones 30, 62, 239–40, 258, 310, 337, 338
animal skins 78
anticipation
  of death 1–3
  of decay 78, 79
  of development of barrow cemeteries 238, 241, 287, 351–2
  of use of cists 37, 72, 73, 74–5, 77
anticipation and choreography of cremation 309–13
  drama of 345
  fats and oils used as accelerants **215**, 309–11
  fuel preparation 312
  routine actions 312–13
  sorting the pyre debris *74*, *149*, 312
  speed and timing 311–12
  vessel fragments *213*, 311
  washing of the body 311
antiquarian investigations 14, 15, *99*
  barrows 26–8, *342*, *352*
  cairns *20*, 21
  cist burials 20–3, *20–1*
  Linga Fiold, Sandwick 126, 128, 131, 133, 134, *135*, 153
Arion, Stromness 61, 78
Armadale, Skye 342–3, *343*
Ashbee, Paul 31, 120, 225, 233, 291–2
assemblages 122–3
Atkinson, R.J.C. 225

Backakeldy, Holm *40*, 41, 76, 344, 345–6
Balinese cremation 309, *310*, 311
Ballin Smith, Beverley 8, 23, 25, 73
Banks, Sir Joseph 20
Barber, J. 3
Barnhouse, Stenness
  burial cists 341
  burial markers 192
  burials 40, 75, 335
  double-house 9, *10*, 357
  village *332*, 333, *334*
Barns Farm, Dalgety, Fife 77
Barrett, John 3, 7, 73–4, 117, 121, 159, 289–90, 291, 312, 349
Barrow Hills, Radley, Oxfordshire 301
barrow survey *see* Orkney Barrows Survey
barrows
  antiquarian investigations 26–7, *342*, *352*
  artefacts associated with 29, 30
  cemeteries 32–3, *35*, *89*, *110*, 117, *342*, 351–3, *355*
  construction of *100*, 119–21, 125–6
  cramp, abundance of 28, *350*
  distribution *32–5*, 33–5, **34**, *355*
  enclosures, associated with 27–8, *350*
  form and function 228–9
  height 32
  inhumations, position of 27
  location of cairns and barrows 35–6, 235, 281–7, *339*
  monuments associated with *35*, *86*, 117, 233–5, 282, *342*, 351–2, 353, *355*
  recent excavations 29–31, *286*
  Rousay 28–9, *33*
  size 31–2, **32**
  threats to 18
    agriculture 14, 249
    antiquarian investigations 15, *99*, 153
    burrowing animals 15, 83, 94, *98*, 147, *154*, 238, 239, *239*
    erosion 15, *15*, 132, *133*, *206*, 238
  types 31

Barry, George 22
Bay of Skaill *see* Skaill Bay
Bay of Stove *see* Stove Bay
Bayliss, A. 6
Beaker burials 1, 7–8, 38, 77
Beaker pottery 7
Beaulieu Heath, Hampshire 225
Benie Hoose, Whalsay, Shetland 357, *357*
Bennett, J. 122
Black Knowe, Rendall 26
Blomuir (Blomar), Holm *5*, 41–5
  cist 42, *44*, 336
  cramp 44
  discovery 41
  excavation 42, *44*
  human remains 42, 44, **44–5**
  location and setting 41, *42–4*
  pottery 44–5
  radiocarbon date 45, **70**
Blows Farm, Deerness 346, 358, *359*
boat-shaped settings 160–2, *161*, *166–7*
Bookan, Sandwick *348*, 349
  see also Ring of Bookan; Skae Frue
Booth, T. 226
Bowthorpe, Norfolk 162
Boyd, M. 7
Bradley, Richard 73, 224, 226, 285, 328, 353, 354, 355
Brecks, The, Wasbister *342*, 349
Bronze Age *5*, 6–9, 11–12
Brophy, K. 126
Brough Ness, South Ronaldsay *5*, 31, 235, 277
Brück, Joanna 78, 226, 230, 322
Bu Farm, Rapness, Westray *5*, 30, 309
burial markers 192
burial mounds, approaches to 2, 3, 12–13
burial practices 1–2
  see also cremation; funerary practices; mortuary practices
Burl, Aubrey 120
burnt mounds 12

cairns 2
  antiquarian investigations *20*, 21
  chambered cairns 334–5, 336–7
    re-use of 341–2
  distribution 31
  location of cairns and barrows 281–7
  reused building stones *100*, 120–1
  ring cairns 31
  stalled cairns 8, 121, 332, 336
  see also Quarrel Geo
Callander, J. Graham 28, 265, 349
capstones 37–8, 40, 76, 79
Carsten, J. 332–3
Case, Humphrey 117
Cassington, Oxfordshire 225
Caswell, E. 292, 322
cattle bone deposits 337
cattle hides 78
chalk drums 123
Chapman, J.C. 290–1, 327, 328–9
Charmy Down, Somerset 222
charred plant macrofossils 101, **103**, **108**, 109–10, 112, **207**, **242**, **254**, 303, 306–7
Childe, V.G. 71, 76, 77, 338
Christie, Patricia 157, 159
Church Lawton, Cheshire 225
cist burials 1, 2, *5*, 23–6, 37–41, 71–80
  accessible/re-enterable cists 23–6, *24*, 71–4, *71*, *72*, *74*, 76, *79*, 335, *335*
  anticipation of use 74–5
  antiquarian investigations 20–3, *20–1*
  architecture 23–6, *24*, 37, 40–1, 75–6, *75*, 116
    capstones 37–8, 40, 76, 79
    pillow stones 77
  concealment of 41, 78–9
  contact with the dead 77
  as containers 76–80
  containment and storage 71–6
  contents, focus on 37
  future memories, formation of 79
  glacial mounds, associated with 125, 235
    Blomuir (Blomar), Holm 41, *42*
    Knowes of Trotty, Harray 83, 87, 92–3, *95*, *97*, 99
  human remains
    dispersal of the dead 38, 41
    inhumations 25, 75–6, 79
    position of 77
    storage of 77, 79–80, 336
    unburnt teeth 66, 72, 77
    wrapping of 78, 79
  inaccessibility of 37–8
  location and setting *32–4*, 37, 40, 41, *199*
  monuments associated with 79
  radiocarbon dates 38, 40, **70**
  short cists 23
  stone boxes in houses 76–7
  transformation of the deceased 78
  see also cists, unobtrusive
cist cemeteries, development of 340–5
  chambered cairns, re-use of 341–2
  cist groups 342–4, *343–4*
  dead as living relational persons 345
  inhumation and cremation burials *40*, 344–5, *345*
cist in a cist architecture 134
cists, excavated 41–71
  Blomuir (Blomar), Holm 41–5
  Geroin, Harray 56–62
  Howe, Harray 53–6
  Moan Farm, Firth 66–71
  Redland, Stromness 45–51
  Riff, Rendall 62–6
  Upper Bigging, Corrigall, Harray 51–3
cists, unobtrusive 1, 2
  antiquarian investigations 22

compared to chambered cairns and passage graves 336
as containers 76–80, 116, 301, 328
inhumation burials 40, **70**
mounds and 40, 235
pyres and 346
settlements and 351
variation and complexity 23–6, *24*, *72*, *79*
see also Blomuir (Blomar); Ferndale; Kewing, Rendall; Links of Skaill; Lochside Farm; Moan Farm; Quanterness; Sandfiold; Sandquoy; Werne
Cladh Hallan, South Uist 72, 226, 290, 299, 301
Clarke, D.V 338
Clava Cairns, Highland 226
closing deposits 337
Clouston, Charles 27, 126, 132, 134
Clouston, William 20, 21
coffins 162
Coles, John 122
containment 227–31
see also storage
Cooper, Anwen 229
Corrie, J.M. 25, 65, 76, 81
cosmology 6, 228, 328
cramp
abundance of 28, *350*
analyses **113**, *148–9*, 304–6, **304–5**, 307–9, *308*
excavations 44, 52
Knowes of Trotty, Harray **108**, 113–14, **113**
Linga Fiold, Sandwick 147, **150**, 155, **160**, **175–7**
first reporting of 346
materiality of 119
as proxy for cremation pyres *116*, 346, 349
Crantit, St Ola 25, 73, *74*, 306, 312, 317
Craw, J. Hewat 28
Craw, Trumland, Rousay 172–3
cremation 2, 13, 116, 118–19, 289–329
anticipation and choreography of 309–13
drama of 345
fats and oils used as accelerants **215**, 309–11
fuel preparation 312
routine actions 312–13
sorting the pyre debris *74*, *149*, 312
speed and timing 311–12
vessel fragments *213*, 311
washing of the body 311
burials 313–17
bone left on pyre sites **295**, 316–17
bone weights 313, **314–16**, 315, *315*
deposition, selective and distributed *72*, *74*, **151**, *151*, **295**, **316**, 317
taphonomy and recovery methods 315–16
conclusions 328–9
distributing the dead *107*, **108**, *204*, *286*, **295**, 317–18, *318–21*, 321–3, **323**, *324*
layering the dead *148–9*, *182*, **253–6**, **259**, 323, **323**, 325–8, **325**, *325*
inversion of stratigraphy *148*, 228, 327–8
pyre fuels 303–9, 312
charred plant macrofossils **108**, **207**, **242**, **254**, 303, 306–7
fuel ash slag (cramp) **113**, *148–9*, 304–6, **304–5**, 307–9, *308*
pollen analyses 303–4
pyre sites 291–9
geophysical surveys 292, 293
Linga Fiold, Sandwick **136**, *136*, *151–2*, *154–5*, *161*, *164*, *173*, *175*, *180*, **185**, 292–4, *293–4*, **294–5**, 296, *297–9*
other sites *114–16*, 296, 299
soil micromorphology **136**, *136*, *173*, *175*, 293–4, *294*
pyre technology 299–303
disposition of bone and efficiency at Knowes of Trotty, Harray **108**, 301–3, *302*
disposition of bone and efficiency at Linga Fiold, Sandwick *152*, *155*, *175*, *180*, *199*, **294**, *294*, 299–301
pyre temperatures 308–9
research questions 289–91
personhood and identity 290–1
stages and phases in the treatment of the dead 289–90
cremation grounds 345–51
burial of cremated remains *40*, 345–6
cramp *116*, 346, 349
cremation enclosures 346–9, *347–8*, *350*, 351
drama of cremation 345, 349, 351
Crossiecrown, St Ola *5*, 9, *11*, 339, *343*
curation of bodies 3
see also containment; storage
Cuween Hill, Firth 38, 342

Dalgety, Fife 72
death houses 224–7
Knowes of Trotty (Trench E) *85–6*, *88–9*, 104–6, *105–6*, 117
Linga Fiold (Structure 1)
comparative sites 225–6, *226*, 227
function of *183*, 224–5, 226–7
Deeping St Nicholas, Lincolnshire 225
DNA analysis *see* aDNA analysis
double-houses 9, *10–12*, 11–12, 333, 339–40, *339–41*, *343*, 351
Shetland links 357, *357*
Duffy, P.R.J. 76
Dwarfie Stone, Hoy 77

Earl's Farm Down, Wiltshire 157, 159
Elsness, Sanday *5*, 28, 33, *348*, 349, *350*
enclosures, barrows associated with 27–8, *350*
environmental sampling *see* charred plant macrofossils; pollen analyses
exotic items 8

fabrics 61, 78
Fair Isle 4, 6, 357
Farrer, James 26, 81, 351
feasting 337
Ferndale, Rendall *5*, 73–4, 79, *79*
flint *see* worked flint
food residue analysis 48, **48–9**, 51
Forteviot, Perth and Kinross 79

foundation deposits, unburnt teeth 66, 72, 77
Fowler, C. 312
Fox, Cyril 13, 225, 282
Fraser, J. 82, 126, 233, 285, 341
Fresh Knowe, Brodgar 26, *342*, 351
fuel ash slag (cramp) *see* cramp
fuels 118
  see also cremation, pyre fuels
funerary practices 13–14, 27, 78
  see also cremation; mortuary practices
furs 78

Gardereren-Bergsham, Netherlands 225
Garwood, Paul 3, 35, 121, 123, 351, 352–3
genealogical relations 117, 118, 282, 353
  see also aDNA analysis; kinship
geophysical surveys
  Gitterpitten, Rendall 247
  Knowes of Trotty, Harray 87, *88–9*
  Linga Fiold, Sandwick 129, *130–1*, 132, 165
  pyre sites 292, 293
  Varme Dale, Rendall 238, *239*
  Vestra Fiold, Sandwick 266
Geord of Nears, Rousay 28, 161–2
Geroin, Harray *5*, 56–62
  cist construction 57, 59–60, *60–1*
  construction sequence 60–1, *60–1*
  discovery 56
  excavation 56–7, 59–60, *60–1*
  human remains 61–2
  location and setting *54–7*, 56, 61
  pottery 62, *62*
  radiocarbon dates 59, **70**
Gitterpitten, Rendall 245–63
  arrangement 245, *246*, 247
  burials
    distributing the dead *107*, **108**, *204*, *286*, **295**, 317–18, 321, *324*
    layering the dead **253–6**, **259**, 326
  charred plant macrofossils 306–7
  excavation *246*, 247–9
  geophysical survey 247
  human remains 249, 251, **253**, 258
    bone weights 313, **316**
  location and setting *5*, *234*, 235, 245, *246–7*, 247, 285–6, *285*, 287
  material assemblage 260, 263
    pottery 260, **261**
    stone tools 263, *263*
  Mound 2 *246*, *248*, 249
    capping slabs 249, *252*, 286, *286*
    cist 249, *249*, *251*
    flagstone platform 249
    human remains 249, **253**
    kerb 249, *250–2*
    pottery 249, **261**
    radiocarbon dates 249, **251**
    stone mattocks 249, **261**, *263*
  Mound 2: associated pits 249, *250*, 251, **253–6**, 254, *260*
    human remains 251, **253**
  Mound 4 *248*, 254
    animal bones 258
    capping slabs 258, 286
    cist 254, *256*
    cremation pit *257–8*, 258
    human remains **253**, 258
    kerb *257*, 258
    mound materials *252*, 258
    pottery 258
    pyre debris 254, *256–7*, 258
  Mound 4: associated pits **255–6**, *257*, 258, **259**, *260*
  Mound 5 *252*, **253**, **256**, 258–9, *259*
  Mound 5: associated pits 259, *259–60*
glacial mounds 125, 235, 354, *354*
  Blomuir (Blomar), Holm 41, *42*
  Knowes of Trotty, Harray 83, 87
    Mound 1 92–3, *95*, *97*, 99
    pyre site (Trench G) *89*, 112–14, *114–16*
gold artefacts
  discs *82*, 102–3, 121–2, *122*
  foil fragments 102, *104*
Graham, Robert 20
Grant, Walter G. 28
grave goods
  lack of 7, 13
  wrappings 78
  see also amber artefacts; gold artefacts; jet artefacts; steatite vessels
Grind, Tankerness 21
Grinsell, Lesley 162, 229
Groundwater Hill, Orphir 344, 346

Hackland Hill, Rendall *246–7*, 247
Harris, Oliver 336
Hazleton North, Gloucestershire 336
Hedges, John 12, 23, 342, 344
Hedges, Melia 249, 286, 316–17
Hendon, Julia 77
henge monuments 117
Hibbert, S. 28
Holland, St Ola *5*, 30, 344
honey 48, **48–9**, 51
house societies 331–3, *332*, 337, 345
houses *see* double-houses; Neolithic settlements
Howe, Harray *5*, 53–6
  cist construction 53, *57*
  discovery 53
  excavation 53, *57*
  human remains 53–4, 56, **58–9**, 77
  location and setting 53, *54–7*
  radiocarbon date 53, 335
Hugh-Jones, S. 332–3
human remains
  cut marks 301

origins of 353, 356, 357, 358–9
preservation 22
see also cist burials, human remains; excavated sites by name; inhumation burials
Hundland Hill, Birsay 346–8, *347–8*, 349
Hurn, Hampshire 159

impoverishment 6–7, 19
Ingold, Tim 3, 328, 353
inhumation burials 1, 19
antiquarian investigations 20, 26–7
change to cremation 2, 275, 344
cist burials 23, 24–6, *24*, 30, 40, 75–6, 79
coffins 162
in houses 341
interpretation of 13
latest 342
position of 27
secondary 160
stone pillows 77
unburnt teeth 66, 72, 77
wrapping of 78
see also Armadale, Skye; Howe; Links of Noltland; Moan Farm; Quanterness; Quarrel Geo; Skaill Bay; West Puldrite
inversion *148*, 228, 327–8
Isbister, South Ronaldsay *5*, 38, 342, 343–4

jet artefacts 20–1
Johnston, R. 117, 287, 328, 353
Johnstone, A. and A.W. 22
Jones, Andrew 123, 331
Juniper Green, Edinburgh 77

Keas Cottage, Spinningdale, Sutherland 78
kerbs, role of 229, 230
Kewing, Rendall *5*, 67, 73, *73–4*, 282, 346
Kilspindie, Lothian 78
kinship 336–7
see also aDNA analysis; genealogical relations
kinwork 117, 123, 287, 353
Knowes of Euro, Rendall 65, *234*, 235
Knowes of Stankieth, Harray 82, *234*
Knowes of Trinnawin, Harray 82, *234*
Knowes of Trotty, Harray *5*, 15–16, 81–123
burials
distributing the dead *107*, **108**, 321
layering the dead 326–7
cremation burial cists (Trench F) *86*, *89*, 106–11, *106–7*, *110*, 353
charred plant macrofossils **108**, 109–10, 306
Cist (055) 108, **108**, *109*
Cist (056) *107*, 108, *109–11*
Cist (059) 109, *111*
Cist (089) *107*, 109–10
cramp **108**
human remains 107, **107–8**, 108, 109, 111
Pit (054) *107*, 110–11, *111*
stone axe 107, *109*, 120
cremation cemetery 116–23
grave goods 121–3, *122*
materials and mound construction *83*, *89*, *97*, *100*, 119–21
mortuary practices 117–19, *118*
death house (Trench E) *85–6*, *88–9*, 104–6, *105–6*, 117
discovery 81, *82*
geophysical survey 87, *88–9*
grave goods 81, *82*
human remains
bone weights 313, **316**
cremation burial cists (Trench F) 107, **107–8**, 108, 109, 111
Mound 1: excavations (Trench H) 99, **100**, 101
location and setting 81–2, *83*, *234*
Mound 1: berm (Trench C) *88–9*, 92–4, *94–7*, *243*
Mound 1: excavations (Trench H) 94–105
charred plant macrofossils 101, **103**
cist 96–9, *98*, *100–2*
grave goods 98, 102–3, *104*
human remains 99, **100**, 101
mound 103, *105*, *199*, *210*
orthostats 96, 97, *99–100*, *102*
radiocarbon dates 101–2, **104**, *104*
Trench H 94, 96, *97–9*
mounds 82–3, *84–6*, 85, 87, 352, 353
Neolithic settlement (Trench B) 87, *89–94*, 90, 92, 103, 117
pyre site (Trench G) *89*, 112–14, *114–16*, 299, 346
cramp 113–14, **113**, 307
radiocarbon dates **112**
rock-cut pit (Trench D) *86*, *89*, 111–12, *112*
charred plant macrofossils 112
stone mattocks 111, *113*
topography *5*, *56*, *86*, 87
Kraa Tooies, Papa Westray *5*

Langwell Farm, Strath Oykel, Easter Ross 78
Lansdown, Somerset 222
Last, Jonathan 3, 126
Lawson, Andrew 162
Lelong, O. 226
Lewis, J. 317
linear barrow cemeteries 35, *35*, 117, 123, 233, 353, *355*
Ring of Bookan 26–7, *27*, *342*, 352, 353
see also Knowes of Trotty; Linga Fiold; Vestra Fiold
Linga Fiold, Sandwick 15, 125–231
antiquarian investigations 126, 128, 131, 133, 134, *135*, 153
barrow cemetery 126, *127*, 128, 129, 353
burials
bone left on pyre sites **295**, 316–17
bone weights 313, **314–16**, *315*
deposition, selective and distributed *72*, *74*, **151**, *151*, **295**, **316**, 317
distributing the dead *107*, **108**, *204*, *286*, **295**, 317–18, *318–21*, 321, **323**, *324*
layering the dead *148–9*, *182*, 323, **323**, 325–6, **325**, *325*
taphonomy and recovery methods 315–16

environmental sampling
charred plant macrofossils **207**, 303
pollen analyses 36, 303–4
excavations *126*, 128–9
geophysical survey 129, *130–1*, 132
human remains
Mound 1 132–3
Mound 2 135, **136**
Mound 4 139, **142**
Mound 5 144, 146, *148–9*, 151, **151**, 153, *308*
Mound 6 155, 160, **168**
Mound 7: pre-barrow 171
Mound 7: enhancements **185**, 195, 197
Mound 7: peripheral pyres and burials 173, **185**
Mound 8: pre-barrow 204, **204**
Mound 9 **209**, 212
Mound 29 165–6, **185**
LiDAR survey 129, *131*, 132
location and setting *5*, 126, *127–9*, 128
Mound 1 132–3, *132*
erosion 132, *133*
human remains 132–3
pottery 132, *134*
Mound 2 133–9
cists and pit 134, **135**, *135*
excavation 134–5, *136*
human remains 135, **136**
pyre debris 135, **136**
sequence of use 135, 137
Mound 3 *130–1*, 138–9, **138**, *138*
ard point 139, **139**, *139*, *207*
cists *138*, 139
pottery 139, **139**, *139*
Mound 4 *130*, 138, *138*, 139–41
cist 139, *140–1*
cobble tool *139*, 140, **144**
human remains 139, **142**
mound material *137*, 140, *140*
pottery *139*, 140, 141, **144**, *144*
pyre material 139–40, *140*
secondary pits and cist *138*, 141, **142**, *143–4*
sequence of use 139–40, *140*
Mound 5
cists 149, 151
cramp 147
excavation *130–1*, 141, 144, *145–7*
human remains 144, 146, *148–9*, 151, **151**, 153, *308*
kerb *146–7*, 147, *153*
location *127*, *144*
mound *146*, 147–9, 153
pits 149, 151, **152**, 153, *154–5*
pottery 149, **152**, *155*
pyre debris 146–7, *146–7*, 149, **150–1**, 151, 153, *154–5*, *293*
radiocarbon dates 147, **150**, 151, 153
sequence of use 141, 144, 146–9, *146–8*, **150**, 151, 153, *154*
similarity to Mound 6 153
stone tools 147, **152**, *155*
Mound 6
boat-shaped stone setting 160–2, *161*, *166–7*
charcoal 155
cist 160, *161–3*
cramp 155
cremations on top of the mound 157, 159, *161*, *163–4*
excavation 153, *156*
flint, worked 159, *165*, **169**
human remains 155, 160, **168**
kerb 157, 159, *161*
location *144*, 153
mound 156, 159, *161*
paving 157, *162*
pits 157, **160**, *162*, 163, **168**
pottery 157, 163, *165*, **168**
pyre debris 153, 155, *159*
radiocarbon dates 155, **159**
similarity to Mound 5 153
steatite urn burial 153, 155, 157, *157–9*
stone artefacts 161, *165*, **169**
worked flint **169**
Mound 7: pre-barrow 167, 171, **175–7**
human remains 171
pyre 167, 171, *175*
radiocarbon dates 171, **171**
stone box 167, 171, *174–5*
stone circle 167, *173–4*
Mound 7 *127*, 163–5, *169*, *170*, **175–7**
construction of 173–4, 177, *178*
geophysical survey *130*, 165
kerb *170*, 177
pottery 174, *179*
radiocarbon dates **171**
stone circle 174, *174*
Mound 7: enhancements
cists and pits *170*, **171**, *182*, 183, *186*, **187–91**, 191–2, *191–7*, 194, 195
clay platform 177, *178*, 179, 180–1, *182*, 183
human remains **185**, 195, 197
kerb cairn (Mound 30) *182–3*, 186
pathway *182*, 187, 191
pottery 179, *179*, *181*, 191, 192, **200**
pyres *182*, 195
satellite cremation burials *182*, 186–7, *186*, 191, *286*
stone setting (cist) *170*, 180, *181*
stone tools *179*, 180, 183, 186, 191, **201–3**
Structure 1 (death house) *170*, *174*, *182–3*, 184, 186, *226*
urn **176**, *179*, *181*, **189**, 194, **200**
Mound 7: peripheral pyres and burials 171–3, *173*, *180*
human remains 173, **185**
pits 173, *173*, **175–7**
pottery 173, *179*, **200**
pyres 173, *173*, *180*
radiocarbon dates **171**, 173
stone box (hearth) 172–3, *180*
Mound 8: pre-barrow

cist 199, *199*, 204–5, *205*
human remains 204, **204**
pollen analyses 204–5
pre-mound cremations 199
pyre debris 205
Mound 8 *130*, 197–8
barrow *204*, 205, 209
cist/stone box 205, *206–7*
construction of *131*, 198
kerbs 205, *206–7*
pyre debris *204*, 205, **207**, 209
stone tools 205, *207*
Mound 9 *130*, 209–10, **209**
cists 210, *210*, 212–13, *212*, 216
human remains **209**, 212
kerbs *208*, *212*, 213, 216
mound 216
pottery *213–14*, 214, **215**, 216
radiocarbon dates **209**, 212
stone disc (pot lid) 210, *210–11*, 212
stone tools *213*, **215**, 216
worked flint *213*, 216, **216**
Mound 27 *127*, *130–1*, 216–17, *217*
Mound 29 165–7, *170*, *172*, *178*
clay platform 166–7
human remains 165–6, **185**
kerb 166
pyre debris 165–6
sequence of use 166, *173*
Mound 30 *170*
pyre sites discussion **136**, *136*, *151–2*, *154–5*, *161*, *164*, *173*, *175*, *180*, **185**, 292–4, *293–4*, **294–5**, 296, *297–9*
Linga Field, Sandwick: cemetery development 217–31, *218*
death house (Structure 1) 224–7
comparative sites 225–6, *226*, 227
function of *183*, 224–5, 226–7
Mound 7 funerary pyres and stone circle *173–4*, **185**, 224
'mounding', containment and wrapping 227–31
burials, absence of 229, *286*
containment and wrapping, acts of 229
inversion 228
kerbs, role of 229, 230
memories, making of 229–30
mound form and function 228–9
mound materials and sequences *146*, *148–9*, *151*, *204*, 227–8, **227**
pottery, deposition of *139*, *165*, **168**, *179*, **200**, *213*, **215**, 229–30
radiocarbon dates **219–20**, 220, *221–2*
sequence of construction 221–4
turf stripping around barrow sites *136*, *140*, *146*, *161*, *178*, *204*, *211–12*, 221–3
cremation events on the turf platforms *136*, *147*, 223
deposition of human remains **185**, 223
cists *135*, *199*, *204*, *210*, 223–4
Links of Noltland, Westray
aDNA analysis 353, 356, 358–9
cemetery *339*, 344, *345*
human remains 22, 24, 78
length of use 26, 27
location and setting *5*
settlement 9, 12, 36, 334, 339, *339*, 355–6
Links of Skaill, Sandwick *5*
antiquarian investigations 20–2, *20–1*
cist burials 37, *38*, 40, 41, *356*, 357
lipid analyses **215**, 311
Lochside Farm, Stenness *5*, 22–3, 343, *344*
log coffins 162
Long Howe, Tankerness 30–1, *31*
Lopness, Sanday *5*, 356
Loth Road, Sanday *5*, 30, 306, 321
Low, Alexander 346
Low, George 20, 21, 22

Maeshowe, Stenness 6
Mainland, Ingrid 337
Mamwell, C.J. 7
marker posts 192
Marwick, George 265, 349
Marwick, Hugh 41, 71, 76, 344, 346
McKinley, Jacqueline 13, 290, 311, 312, 313, 322–3
memories, making of 2, *174*, 229–30, *286*, 355
Mesolithic period 30–1
middening *332*, 337–8
mirages 6
mixed burials 2
Mizoguchi, K. 2, 236, 238
Moan Farm, Firth *5*, 66–71
cist construction 67–8, *69*, *74*
discovery 66
excavation 66–8, *69*
inhumation burial 68, *69*, 71
location and setting 66, *67–9*
radiocarbon date 68, **70**
monuments
barrow groups associated with *35*, *86*, 117, 233–5, 282, *342*, 351–2, 353, *355*
building of 2–3, 7
cist burials associated with 79
Moore, H., 356
mortuary houses 117
see also death houses
mortuary practices 2, 3, 13–14, 38, 78, 126, 226, 344, 345
Knowes of Trotty, Harray 117–19, *118*
see also cremation; funerary practices
mounds *see* glacial mounds
Mousland, Stromness *5*, 14, *14*
Muckquoy, Rendall 9, 339, 341, *341*, 344
Mullin, D. 355
mythological origins 117, 123, 287

Neolithic period 6–7, 8–9, 11–12
Neolithic settlements 331–6, 337, 351
abandonment and shifts *11*, *332*, 337–40, *338–43*, 345

burials 334–6
house societies 331–3, *332*, 337, 345
radiocarbon dates 90, *93*
villages *10*, 333–4, *334*, 351
Neolithic settlements, excavated
Knowes of Trotty, Harray 87, *89–94*, 90, 92, 103, 117
Varme Dale, Rendall 236, 238, 243–5, *243–4*, **244**
Ness of Brodgar, Stenness 334, 337, 341
Nether Onston, Stromness *5*, 23
Newbigging, St Ola *5*, 24–5, *24*
Noble, G. 126
Nowakowski, Jacqueline 229

Oestigaard, T. 358
Old Statistical Account 20
Olivier, A.C.H. 3
Orkney 3–4, *4–5*, 6
Orkney Barrows Project 12–16
aims 13–14
background 12–13
stages 15–16
Orkney Barrows Survey 15, 16–18, *17*, *32–4*
orthostats 121
Knowes of Trotty, Harray
cremation burial cists (Trench F) 106, 107, *107*
Mound 1: excavations (Trench H) 96, 97, *99–100*, *102*
Linga Field, Sandwick, death house (Structure 1) 182–3, 184
Ortner, S.B. 309
Øvrevik, Sandra 7, 12, 29, 233
Owoc, Mary Ann 120, 230, 329
ox hides 78

Parker Pearson, Mike 345
persons of others 116–17
Peterson, F. 13
Petrie, George 13, 22, 23, 24, 25, 26, 27, 29, 81, 94, 96, 99, 102, 341
Photos-Jones, E 309
Piggott, Stuart 103, 122, 225
pillow stones 77
pit burials 1, 29, 75–6, 335
see also Gitterpitten; Linga Field
platform barrows 31
see also Knowes of Trotty
Plumcake Mound, Brodgar 26, *342*, 351
Point of Cott, Westray 332
pollen analyses 36
Linga Field, Sandwick 204–5, 303–4
Varme Dale, Rendall 236
Vestra Field, Sandwick 270
Pool, Sanday 8, 334
pottery
deposition of 229–30
Grooved Ware 333
lipid analyses **215**, 311
Shetland links **215**, 357
pottery, excavated sites
Blomuir (Blomar), Holm 44–5
Geroin, Harray 62, *62*
Gitterpitten, Rendall 260, **261**
Linga Field, Sandwick
Mound 1 132, *134*
Mound 3 139, **139**, *139*
Mound 4 *139*, 141, **144**, *144*
Mound 5 149, **152**, *155*
Mound 6 153, 155, 157, *157–9*, 163, *165*, **168**
Mound 7 174, *179*
Mound 7: enhancements **176**, 179, *179*, *181*, **189**, 191, 192, 194, **200**
Mound 7: peripheral pyres and burials 173, *179*, **200**
Mound 9 *213–14*, 214, **215**, 216
Redland, Stromness 45, 47–8, **47**, *48*
Riff, Rendall 64
Upper Bigging, Corrigall, Harray 52–3, *53*
pyres *see* cremation

Quandale, Rousay *5*, 28
Quanterness, St Ola *5*, 38, *39*, **70**, 335
Quarrel Geo, South Ronaldsay
excavation 277, *277*
cist 277–8, *277–9*
kerb *277*, 278
human remains 278–81, **280**
location and setting *5*, 235, 275, *276–7*, 277, 279, 281
radiocarbon dates **272**, 279, *280*
quarries 265, *266*
Queenafjold, Birsay *5*, 29–30, 119
Queenamuckle, Rendall 235, 270–5
cairn 271, *271*, 275
cists 344
human remains 272–3, **272–3**
location and setting *5*, *234*, *236*, *269*, 270, 275, 281
pyre debris 271–2
radiocarbon dates 271, **272**
steatite vessel 271, *271–3*, 273–5, 358
topographic survey *269*, 270
Quoynamoan, Stenness 23
Quoyness, Sanday 38, 40
Quoyscottie, Harray *5*, 29, 191, 229
burials *286*, 318, 321
capping slabs 249, 286, *286*
location and setting 286, *286–7*

radiocarbon dates **70**
Blomuir (Blomar), Holm 45, **70**
Geroin, Harray 59, **70**
Gitterpitten, Rendall 249, **251**
Howe, Harray 53, **70**, 335
Knowes of Trotty, Harray 101–2, **104**, *104*, **112**
Linga Field, Sandwick
Mound 5 147, **150**, 151, 153
Mound 6 155, **159**
Mound 7 171, **171**, 173
Mound 9 **209**, 212

Linga Fiold, Sandwick: cemetery development **219–20**, 220, *221–2*
Moan Farm, Firth 68, **70**
Neolithic settlements 90, *93*
Quarrel Geo, South Ronaldsay **272**, 279, *280*
Queenamuckle, Rendall 271, **272**
Riff, Rendall 64
Varme Dale, Rendall 236, 243, **244**
Ramberry, St Ola *5*, 281, *281*
Ramsay, Robert 20
Rapness, Westray *see* Bu Farm
re-aggregation and 'wholeness' 226
Rebay-Salisbury, Katherina 2, 117, 289, 351, 358
red deer 337, 338
Redland, Stromness *5*, 45–51
cist construction 45, *47*
discovery 45
excavation 45, *47*
food residue analysis 48, **48–9**, 51
location and setting 45, *46–7*
pottery 45, 47–8, **47**, *48*
Richards, Colin 331
Riff, Rendall *5*, 62–6
cist construction 64–5, *65*
discovery 62
excavation 62, 64–5, *64–5*
human remains 65–6, **65**, 72
location and setting 62, *63*, 65
pottery 64
radiocarbon date 64
sequence of deposition of human remains 64
Ring of Bookan 26–7, *27*, *342*, 352, 353
Ring of Brodgar area, Stenness 26, 31, *342*, 351, 352, *352*, 353, *355*
see also Ness of Brodgar
Ritchie, Anna 6–7, 23, 29
Ritchie, Graham 6–7, 29
Roberts, B.W. 292, 322
Roberts, James 20
round barrows 125–6, 228–9
Rousay 28, *33*
Rowlands, M, 13
Roxton, Bedfordshire 229

Salt Knowe, Brodgar 26, *342*, 351
sand deposits 338
Sandfiold, Sandwick
access to cist 24, 72–3, *72*, 335
cist construction 72–3
cremation burial 317
dating of 24, 40, 76
excavation 72, *72*
fuel ash slag (cramp) *72*, 306
location and setting *5*, 41
sequence of deposition of human remains 24
unburnt teeth 66
Sandquoy, Sanday 76, 335, *335*
Sandyhall/Sandyha', Rendall *15*, *234*, 235, 245, 286
Scandinavia 162
Seafield West, Inverness 162, 301
settlements 8–9, *10–12*, 11–12
see also Neolithic settlements
Seven Knowes of Gitterpitten *see* Gitterpitten, Rendall
Sharman, P. 358
Sharples, N. 338
Sheeplays 293 and 279, Vale of Glamorgan 225
Shepherd, Ian 72
Shetland 9, 11–12, 357
pottery **215**, 216, 230, 357
steatite vessels 153, *157–9*, 271, *271–3*, 273–5, 357–8, **358**
short cists 23
Sigvallius, B. 162
Skae Frue, Bookan 26–7, *27*, *342*
Skaill, Deerness *5*, 12, 77
Skaill Bay, Sandwick 9, 338
Skara Brae, Sandwick *5*, 8, 9
cist burials 40, *40*, 41, 71, 335
double-houses associated with 340
human remains 77, 341
Hut 8 interpretations 338–9, *338*
middening *332*, 337–8
sand deposits 338
Shetland links 357
stone boxes 76
Sketewan, Perthshire 299, 301, 316
sleeping position 77
Smith, G. 228
Snail Down, Wiltshire 225
society
Neolithic house societies 331–3, *332*, 337, 345
Bronze Age 8–9, 13, 19, 291
soil conditions 22
solar cycles 6
Sørensen, M.L.S. 117, 289, 351, 358
South Ettit, Rendall 65
South Knowe, Brodgar 352
Spurness, Sanday 9, *11*
Stancombe, Berkshire 229
standing stones 79, 117
Stanton Harcourt, Oxfordshire 117
steatite vessels 153, *157–9*, 271, *271–3*, 273–5, 346, 357–8, **358**
Stewart, M. 103
stone artefacts
agricultural implements 29
ard points 139, **139**, *139*, **202**, *207*, **261**
axe 107, *109*, 120
cobble tools *139*, 140, **144**, **201–3**, **215**
discs **202–3**, **215**
mattocks/flaked stone bars 111, *113*, **152**, *155*, **169**, **201–3**, *211*, **215**, 249, 263, *263*
function of 222
pebble, heat cracked **152**
potlids 30, 102, 210, *210–11*, 212, **215**

steatite vessels 153, *157–9*, 271, *271–3*, 273–5, 346, 357–8, **358**
see also worked flint
stone circles 79, 117, 167, 224
Linga Fiold Mound 7 167, *173–4*, 174, **185**, 224
stone pillows 77
Stonehall Farm, Firth 184, *226*, 227
Stonehenge, Wiltshire 2–3, 233–4, 282
storage 71–6, 77, 79–80, 336
Stove Bay, Sanday 8–9, *12*, 340
Strathern, M. 116, 336
Strathnaver, Sutherland 78–9
Summerdale, Stenness 22, *35*
survey work *see* Orkney Barrows Survey

Tarradale, Aberdeenshire 162
teeth, unburnt 66, 72, 77
Temple Wood, Argyll 51, *52*, 79
textiles 61, 78
thing power 122
Thomas, F.W.L. 14, 26–7, 27–8
threats to barrows 18
agriculture 14, 249
antiquarian investigations 15, *99*, 153
burrowing animals 15, 83, 94, *98*, 147, *154*, 238, 239, *239*
erosion 15, *15*, 132, *133*, *206*, 238
Tilley, Chris 230
Tofts Ness, Sanday *5*, 9, 12, 357
'token' burials 290–1
Tomnaverie, Aberdeenshire 224
Tormiston Farm, Stenness 22
Traill, Walter 349
transmutation 2, 119, 291, 312, 323, 327, 328
Tregulland Barrow, Cornwall 299
Trelan, Cornwall 228
Trumland, Rousay 28

unburnt teeth 66, 72, 77
unobtrusive cists *see* cists, unobtrusive
Upper Bigging, Corrigall, Harray 50–3
barrow groups 52
cist construction 51–2, *52*
cramp 52
discovery 51
excavation 51–2, *52*
location and setting *50–1*, 51, *54*
pottery 52–3, *53*
Upton Lovell, Wiltshire 103

Varme Dale, Rendall 236–45
barrows, number of 236
burials
bone weights 313, **316**
distributing the dead *107*, **108**, *204*, *286*, **295**, 317–18, 321, *324*
layering the dead 326
environmental sampling
charred plant macrofossils 306–7
pollen analyses 36, 236
excavations 238
geophysical surveys 238, *239*
location and setting *5*, *234*, 235, *237–8*, 238, 283–5, *284*, 287
Mound 1 238–42
animal bones 239–40
arrowhead 239, *239*, **245**
cists 239, 240–1, *240–2*
human remains 239, 241, **242**
mound *240*, 242
Mound 2 243–5
barrow **244**, 245
cist 245
flint flake 243, **245**
kerb *240*, *243*, 245, *245*
radiocarbon dates 243, **244**
radiocarbon dates 236
settlements
Neolithic 236, 238, 243–5, *243–4*
Bronze Age 245
Vestra Fiold, Sandwick 265–8, 270
enclosure 27–8, 265, *266*, 348–9, *348*
geophysical survey 266
location and setting *5*, *264–7*, 265, 282–3, *283*, 286–7
Mound 1 267, *268*
Mound 2 *264*, 267–8, 270
pollen analyses 36, 270
villages *10*, 333–4, *334*, 351
Vola, Stenness 235, 354, *354*

Wallace, James 20
Walsh, S. 78
Wasbister, Sandwick *5*, 9, 340, *342*
Werne, Harray *5*, 23, *54*, *56*, 66, 71–2, *71*
Wessex barrows 31, 35
Wessex culture 35, 103, 122, 354
West Ashby, Lincolnshire 162
West Heath, Sussex 228, 229
West Puldrite, Rendall 25, 65, 76, *234*, 235–6, *236*
West Water Reservoir, Scottish Borders 344
Westhampnett Bypass, West Sussex 299
Westray 30
Whaness Burn, Hoy 307
Williams, Audrey 222
Winterbourne Stoke Crossroads, Wiltshire 282
Wiseman, Rob 80, 328
Woodward, Ann 3, 282
worked flint 159, *165*, **169**, *213*, 216, **216**
arrowhead 239, *239*, **245**
wrapping of corpses 61, 78, 336, 358

Zionshill Copse, Hampshire 192