# EAA 57



Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire

East Anglian Archaeology Field Archaeology Division, Norfolk Museums Service; Heritage Trust of Lincolnshire, 1993

# EAST ANGLIAN ARCHAEOLOGY

# Excavations on Redgate Hill, Hunstanton, Norfolk, and at Tattershall Thorpe, Lincolnshire

# by Rosemary Bradley, Peter Chowne, Rosamund M.J. Cleal, Frances Healy and Ian Kinnes

with contributions by David Gurney, Gillian G. Jones and Peter Murphy

illustrations by Hoste Spalding, Mick Clark, David Taylor, David Gurney, Frances Healy, Margaret Mathews and Peter Murphy

photographs by Rosemary Bradley, Nicholas Hawley, Fredric F. Petersen and David Wicks

East Anglian Archaeology Report No.57, 1993

Field Archaeology Division, Norfolk Museums Service

Heritage Trust of Lincolnshire

## EAST ANGLIAN ARCHAEOLOGY REPORT NO. 57

Published by Field Archaeology Division Union House Gressenhall Dereham Norfolk NR20 4DR and Heritage Trust of Lincolnshire 28 Boston Road, Sleaford, Lincs. NG34 7EZ

in conjunction with The Scole Archaeological Committee

Editor: David Buckley EAA Managing Editor: Susie West, Jenny Glazebrook

Scole Editorial Sub-Committee: David Buckley, County Archaeologist, Essex Planning Department Keith Wade, County Archaeological Officer, Suffolk Planning Department Peter Wade-Martins, County Field Archaeologist, Norfolk Museums Service Stanley West, formerly County Archaeological Officer, Suffolk Planning Department

Typeset in Plantin by Spire Origination, Norwich Printed by Derry and Sons Ltd, Nottingham

# © FIELD ARCHAEOLOGY DIVISION, NORFOLK 1992

© HERITAGE TRUST OF LINCOLNSHIRE 1992

ISBN 0 905594 10 X ISBN 0 948639 09 1

For details of East Anglian Archaeology, see last page

This volume is published with the aid of a grant from the Historic Buildings and Monuments Commission for England

**Cover Illustration** Redgate Hill, Hunstanton. Structure E and north side of main enclosure from the east.

# Contents

List of Contents	v
List of Plates	vi
List of Figures	vii
List of Tables	viii
Contents of Microfiche	ix
Contributors	ix
Acknowledgements	х
Notes	xi
Preface	xi

# Excavations on Redgate Hill, Hunstanton, 1970 and 1971

Cha	pter 1. Introduction, by Frances Healy	7		Indeterminate Bronze Age and later	
I.	History of discovery and investigation	1		prehistoric pottery	57
II.	Location, geology, soils and archaeological			Unidentified object	58
	context	1		Post-prehistoric pottery	60
~				Fired clay (summary)	60
Cha	pter 2. The excavations, by Frances H	ealy	III.	Worked bone and antler, by Frances Healy	
	and Ian Kinnes			and Gillian G. Jones	
I.	1970			Description	60
	Pits	5		Discussion	60
	'Complex'	7			
	Post-holes	7	Cha	pter 4. Chemical, zoological and botan	lcal
II.	1971			evidence	
	Pits	8	I.	The British Museum phosphate survey,	
	?Natural features	8		1974, by David Gurney	61
	Structures	8	II.	The animal bones, by Gillian G. Jones	61
~			III.	Mollusca and plant macrofossils, by Peter	
Cha	pter 3. Artefacts			Murphy	
I.	Lithic material, by Frances Healy			Marine invertebrates	65
	Introduction	28		Land molluscs	66
	Description	28		Carbonised plant remains	68
	Discussion	33		-	
	Conclusions	35	Cha	pter 5. Synthesis and Discussion, by	
	Catalogue of illustrated lithic material	35	0114	Eronces Healy Decemund M I	
	Appendix: terms used in describing			Frances fleary, Rosannund M.J.	
	lithic material	39	_	Cleal and Ian Kinnes	
II.	Pottery and fired clay, by Rosamund M.J.		I.	The evidence from Redgate Hill	
	Cleal			Chronological overview	70
	Introduction	40		Structures	72
	Method	40	II.	The wider context	
	Grooved ware	40		Later Neolithic pits	75
	Peterborough Ware	53		Structures	76
	Beakers	54	Appe	endix I: Fired Clay (microfiche),	
	Collared Urns	56		by Rosamund M.J. Cleal	

# The Excavation of a Neolithic Settlement at Tattershall Thorpe, Lincolnshire

Cha	pter 1. The Site, by Peter Chowne	
I.	Introduction	81
II.	Excavation Methods	81
III.	The Excavated Features	
	Neolithic Features	87
	Bronze Age Features	88
	Other Features	88
	Environmental Trenches	88
	Site Sequence	90
Cha	pter 2. Struck Flint, by Frances Healy	
I.	Introduction	93
II.	Description	
	Raw Material	93
	Condition	93
	Composition	93
	Struck Flint from Contexts Other than Main	
	Flint Groups	94
III.	Discussion	
	Flint working	96
	Other Activites	96
	Relationship of the Results of Microwear	
	Analysis to Traditional Assessment of the	
	Lithic Material	96
	Mesolithic Activity	98
	The Main Flint Groups	98

The Influence of Raw Material	98
IV. Conclusions	100
Chapter 3. The Microwear Analysis, by	
Rosemary Bradley	
I. Summary	106
II. Catalogue of Used Pieces	106
Chapter 4. The Prehistoric Pottery, by Fra	nces
Healy	
I. Condition	111
II. Description	
Neolithic Bowl	111
Later Neolithic and Early Bronze Age	112
Late Bronze Age/Early Iron Age	112
Indeterminate Prehistoric Pottery	114
III. Stylistic Affinities	
Neolithic Bowl	114
Later Neolithic and Early Bronze Age	114
Late Bronze Age/Early Iron Age	115
IV. Chronology	115
Chapter 5. Discussion, by Peter Chowne	117
Bibliography	118
Index	125
Microfiche	

# List of Plates

# Redgate Hill, Hunstanton

Pl. I.	Structure E from the east.	14
Pl. II.	Structure E and north side of main	18
	enclosure from the east.	
Pl. III.	Structures E (background) and F	18
	(foreground) with north side of main	
	enclosure from the east.	
Pl. IV.	Marine invertebrate remains.	66
Tattersh	nall Thorpe	
Pl. V.	Environmental trench, eastern section,	81
	1984.	
Pl. VI.	Early Neolithic pits $(4, 5, 7, 8)$ ,	87
	Medieval plough furrow.	
Pl. VII.	Possible Early Neolithic structure (18)	87
	cut by later grave (19).	
Pl. VIII.	Continuation (16) of possible structure	87
	(18).	
Pl. IX.	1984, Bronze Age pit.	88
Pl. X.	Periglacial feature (17B) and plough	90
	damage.	
Pl. XI.	Environmental trench, western section	
	(Fig. 7, A-B).	
Pl. XII.	Environmental trench, centre section	91
	(Fig. 7, B-C).	

Pl. XIII.	Environmental trench, eastern section, 1984.	91
Pl. XIV.	Natural 'friction gloss' on ventral surface at A of 143 (11).	108
Pl. XV.	Edge microflaking has removed patinated surface on this ventral surface of 314 (83).	108
Pl. XVI.	Fresh wood polish from whittling, on ventral surface of 417 (7).	108
Pl. XVII.	Dry wood polish on ventral surface of $23(2)$ .	108
Pl. XVIII.	Shiny bone polish on the edge on 262 (2).	108
Pl. XIX.	Diffuse meat polish on dorsal surface of 258 (2).	108
Pl. XX.	Greasy, diffuse polish on rounded edge of knife 193 (2).	109
Pl. XXI.	Greasy, rough polish from scraping dry hide with lubricants on 96 (22).	109
Pl. XXII.	Damage on proximal left lower edge of $315(7)(u)$ .	
Pl. XXIII.	Polish on surface of 253 (4) from working wet vegetable matter.	109
Pl. XXIV.	Sickle gloss on 288 (2).	109
Pl. XXV.	Thermal alteration beneath matt surface of 221 (11)	109

# List of Figures

# **Redgate Hill, Hunstanton**

Reugan	I and a filler station of Testershell	::
F1g. 1	Location of Hunstanton and Tattersnall	XII
	Thorpe in relation to the fenland basin	
	and Neolithic and Bronze Age sites	
	around it	
Fig. 2	Location of Hunstanton within East	xiii
	Anglia east of the Fens	
Fig. 3	Location of Hunstanton within north-	xiv
U	west Norfolk	
Fig. 4	Location of Redgate Hill within	2
1.9.1	immediate area	
Fig 5	I ocation of excavations	3
Fig. 6	Eastures excepted 1970-71	6
Fig. 0	(microficho) Profiles of features	0
rig. /	(inicionene). Fromes of features	
<b>D</b> ' 0	recorded in 1970	
F1g. 8	(microfiche). Profiles of features	
	recorded in 1970	0
Fig. 9	Selective plan showing alignments and	9
	structures	
Fig. 10	Plan and section conventions	10
Fig. 11	(microfiche). Post-holes of row B	
Fig. 12	(microfiche). Post-holes of row C	
Fig. 13	(microfiche). Post-holes of row D	
Fig 14	Eastern Pentrance and adjacent features	11
Fig. 15	Sections of features shown in Figure 14	12
Fig. 16	Southern Pentrance and adjacent	12
1 lg. 10	footures	12
$E \sim 17$	Sections of fostures shown in Figure 16	12
$\frac{\mathbf{Fig. 17}}{\mathbf{Fig. 10}}$	Sections of features shown in Figure 10	15
F1g. 18	North-west corner of main enclosure	15
	and structure E	16
Fig. 19	Features shown in Figure 18	16
Fig. 20	Features shown in Figure 18	17
Fig. 21	North-east corner of enclosure and	19
	structure F	
Fig. 22	Sections of features shown in Figure 21	20
Fig. 23	Sections of features shown in Figure 21	21
Fig. 24	Structure G	21
Fig. 25	Structures H and I with adjacent	22
1 18. 25	features	
Fig 26	Features shown in Figure 25	23
Fig. 27	Post-pipe dimensions	24
Fig. $27$	Distribution of worked flint and stone	25
Fig. 20	Distribution of prohistoria pattery	26
Fig. 29	Distribution of prehistoric pottery	20
Fig. 30	Distribution of food remains	27
F1g. 31	Dimensions of complete, unretouched	30
	flakes and blades from pits 12, 20, 21	
	and 34 and of complete flake scrapers	
	from all pits containing Grooved Ware	
Fig. 32	Proportions of complete, unretouched	31
	flakes and blades from pits 12, 20, 21	
	and 34 and of complete flake scrapers	
	from all pits containing Grooved ware	
Fig. 33	Non-metrical characteristics of com-	34
0. 55	plete, unretouched flakes from pits 12	-0.05
	20 21 and 34 and of complete flake	
	20, 21 and 57 and of complete flake	

	Grooved Ware	
Fig. 34	Lithic material from pits with Grooved Ware	36
Fig. 35	Lithic material from pits with Grooved Ware	37
Fig. 36	Lithic material	38
Fig. 37	Grooved Ware	44
Fig. 38	Grooved Ware	45
Fig. 39	Grooved Ware	46
Fig. 40	Grooved Ware	47
Fig. 41	Grooved Ware	48
Fig. 47	Grooved Ware	49
Fig. 42	Grooved Ware and possible Grooved	50
Tig. 45	Ware	50
F1g. 44	Ware, Beaker and Collared Urn	22
Fig. 45	Collared Urn, indeterminate Bronze Age and later prehistoric pottery, and unidentified object	59
Fig. 46	Worked bone	60
Fig. 47	The British Museum phosphate survey 1974	62
Fig. 48	Comparative size of Hunstanton pigs to Mesolithic, Romano-British and	64
Fig. 49	Carbonized cereals	68
Tatters	hall Thorpe	
Fig. 50	Neolithic site location map	80
Fig. 51	Neolithic site overall plan	83
Fig. 52	Neolithic site plan of TT81	84
Fig. 53	Neolithic site plan of features TT81B	85
Fig. 54	Neolithic site plan of features TT81B	86
Fig. 55	Neolithic site sections through	
	periolacial features 72B and 89B	88
Fig. 56	periglacial features 72B and 89B Neolithic site environmental trench	88 89
Fig. 56	periglacial features 72B and 89B Neolithic site environmental trench section	88 89
Fig. 56 Fig. 57	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of	88 89 95
Fig. 56 Fig. 57	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts	88 89 95
Fig. 56 Fig. 57	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts	88 89 95
Fig. 56 Fig. 57 Fig. 58	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups.	88 89 95 97
Fig. 56 Fig. 57 Fig. 58 Fig. 59	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups. Selected objects of flint	88 89 95 97 102
Fig. 56 Fig. 57 Fig. 58 Fig. 59 Fig. 60	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups. Selected objects of flint Selected objects of flint	88 89 95 97 102 103
Fig. 56 Fig. 57 Fig. 58 Fig. 59 Fig. 60 Fig. 61	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups. Selected objects of flint Selected objects of flint Selected objects of flint	88 89 95 97 102 103 104
Fig. 56 Fig. 57 Fig. 58 Fig. 59 Fig. 60 Fig. 61 Fig. 62	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups. Selected objects of flint Selected objects of flint Selected objects of flint Selected objects of flint Selected objects of flint with use-wear polish	88 89 95 97 102 103 104 107
Fig. 56 Fig. 57 Fig. 58 Fig. 59 Fig. 60 Fig. 61 Fig. 62 Fig. 63	periglacial features 72B and 89B Neolithic site environmental trench section Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8. Proportions of complete, unretouched flakes from superficial contexts Composition of retouched pieces in the four main flint groups. Selected objects of flint Selected objects of flint Selected objects of flint Selected objects of flint Selected objects of flint with use-wear polish Selected objects of flint with use-wear polish	88 89 95 97 102 103 104 107 110

# List of Tables

# Redgate Hill, Hunstanton

Table 1	(microfiche). Grooved Ware plotted in Figure 2	
Table 2	(microfiche). Mesolithic to Bronze Age	
T-11-2	sites and linds plotted in Figure 3	
Table 3	(microfiche). Excavated features	
Table 4	(microfiche). Post-holes of row B	
Table 5	(microfiche). Post-holes of row C	
Table 6	(microfiche). Post-holes of row D	
Table 7	(microfiche). Post-holes of main enclosure	
Table 8	(microfiche). Post-holes and other features of structure E	
Table 9	(microfiche). Post-holes and other features of structure F	
Table 10	(microfiche). Post-holes of structure G	
Table 11	(microfiche) Post-holes of structure H	
Table 12	(microfiche) Post-and stake-holes of	
14010 12	structure I	
Table 12	(microfishe) Composition and	
Table 15	incidence of lithic material recovered in 1970	
Table 14	(microfiche). Composition and	
	incidence of lithic material recovered in 1971	
Table 15	(microfiche). Composition and	
	incidence of lithic material in surface collections	
Table 16	(microfiche). Composition and	
	incidence of lithic material from pits	
	with Grooved Ware	
Table 17	(microfiche). Composition and	
	incidence of lithic material from other	
	nits	
Table 18	(microfiche) Composition and	
14010 10	incidence of lithic material from post-	
	holes of main enclosure	
Table 10	(microfishe) Composition and	
Table 19	(Interolicite). Composition and	
	incluence of nume material from other	
T 11 20	structures	
Table 20	(microficne). Composition and	
	incidence of lithic material from	
	remaining contexts 19/0–/1	20
Table 21	Flint and stone: overall composition of	28
	excavated and collected material	
Table 22	Flint and stone: overall composition of	28
	excavated materioal, broken down by	
	context type	
Table 23	Flint and stone: core composition	29
Table 24	Flint and stone: retouched pieces and	32
	other implements	
Table 25	(microfiche). Scraper typology	
Table 26	(microfiche). Context of all sherds	
Table 27	Grooved Ware: sherd counts and	41
	weights	
Table 28	Sherd type of pottery in Grooved Ware	42
	contexts	
Table 29	Fabrics	43
Table 30	Weight and area of Grooved ware	51
	sherds	

Table 31 Table 32	Peterborough Ware and Beaker Collared Urn	53 56
Table 33 Table 34	(microfiche). Fired Clay Summary of the phosphate survey results	61
Table 35 Table 36	Summary of animal bone (microfiche). Age data for pigs (Later Neolithic)	63
Table 37	(microfiche). Tooth and bone measurements (Later Neolithic)	
Table 38	Marine mollusca: summary of identifications	65
Table 39	Land molluscs from selected contexts: summary of relative abundance	67
Table 40	(microfiche). Cereals, seeds and nutshell fragments	
Table 41	(microfiche). Distribution of land and marine molluscs and crustaceans in the contexts sampled	
Table 42	(microfiche). Marine molluscs (uncommon taxa)	
Table 43	Balance between lithics and ceramics in the more prolific Grooved Ware pits	70
Table 44	Lithic material from post-holes and slots of structures	72
Table 45	Pottery from post-holes and slots of structures	73
Table 46	Radiocarbon determinations	74
Tattersh	all Thorpe	
Table 47	Context reliability guide	82
Table 48	(microfiche). Context soil descriptions	
Table 49	Composition and incidence of worked and modified lithic material.	92
Table 50	Composition of main flint groups	93
Table 51	Cores in main flint groups	94
Table 52	Industries compared in Table 53	99
Table 53	Overall composition and selected	100
	features of the industries listed in Table 52 and the main groups from Tattershall Thorpe	
Table 54	Catalogue of illustrated struck flint	101
Table 55	Descriptive categories for retouched pieces	104
Table 56	(microfiche) Relationship of surface type to archaeological contexts at Tattershall Thorpe	
Table 57	(microfiche) Comparison of edge shapes of used edges against unused edges of unused artefacts (a) and unused edges of used tools (b)	
Table 58	(microfiche) The distribution of edge angle values in relation to the edges used	
Table 59	(microfiche) Comparison of lengths between used and unused artefacts	
Table 60	(microfiche) Comparison of widths between used and unused artefacts	
Table 61	(microfiche). Comparison of thicknesses between used and unused artefacts	

Table 62

Table 63

(microfiche) Relationship of average edge angle values to material worked (microfiche) To show used tools by material worked and context

- Table 64 Composition and incidence of 111 prehistoric pottery from Tattershall Thorpe
- Table 65

(microfiche) Description of illustrated prehistoric pottery sherds

# **Contents of Microfiche**

List of Contents

# **Redgate Hill, Hunstanton**

- Appendix: Fired Clay, by Rosamund M.I. Cleal
- Fig. 7 Profiles of features recorded in 1970
- Fig. 8 Profiles of features recorded in 1970
- Fig. 11 Post-holes of row B
- Fig. 12 Post-holes of row C Post-holes of row D
- Fig. 13 Table 1
- Grooved Ware plotted in Figure 2 Table 2
- Mesolithic to Bronze Age sites and finds plotted in Figure 3 Table 3 **Excavated** features
- Post-holes of row B Table 4
- Post-holes of row C Table 5 Table 6 Post-holes of row D
- Table 7 Post-holes of main enclosure
- Table 8
- Post-holes and other features of structure E Table 9 Post-holes and other features of structure F
- Table 10 Post-holes of structure G
- Table 11 Post-holes of structure H
- Table 12 Post-and stake-holes of structure I
- Composition and incidence of lithic material Table 13
- recovered in 1970
- Table 14 Composition and incidence of lithic material recovered in 1971
- Table 15 Composition and incidence of lithic material in surface collections

- Table 16 Composition and incidence of lithic material from pits with Grooved Ware
- Table 17 Composition and incidence of lithic material from other pits
- Table 18 Composition and incidence of lithic material from post-holes of main enclosure
- Table 19 Composition and incidence of lithic material from other structures
- Table 20 Composition and incidence of lithic material from remaining contexts 1970-71
- Table 25 Scraper typology
- Table 26 Context of all sherds
- Table 33 Fired clay
- Table 36 Age data for pigs (Later Neolithic)
- Table 37 Tooth and bone measurements (Later Neolithic)
- Table 40 Cereals, seeds and nutshell fragments
- Table 41 Distribution of land and marine molluscs and crustaceans in the contexts sampled
- Table 42 Marine molluscs (uncommon taxa)

# **Tattershall Thorpe**

- Table 48, Context Soil Descriptions Appendix I:
- Appendix II: Tables 56-63, Microwear report, by Rosemary Bradley
- Appendix III: Table 65, Description of illustrated prehistoric pottery

# **Contributors**

### **Rosemary Bradley**

formerly microwear specialist, Artefact Research Unit, Royal Museums of Scotland

Peter Chowne, Ph.D., M.I.F.A.

Head of Service, Museum of London Archaeology Service

Rosamund M.J. Cleal, B.A., Ph.D., M.I.F.A. Project Officer, Wessex Archaeology

David Gurney, B.A., M.I.F.A.,

Principal Landscape Archaeologist, Norfolk Landscape Archaeology

Frances Healy, B.Sc.(Econ.), Ph.D., M.I.F.A., F.S.A. Senior Research Officer, Oxford Archaeological Unit Gillian G. Jones, B.A.,

Consultant on animal bones

Ian Kinnes, M.A., Ph.D., F.S.A.,

Assistant Keeper, Department of Prehistoric and Romano-British Antiquities, British Museum

Margaret Mathews, B.A., Dip. Archaeol., Technician, Department of Archaeology, University of Reading

Peter Murphy, B.Sc., M.Phil.,

Environmental Archaeologist, Centre of East Anglian Studies, University of East Anglia

Fredric F. Petersen, Ph.D.,

Consultant Archaeologist, Reno, Nevada, U.S.A.

Hoste Spalding, Dip. Memb. S.I.A.D., Illustrator, Norfolk Archaeological Unit David Wicks.

Photographer, Norfolk Archaeological Unit

# Acknowledgements

## **Redgate Hill, Hunstanton**

### Excavation

Dr Fredric Petersen co-directed the 1971 excavation with Dr Ian Kinnes and also acted as site photographer. The site supervisors were Dr Robert Chapman, Simon Goodman, Tim Schadla-Hall and Dr Stephen Shennan. Primary finds processing was the responsibility of Susan Shennan. Dr Paul Ashbee supplied initial advice and assistance, while Barbara Green provided access to the 1970 records and material. Miss Sophia Mottram, then Curator of King's Lynn Museum, provided practical assistance. The excavation took place with the permission of Hunstanton Urban District Council. The Department of the Environment funded the 1971 excavation as well as the second stage of salvage operations in 1970.

## Post-excavation

Post-excavation work has been funded by English Heritage, to whom particular thanks are due for radiocarbon determinations. Mr Tony Gilding, Mr and Mrs J. P. Smallwood, David Buckley, George Smith, and Dr Geoffrey Wainwright have all been patiently helpful and communicative on the subject of the 1970 excavations. Dr Ann Ellison, Christopher Gingell and Andrew Lawson have examined some of the pottery from the site. Dr Ian Longworth has very kindly read and commented on the pottery report. Edward Martin of the Suffolk Archaeological Unit has supplied information of recent Grooved Ware finds in that county. In Norwich Castle Museum, Barbara Green, Dr Sue Margeson and Bill Milligan of the Archaeology Department have facilitated study of the 1970 material and Dr Tony Stuart of the Natural History Department has kindly made identifications. Within the Norfolk petrological Archaeological Unit, Dr Peter Wade-Martins has provided administrative back-up and has commented on an earlier version of the text; John Wymer has commented on the text and examined some of the pottery from the site; plans, sections and pottery illustrations have been executed by Hoste Spalding; while invaluable help and advice have been received from the late Tony Gregory, as well as from Sue White and David Wicks. Susie West and Jenny Glazebrook have seen the report through to publication.

Specialist reports by David Gurney, Gillian G. Jones, and Peter Murphy have added valued dimensions to the report. Dr M. Cowell (British Museum Research Laboratory) has kindly agreed to the re-working of his 1974 phosphate survey. Gillian Jones is grateful to Dr S. Payne for discussion of the pig bone measurements, to Mr B. Levitan for looking at the mouse bones, and to Mr M.C. Sheldrick for identifying the dolphin bone. Peter Murphy is most grateful to Mr P. Cambridge and Dr R. Preece for checking some identifications of land molluscs, notably immature helicellids.

## **Tattershall Thorpe**

The authors would like to thank the Woodhall Spa Sand and Gravel Company for access to the site. A number of people visited the excavations and offered much useful comment. The advice of T. Wilkinson and Dr C. French on the interpretation of soils and natural features was invaluable. The late Dr Maureen Girling and Dr J. Grieg commented on the environmental trenches.

For excavating in the most appalling conditions I have ever experienced on site I would like to thank Nicholas Hawley, Hilary Graham, Mike Graham and Jim Hunter. Nicholas Hawley also provided computing facilities and the monochrome photographic record.

During the preparation of the pottery report, unpublished information was generously supplied by Dr Rosamund Cleal and Dr Helen Bamford, who also commented on a draft of the text, as did Dr Ian Longworth, Dr Ian Kinnes and Andrew Lawson.

The preparation of the flint report was greatly assisted by Nicholas Hawley's computer processing of the data. Dr Mark Newcomer examined minute knapping debris recovered from wet-sieving. Rosemary Bradley has been outstandingly patient and communicative over the problems of co-ordinating micro-and macroscopic aspects of lithic analysis. Dafydd Griffiths undertook further examination of possibly heat pre-treated pieces initially identified by her, Peter Lambley identified fragments of non-flint rock from the excavation, and Alan Saville commented constructively on the text.

The drawings in this report were prepared by Mick Clark and David Taylor.

Uncalibrated radiocarbon years are expressed BP or BC. Calibrations to approximate calendar years are expressed cal BP or cal BC and are derived from the tables of Pearson *et al.* (1986), employing a confidence range of 95% or two standard deviations.

# **Redgate Hill, Hunstanton**

Finds and records from the 1970 and 1971 excavations form part of the collections of Norwich Castle Museum (accession numbers 182.970 and 60.986).

Pottery fabrics are defined in Table 29.

Norfolk sites and finds are designated by their serial numbers in the county Sites and Monuments record, *e.g.* 'Grime's Graves, Weeting with Broomhill (Site 5460)'.

# **Tattershall Thorpe**

For reasons beyond the control of the authors there has been a considerable delay between the completion of various parts of this report and publication.

Excavation description: The Struck Flint: The Microwear: The Pottery: written 1982 revised 1987 written 1984 revised 1989 written 1982 written 1982 revised 1989

# Preface

Recent and current research in the prehistory of the East Anglian Fens, centred on the Fenland Project, attaches new significance to complementary work on the upland surrounding the basin. The results of many investigations undertaken in this hinterland in previous years are now coming to publication, presented with a sense of context which would have been impossible at the time of their execution. The volume *Excavations in Peterborough and the Lower Welland Valley 1960–69* (East Anglian Archaeology forthcoming) is an outstanding example of this process.

The present volume brings together the very different results of two area excavations, at Tattershall Thorpe in Lincolnshire, on the north-western edge of the Fens, and Hunstanton in Norfolk, on the north-eastern edge. Their contributions to the prehistory of the area are many. A few may be singled out:

1. Both emphasise that many, even most, prehistoric 'sites' in lowland England are the cumulative result of

intermittent activity spread over hundreds of years, and that many features on them may be of natural rather than human origin.

- 2. Both add to the growing number of apparently structured Later Neolithic pit deposits. These are clearly identified in several Grooved Ware pits at Hunstanton, and may also be represented by a single pit containing large, well-preserved sherds of a Grooved Ware vessel at Tattershall Thorpe.
- 3. Hunstanton fills out an already extensive picture of clearance, enclosure and land division in prehistory, locally most clearly seen at Fengate, Peterborough.
- 4. The range of post-built structures and alignments recovered by topsoil-stripping at Hunstanton give a hint of the diversity which may lie beyond rows of post-holes recovered in small-scale excavations. The largest structure, a so far unparalleled trapezoid enclosure, is a reminder that whole classes of monument may yet remain unrecognised, even in relatively well-explored areas such as East Anglia.



Figure 1 Location of Hunstanton and Tattershall Thorpe in relation to the fenland basin and Neolithic and Bronze Age sites around it

# Excavations on Redgate Hill, Hunstanton, 1970 and 1971

by Frances Healy, Rosamund M.J. Cleal and Ian Kinnes

## Summary

Early in 1970 road-building to the south of Hunstanton revealed numerous pits, several of them containing rich assemblages of Grooved Ware and associated material, and one of them containing sherds of Collared Urn. Incomplete post-hole alignments were also recorded. These discoveries prompted the excavation of an adjacent area in 1971. Here pits were relatively rare, separate examples containing Peterborough Ware, Grooved Ware, Beaker, and Bronze Age pottery. There were, however, numerous post-holes, amongst which the plans of a large trapezoid enclosure, of post-rows aligned with it, and of several smaller structures were distinguished. A circular hut seems to date from the Early Bronze Age. Scant evidence from the remaining structures suggests that most, including the enclosure, may have been built between the mid third and the late second millennium cal. BC. A six- and a nine-post structure are more readily related to an Iron Age settlement excavated immediately to the west in 1976–77.



Figure 2 Location of Hunstanton within East Anglia east of the Fens





# Chapter 1. Introduction by Frances Healy

## I. History of Discovery and Investigation

In February 1970 commercial excavations were begun for the construction of a new road, the B1161 or Beach Road, from Redgate Hill on the A419 south of Hunstanton westwards to the coast (Figs 4 and 5). The removal of topsoil progressively revealed archaeological features cut into the underlying chalk. These were investigated by three local archaeologists, Mr Tony Gilding and Mrs E. and Mr J.P. Smallwood, who between late February and early March recorded thirty-nine pits and a larger, irregular feature named the 'complex', as well as collecting some unstratified material. Several pits yielded rich deposits of Grooved Ware, and another contained sherds of Collared Urn, both in association with other artefacts, animal bone and marine shells.

These finds were reported to the Norfolk Museums Service, as a result of which David Buckley and George Smith, then excavating for Dr Geoffrey Wainwright at Broome Heath, Ditchingham (Site 10602), came to the site. They planned such excavated features as remained and recorded their profiles as well as locating and investigating previously unexcavated features. They recorded fifteen pits, some of them already excavated by Mr Gilding and Mr and Mrs Smallwood, as well as the 'complex' and fourteen post-holes.

This led to the excavation in summer 1971 of an adjacent area in the apex of the A149 and B1161 (Fig. 5), directed by Dr Ian Kinnes on behalf of the Department of the Environment in advance of eventual development. A summary of the results has already been published (Kinnes 1972).

In 1974 Dr M.Cowell of the British Museum Research Laboratory conducted a phosphate survey of the area to the south-west (Fig. 47, Ch. 4.I). In the following year Mr Hamon Le Strange of Hunstanton made a collection of struck flint over the same area (his site NH 65; Ch. 3.I), having already made a smaller collection there in 1961. In 1976 proposed housing development prompted a more extensive magnetometer survey, made at the request of the Norfolk Archaeological Unit by A. Bartlett and A. David of the Ancient Monuments Laboratory (1976), the limits of which are shown by Wymer (1986, fig. 2). This detected several anomalies, which were investigated in September of the same year by Andrew Lawson, then of the Norfolk Archaeological Unit. Most proved to be natural. The discovery of a few pits and post-holes at the extreme eastern end of the development area, where magnetic anomalies had been most marked, led to an extension of the excavation there in the spring of 1977. Most of the 0.25ha then stripped was sterile, but several further pits were found, most them forming an interconnected 'working hollow' (Wymer 1986, fig. 3). Artefacts from them and from features excavated in the previous year, however, were of Early Iron Age date, with the exception of a single Beaker sherd (Wymer 1986). In 1987, a further surface collection was made over the area to the southwest by Mr. Smallwood and some of his pupils (Ch. 3.I). This report deals with the 1970 and 1971 excavations.

# II. Location, Geology, Soils and Archaeological Context

### Location

Redgate Hill (Site 1396) lies at TF 6780 3980, close to the northern extremity of the East Anglian chalk ridge, which traditionally forms the route of the Icknield Way (Fig. 2). The excavated area, at 30m O.D., is an exposed location from which the land slopes into small valleys to the east and south and towards a gently shelving beach to the west. To the north the chalk continues to the sea, where it forms steep cliffs (Fig. 3). Today, most of the area investigated in 1970 underlies the B1161, while the area excavated in 1971 is within the apex of the two roads (Fig. 5).

### **Geology and Soils**

The site lies at the top of the west-facing scarp of exposed Cretaceous strata which forms the eastern margin of the Fenland basin and the Wash. In the Hunstanton area, Lower Cretaceous deposits, shown collectively as Greensand in Figure 3, consist mainly of sandstones of which the most recent, the Carstone, is distinctively ferruginous and is separated from the older sandstones by an irregular bed of Snettisham Clay. Above the Carstone is the Red Rock or Red Chalk, a pink, ferruginous limestone which is in fact a local facies of the Gault (Larwood 1970).

Upper Cretaceous deposits, shown collectively as Chalk in Figure 3, are described following Peake and Hancock (1970). The Red Rock is overlain by the Lower Chalk which is locally approximately 16m thick and includes a bed of tough, gritty Totternhoe Stone. It contains no flint. The Middle Chalk begins with a thin band of Melbourn Rock, which forms the base of the Inoceramus labiatus zone on which the excavated area lies. The succeeding Terebratulina lata zone, which occupies the westernmost part of Figure 3, is the first to contain flint in any quantity. This is small and irregular towards the base of the zone, but higher up occurs in almost continuous bands of large, flattish, mottled grey nodules. It does not approach the mass or quality of the flint mined from the same zone at Grime's Graves (Site 5640), 50km to the south-east.

The solid deposits are sporadically capped by patches of boulder clay and of glacial sand and gravel. The local boulder clay consists mainly of Hunstanton Till, dating from the last glaciation. This is characterised by its reddish-brown colour and sandy or loamy texture, and by a suite of erratics which includes not only chalk and flint but also a high percentage of rocks of northern origin, notably schists, gneisses, basalts, granites, Bunter pebbles, and Carboniferous sandstones and coals. It is thickest on the low ground at the foot of the escarpment,





and represented by 'drift soils', containing characteristic erratics, on higher slopes up to approximately 30m O.D.. The older Chalky Boulder Clay occurs above this contour on the chalk plateau in the east of the area (Whitaker and Jukes-Browne 1899, 86–92; Straw 1960, 380–381, fig. 1; British Geological Survey 1978). Recent deposits consist mainly of Head, derived predominantly from Cretaceous sandstones, and of marine alluvium in the form of the clays and silts of the Terrington Beds. These now form drained salt marsh, cut by artificial channels through which streams flowing westwards down from the escarpment enter the Wash. They are underlain by peat which is exposed in the banks of the stream which flows to the south of the excavated area (Fig. 3). The precise age of these relatively recent deposits is unclear.

The present soils of the site itself, the immediately surrounding area, and the relatively sandy Hunstanton Till are mapped as argillic brownearths, those of the larger mass of Chalk to the east as rendzinas, and those of the Greensand as brown sands (Soil Survey of England and Wales 1973). All are relatively light.

## Archaeological Context

The Neolithic and Bronze Age sites and finds plotted in Figure 3 and listed in Table 2 (microfiche) understate the wealth of contemporary material from the area, since they exclude both records in which provenance or identification is uncertain and, for reasons of space, finds of isolated flint or stone artefacts other than axes and shaft-hole implements.

Distribution patterns already identified at regional level are reflected in microcosm. A concentration of imported stone implements along the eastern edge of the Fens and on the adjacent upland (Clough and Green 1972, figs 2-8; Cummins 1979, fig. 1; Healy 1984a, fig. 5.12) may see a northern continuation in the presence of eight stone implements in the relatively small area under examination. A similarly-located concentration of Bronze Age metalwork of all periods (Lawson 1984, figs 6.6., 6.8, and (6.9) is reflected in the presence of four hoards and six isolated implements. A corresponding belt of round barrows and ring-ditches (Lawson, Martin and Priddy 1981, figure 1) is represented by at least eleven examples, one of which, at TF 6805 4013, 400m north-east of the excavated area, was the subject in 1968 of limited investigations which produced two cremation burials contained in Collared Urns (Site 1263; Lawson 1986, 108-110; Longworth 1984, catalogue nos. 947-948).

Other burials may have been less conspicuous. An apparently unmarked inhumation of a young female, accompanied by a Late Beaker of D.L. Clarke's (1970) Developed Southern style, was found during sand extraction in 1972, at TF 6960 4025, 1.80km north-east of the excavated area (Site 12736; Kinnes 1978). Two unaccompanied crouched burials found in Heacham in 1973 in the course of building works (Sites 1466, 14065) may have been of similar date. Burials may also have been represented by an almost complete Middle Beaker of D.L. Clarke's (1970) Wessex/Middle Rhine style in the same village at TF 6750 3680 in 1950 (Site 1416; Clarke 1970, corpus no. 547, figure 212), and by a complete miniature Food Vessel found in Hunstanton at TF 677 407 in about 1970 (Site 14388). A cremation burial was apparently unearthed in Heacham at TF 6781 3720 in 1911 when finger-impressed sherds were found with

burnt bone and charcoal (Site 1401; Proc. Prehist. Soc. E. Anglia 1(12) 1912, 238).

Settlements are more difficult to locate, partly because almost all finds from the area are either accidental discoveries or the product of uneven, although locally intensive, fieldwalking. Odd sherds of Neolithic Bowl (Sites 1518, 1667), Beaker (Sites 1487, 17810) and Collared Urn (Site 1599) are of uncertain significance. Living sites seem more likely to be represented by finds such as that of sherds of at least three Grimston Ware bowls and probably one plain Beaker together with struck flint found during a single episode of quarry extension at TF 6850 3485 in Snettisham (Site 1490; Healy 1984 b, 73, figure 2: P3-P6). Similarly, small scale excavations at Heacham, prompted by the discovery of the Wessex/ Middle Rhine Beaker mentioned above, produced sherds of fine and rusticated Beaker and struck flint, further fine and rusticated Beaker sherds being found in a garden some 100m away (Site 1416; Clarke, R.R., 1957, 396).

Occupation may also have been represented by sherds of Deverel-Rimbury pottery ploughed-up at TF 7195 3360 in Snettisham in 1948, when 'pot-boilers', patches of charcoal, and reddened patches were observed (Site 1677), close to the findspot of a Late Bronze Age hoard (Site 1671; Clarke, R.R., 1950, 157). The fact that the only surviving pottery from the site is a reconstructed



Figure 5 Redgate Hill, Hunstanton. Location of excavations

Bucket Urn (Lawson 1980, fig. 5:D), suggests, however, that it may have been a cremation cemetery. The hoard was one of three found in a small area of the interfluve between the Heacham River and the Ingol. Lawson has suggested that trapezoid crop-mark enclosures contiguous to these and to other Middle and Late Bronze Age finds may be contemporary with them (1980, 281, figure 9).

These enclosures are only one element in the mass of cropmarks which cover the chalk ridge, among which, however, none of the features excavated in 1970–71 is visible. Aerial photographs of the area record the fragmented ditched tracks and field systems of many periods. A prehistoric component may well be present, but its identification must depend on future investigation. It is, for example, impossible to judge the relation to the Redgate Hill site of two parallel ditches (Site 1465) exposed approximately 100m from the

southern edge of the excavated area during the rebuilding of the A149 in 1961. One contained a skull, thought to be part of a complete skeleton the rest of which had been dug away; they were 50–60m apart, and ran approximately from east to west, across the line of the road, sealed by its old bank.

Most settlement evidence for the area must lie in its numerous flint scatters, most of them of predominantly Later Neolithic or Early Bronze Age character, and many of them collected and recorded by the late Mr C.H. Lewton-Braine of Heacham and by Mr Le Strange. Thirty-six scatters are plotted in Figure 3. Their full assessment would be a study in itself, complicated by the fact that Mr Le Strange's collection is split between private possession and three separate museums (Le Strange 1968, 1), so that a thorough examination has been attempted only of his material from Redgate Hill itself (Table 15 (microfiche)).

# Chapter 2. The Excavations by Frances Healy and Ian Kinnes

All features excavated in 1970 and 1971 are listed and briefly described in Table 3 (microfiche). Almost all are shown in Figure 6, excluding the few whose locations are uncertain or unknown. Features forming part of structures are also listed separately in Tables 4–12 (microfiche). A grid of four 100m squares, A,B,C and D, employed during the 1971 excavation, is extended to the south-east in Figure 6 by the addition of a further 100m square, E.

## I. 1970

### The Record

The initial investigations were restricted by extreme salvage conditions, unfavourable weather, and concurrent road-building which made speed essential. The records consist of descriptions by Mr Gilding and Mr Smallwood, a rough sketch plan showing the approximate positions of pits 1-39 and the 'complex', colour slides taken by Mr Smallwood, and additional notes made in the Norfolk Sites and Monuments Record. Pit 33 is not plotted in Figure 6 because it is shown in two places on the 1970 sketch plan. Nothing is known about areas A, B, and C and 'Dwelling Area', all of which produced small quantities of artefacts. Area C may have been close to or the same as the 'complex', since P45, a fragmentary Bronze Age vessel, consists of joining sherds from both.

David Buckley and George Smith made a measured plan which records the positions of some of these features as well as of additional ones which they discovered, and provides a framework into which the others can be approximately fitted. The profiles which they drew (Figs 7–8 and 11 (microfiche)) similarly record some of the features already excavated. Tentative correlations between their feature numbers (pits PI-PI6 and postholes PHI-PHI4) and those used by Mr Gilding and Mr and Mrs Smallwood are included in Figure 6 and in Table 3 (microfiche).

It must be remembered that Figure 6 and the approximate co-ordinates given in the tables can indicate only the relative positions of the features excavated in 1970. Their relation to the 1971 area, as shown in Figure 6, is similarly no more than a best fit.

#### Features

Mr Smallwood states that the chalk had been dug away to a depth of approximately 40cm close to the junction of the B1161 and A149. Features in this area must have been severely truncated and, in some cases, completely dug away. Destruction seems to have been less farther to the west: a colour slide taken by Mr Smallwood shows a pit exposed in the side of the excavation for the B1161, with all the topsoil removed and the surface of the chalk scarred by digger teeth but little lowered.

## Pits

Most of the features excavated in February-March 1970

were pits. Mr Smallwood states that they fell into two groups. The first were approximately 50cm in diameter, U-profiled, and, with the exception of pit 32, described below, contained only the shells of marine molluscs, mainly mussels. The second were approximately 1.5m in diameter, flat-bottomed, and much richer in artefacts. All the pits recorded in his colour slides had extremely dark, almost black, fills. He points out that less conspicuous features would not have been visible in the muddy conditions which prevailed. One such feature was discovered: Mr Gilding recorded that pit 20 'was found by accident as it had a natural chalk top filling'. There may have been others.

Some pits seem to have been grouped: 28, 29 and 30 were clustered together, while others may be seen as pairs, notably 21 and 22, 23 and 24, and 25 and 26. Recording was often minimal. Mr Gilding wrote 'The workmen had dug Pits 23 and 24 with a shovel'. In a few cases, however, he was able to observe rather more detail, as with pits 21 and 22:

6.3.70 Pit 21 One more pin, a few pieces of pottery badly broken, there was a very large amount of mussel shells in the top of this pit and quite a few teeth were scattered among the shells, all the teeth were found singularly in the shells, one or two snails were found in the bottom. A very crumbly pebble, like oatmeal, a red coloured pebble, and a smooth pebble, lots of flint flakes, and in the bottom of the pit a good piece of base and side of a vessel.

9.3.70 Pit 22 Quite a lot of jawbone in very crumbly state but good teeth, also a horn or part of antler?, not many flints, a few pieces of erratic boulder, a pig's tusk, a lot of pottery from this pit, one piece with chevron pattern on it, perhaps two vessels here, two sandstone pebbles. This pit was split down the centre, one side of the filling was chalk and bone, the other side was very dark soil it looked very organic (humus). This contained the pottery, in the very bottom of the pit I found a very dark red boulder 12" x 10" 1 1/2" thick with a smaller one on top.

## Mr Smallwood described pit 32 in these terms:

One pit, the contents of which had survived more or less intact, was carefully excavated and recorded. Even this pit had suffered damage from exposure of its contents to the elements and being run over by machines. Its fill consisted largely of mussel shells, only one cockle and one oyster shell had intruded. A grooved urn had been placed in the pit – possibly it had been broken and incomplete when deposited, possibly the upper levels of the pit fill contained the remainder of the urn and it had suffered from being scraped down. Adjacent, apart from a few flakes, were a frontal and antlers of a red deer which lay W–E *i.e.* facing towards the Wash. No teeth were encountered and the bone was in a most friable state.



The antlers were too soft and decayed to lift.

Twenty-seven pits yielded no artefacts or other finds. Of the remainder, nine contained Grooved Ware (pits 1, 2, 6, 9, 12, 20, 21, 22, and 32), generally in association with struck flint, animal bone and the shells of marine molluscs. One, pit 34, contained Collared Urn sherds, with fired clay, struck flint, animal bone, shells and, in common with several of the pits with Grooved Ware, a concentration of local pebbles, many of them erratics. Fired clay was also recovered from pit 33. A few other pits contained small quantities of lithic material and other finds without pottery (Table 3 (microfiche)). Pit 25 contained only a large, unworked slab of basic igneous rock, perhaps comparable with the similarly-sized slab of mudstone placed in the base of pit 22.

The pits subsequently excavated by David Buckley and George Smith contained few or, in most cases, no finds (Table 3 (microfiche): P1–P15). Some, which their excavators now think may have been natural formations, had dense, sterile clay/marl fills, in contrast to the dark fills of the previously excavated pits.

A radiocarbon determination of  $3685 \pm 65$  BP (BM– 704; 2290–1900 cal BC) was obtained for collagen from bone from a pit excavated by Mr Gilding and described as containing Grooved Ware, but otherwise unidentified. Two further determinations have since been made on bone from pits containing Grooved Ware. These are 4005  $\pm$  90 BP (OxA–2310; 2875–2300 cal BC) for pit *12* and 4170  $\pm$  90 BP (OxA–2311; 3020–2500 cal BC) for pit 22.

#### 'Complex'

Mr Gilding also excavated one much larger feature, which he described as follows:

2.3.70 I discovered a much larger patch of soil today, the first overall meaurements were approx. 18 x 18ft., but on clearing the surface area I found a complex pattern of soil in the chalk, and also the base of an urn [P45], which the soil scraper had been over and must have taken the rest away, the base of this urn was extremely thick.

This pattern of soil in the chalk was an oblong centre 13 x 19ft. with two bays coming off the western side six feet in diameter with two chalk pillars 18" across, the bays were 6' approx. in diameter, on the northern end was a path of chalk 2'6" wide and 4' long, with another 3' bay slightly offset of the path and on the eastern side. On the eastern side there was another bay 6' in diameter extending from a path 2' long and 1' wide. In the centre of this soil complex was another pillar of chalk 18" across, these pillars of chalk had not been disturbed in the making of this area, as the chalk was still in its natural formation the whole area must have been hewn out around leaving the pillars in situ.

On taking the soil down 4" all over I found another path ?18" wide and 5'6" on the eastern side of the centre running NW to SE just to the east of this was a small amount of burnt bones.

In the centre there was another pillar of chalk 18" across and 36" high just under the spot where the pot base had been there were two flints and just to the left a flint scraper a bit further left was some mussel shells and some more burnt bones.

The bays on the western side, in one there was a hammerstone and a few mussel shells, the small 3' bay

on the NW end, a few mussel shells, there was a narrow path of marl linking the two bays on the western side.

A sketch plan on the back of the Norwich Castle Museum record card shows a roughly rectangular outline with four projecting bays and three upstanding chalk pillars, and is annotated 'cut into chalk c. 4ft deep'. This is consistent with Mr Gilding's description of one of the pillars as 36" high, but at variance with the profiles later recorded by David Buckley and George Smith (Figure 8 (microfiche)) which show a maximum depth of 72cm (approximately 2'4"). The discrepancy may perhaps reflect the lowering of the surface in the course of roadbuilding. The profiles show that the base of the feature consisted of a series of hollows or scoops. The accompanying plan, reproduced in Figure 6, shows an irregular, multilobate outline, measuring approximately 5.4m x 3.8m with a single remaining chalk pillar towards its south end.

Finds comprised four flint flakes and a scraper, a sandstone fragment, a burnt flint pebble (described above as a hammerstone), fragments of a coarse, grogged base, apparently of Bronze Age date (part of P45), which the Castle Museum record card describes as 'on top of scraped soil, not necessarily in fill', a small quantity of animal bone, and mussel shell. Nothing was found in the surrounding features (P11–P15). P45 is formed from joining sherds from the 'complex' and from area C, an unidentified context investigated in the same year. If 'C' was not simply an abbreviation for 'complex', it may have been a nearby source from which the base fragment was derived. Also recorded as from area C are seven pieces of struck flint (Table 13 (microfiche)) and a recent pantile fragment.

The irregular plan and uneven, scooped base of the 'complex' (Fig. 6, Fig. 8 (microfiche)), invite comparison with the Early Iron Age 'working hollow' excavated to the south in 1977 (Wymer 1986, fig. 4). There is, however, no Iron Age material from it. The same irregularity of plan and section, combined with the columns of unexcavated chalk which remained within it, suggest that it was a quarry. The quantity of prehistoric material from it is small, and, in the case of the Bronze Age base fragments (P45), was not necessarily *in situ*. It may well have been a recent chalk quarry, like another of similar size excavated 15m to the north in 1971 (Fig. 6). This is made yet more likely by the former presence of lime kilns some 200m to the east (Fig. 4: Site *13886*).

#### Post-Holes

The work of David Buckley and George Smith demonstrated the presence of post-holes, previously unrecognised on the site, in at least two cases forming part of larger alignments.

*Row A.* Irregularly-spaced double post-holes, the approximate position of which is shown in the south-west of Figures 6 and 9, were observed in the course of destruction on the north edge of the B1161. Both irregularity and the doubling-up of posts may suggest that they formed part of a structure rather than a boundary.

*Row B* (Table 4 (microfiche), Fig. 11 (microfiche)). Farther east, eight single post-holes (PH*I*–PH8) of similar diameter formed a row extending beyond the commercial excavation to the north-east. This was further investigated in 1971.

## II. 1971

The area available for excavation lay within the apex of the A149 and the newly-built B1161 and was defined to the north by a footpath (Fig. 5). Rescue conditions and limited time enforced machine-stripping to enable a sizeable area to be examined. A total of approximately 5000sq m was therefore stripped mechanically to the fissured and eroded surface of the chalk. A contour survey of the stripped surface revealed slight linear undulations, suggestive of ridge and furrow, running approximately from north-east to south-west. This may have related to the deserted Medieval village of Barret Ringstead or Ringstead Parva (Fig. 4: Site 1115), now represented only by its ruined church, which stands 600m to the east. It was clear at this stage that the surface of the chalk had been lowered by cultivation and other agencies and that features were likely to be truncated. This proved true as excavation proceeded, with some surviving to only a few centimetres deep. Features, once identified, were sectioned and then fully excavated, their fills being wet-sieved. In selected instances, individual objects were plotted in situ and their depths recorded. Because of the method of excavation, almost all artefacts and other finds were recovered from feature fills.

## Pits

Pits were rare among the features excavated in 1971. With the exception of 420 (Figs 16–17), which formed part of the main enclosure and is described with it, they were normally shallow. The eighteen confidently-identified examples had a mean depth of only 21cm below the stripped surface.

Six contained no artefacts, and only three bore even a possible relation to other features. 264, a complex of hollows (Pl. I, Figs 18-19), seems best resolved into two pits and a post-hole cut into an irregularity in the chalk, a conclusion supported by the incidence of finds, which were confined to the apparent pits and post-holes. It is impossible to tell if either pit was contemporary with structure E, within which they lay. They contained a small quantity of struck flint, sherds in the same fabrics as those from the slots and post-holes of the structure, and a small quantity of marine mollusc shell. 355 was located within structure F (Pl. II, Figs 21-22, but contained no finds. 305 post-dated the main enclosure, cutting through post-holes 306 and 307 after they had ceased to hold posts and had silted-up (Figs 18, 20). Its contents are similar to those of the post-holes and other surrounding features and must have derived from them. A woodland land mollusc assemblage was recovered from its lower fill (Ch. 4. III).

The fifteen remaining pits all appeared isolated. Six contained dateable artefacts. 429 and 430, two intersecting pits (Figs 16–17), contained a small quantity of struck flint (including L35), two small fragments of stone, possibly from querns, sherds of Peterborough Ware (P29, P30) and marine mollusc (mainly mussel) shells. A large woodland land mollusc fauna was recovered from layer (7), the primary silt of 430 (Ch. 4. III). 400, another pit in the same area (Figs 16–17)

contained two large, well-preserved sherds of Grooved Ware (P26), and a few shells, mainly of mussel. In 260, farther to the north-west (Figs 18–19), the entire contents, comprising struck flint (including L27), sherds of Grooved Ware (P23), antler, a compact concentration of mussel shell, and numerous rock fragments (mainly Carstone), were confined to the south-west half of the pit, where there was also a patch of burnt earth. 355 (Figs 21–22) contained a scraper (L34), sherds of Late Beaker (P33), burnt flint and stone, hazelnut shell fragments, and a cereal grain (Ch. 4. III). 292 (Figs 18–19) contained Bronze Age sherds (P46), marine mollusc shells, burnt flint, and other stones.

### **?Natural Features**

The complex of man-made and natural features in 264 highlights the difficulty, often encountered during the excavation, of distinguishing between pits and other irregularities in the surface of the chalk. The latter were marked by irregular outlines (e.g. Fig. 14: 237-8, Fig. 18: 300-1, Fig. 21: 366-7 and 377-80, Fig. 25: 213-5, 221-2 and 224-5). Most seemed to have silted, although a few exibited stratigraphy which could scarcely have accumulated during the normal silting of a feature (e.g. Fig. 23: 378-380). They contained few or no artefacts, all of them small and undiagnostic, often a few of the marine mollusc shells which were ubiquitous on the site, charcoal flecks, and cereal grains - in other words, material which could have been incorporated into the fills as they accumulated or have been subsequently introduced into them by roots, animals, or other agencies. They frequently preserved land mollusc assemblages, which were invariably of woodland character (Ch. 4. III). It is not clear when these hollows were formed, although the example cut by the pits of 264 certainly pre-dated them.

The woodland land mollusc faunas of these features excavated in 1971 are compatible with the shaded habitat faunas of similar features excavated the other side of the B1161 in 1976–7 (Murphy 1986, 295). Peter Murphy considers these formations as likely to have been hollows left by tree root systems, following collapse and/or decay (Ch. 4.III). They were very similar to features interpreted as tree clearance holes in the chalk of Rams Hill, Berkshire (Bradley and Ellison 1975, 48–51).

In addition to these large, pit-like formations, features recorded as stake-holes may also have been formed by natural processes, such as root- or animal action. Some, notably the pair within structure I (Figs 25–26: 195, 196), appeared convincing. Others, especially those with neither coherent plan nor apparent function, were less so. This is true both of isolated examples (*e.g.* Figs 25–26: 223) and of an amorphous concentration in the extreme north-west of the 1971 area, where there were scarcely any unambiguously artificial features (Fig. 6: 153–162, 164–167, 169). None contained any artefacts, and all had a humic fill as did 163, a probably natural undulation in the chalk surface in the same area.

## Structures

Post-hole alignments and structures are shown in Figure 9. Figure 27 shows the approximate diameters of postpipes, where they could be determined from section drawings, and their depth from the stripped surface at the time of excavation. As Figures 14–26 show, some postpipes were more clearly visible in plan than in section.



Figure 9 Redgate Hill, Hunstanton. Selective plan showing alignments and structures

Only six post-holes out of over 200 had been certainly or possibly recut, all but one of them (209) forming part of the main enclosure or of structure E. Where post-holes were adequately preserved, their sections almost invariably suggest that the uprights which they once held had decayed *in situ*. Packing was generally in position at the time of excavation, and there was often a loamy or humic final fill of replacement material (layer (1)) formed by the silting of topsoil and related material into the cavity left by the rotting post stump. Finds from post-holes were few and, unless otherwise stated, came from this stage of their infilling.

## Fragmentary post-hole rows

*Row B* (Table 4 (microfiche), Fig. 11 (microfiche)). The row of post-holes recorded in 1970 continued north-

eastward into the 1971 area, and is presumed to have carried on beyond it across the line of the A149. The postholes comprising it formed an irregular, almost zig-zag row. Finds include a flint flake and a cereal grain from *392* and small quantities of marine mollusc shells from all those excavated in 1971. This and row C were parallel to the south side of the main enclosure.

*Row C* (Table 5 (microfiche), Fig. 12 (microfiche)) lay approximately 3.5m south of row B. It too is likely to have extended to east and west. Two of the large post-holes, *384* and *387*, were paired with smaller ones, *386* and *383* respectively. *381* was a pit containing sockets for three posts. Finds include a flint blade from *381*, cereal grains from *381* and *384*, and small quantities of marine mollusc shell from *381*, *383*, *384*, *385*, and *387*. The irregularity of



Figure 10 Redgate Hill, Hunstanton. Plan and section conventions

the row and the presence in it of paired post-holes and a multiple post-hole suggest that it may have formed part of a structure.

*Row D* (Table 6 (microfiche), Fig. 13 (microfiche)). The southern end of this row was probably truncated by a recent quarry (Fig. 6). Finds include a flint flake and a cereal grain from *314* and small quantities of marine mollusc shell from *312*, *314*, and *458*. The row may have formed part of a larger structure, perhaps associated with post-hole scatters to the east and west.

## The main enclosure

(Table 7 (microfiche), Figs. 14-23)

The principal structure was a sub-trapezoid enclosure with approximate maximum dimensions of 55m x 45m and an approximate area of 1950sq m. Precision is impossible because the south-west corner had been cut away in 1970 by the excavations for the B1161. PH9 and PH13, two of the post-holes recorded by David Buckley and George Smith, may have formed part of its southern edge. The plan of the enclosure as it survived in 1971 is irregular, most notably in that the north and south sides are divergent rather than parallel, indicating that the west side was longer than the east.

*The west side*, as far as it survived, seemed to have been a simple row of relatively evenly-spaced post-holes containing uprights 15–25cm in diameter.

The east side was comparably simple for most of its length. Three post-holes, 325, 404, and 405, were recorded as



Figure 14 Redgate Hill, Hunstanton. Eastern ?entrance and adjacent features

recut. A possible entrance close to the south-east corner was formed by 226–229, 231, and 244 (Fig. 14). 228, a small post-hole within it, may have supported a gate.

*The south side* (Figs 16, 17) also included an apparent entrance. The centre of its surviving part was distinguished by three pairs of closely-spaced post-holes, their centres 50-60cm apart (*412* (itself double) and *413*, *406* and *407*, *408* and *409*). Inside the enclosure, parallel to these and roughly a metre away from them, was a row of five further post-holes, four of them double (*416*, *414*, *417*, *418*, *421*). In *416* and *417* one post may have been

angled as a strut against the other. No sequences were recorded in any of the double post-holes, which seemed to be contemporary rather than successive insertions. Contemporaneity was almost certain in the case of 421, the packing of which was continuous between the two sockets (Figure 17). 421 was cut into 420, a pit surviving to 61cm deep with steep, angular, unweathered sides, and filled with undifferentiated clean, rammed chalk rubble without any sign of primary silt. It was apparently dug, backfilled, and cut by 421 in a very short time. The whole is suggestive of a double gateway.



Figure 15 Redgate Hill, Hunstanton. Sections of features shown in Figure 14



Figure 16 Redgate Hill, Hunstanton. Southern ?entrance and adjacent features



Figure 17 Redgate Hill, Hunstanton. Sections of features shown in Figure 16

*The north side* (Figs 18–23) was the most complex and can be considered only in conjunction with two apparent structures, E and F, and with other adjacent features.

### 1. The western end (Figs 18–20).

Post-holes in the western third of the north side were exceptionally closely-spaced and, in some cases, exceptionally large (Fig. 9). This seems due to the presence of a probable entrance at the north-west corner and to post-replacement to the east of it. At the west end two double post-holes (268 and 293) were set 1.80m apart, each with its shallower socket flanking the intervening opening. Together with a substantial post-hole (270) and perhaps two slighter ones (288 and 296) lying between them and slightly inside the line of the enclosure they might be interpreted as the supports of a gate. 288 was angled towards 270 and may have supported it. The plan (Fig. 18) suggests a trapezoid outwork, also including double post-holes, its external corners formed by 274 to the east and 280 with 281 to the west.

East of this possible entrance, the eastern sockets of 297 and 309 had been cut by the subsequent western

sockets. The earlier post had probably been removed from 309, since its socket showed no trace of a post-pipe and the packing material had collapsed (Fig. 20). The relationship between the eastern and western sockets at the north end of slot 304 was unclear, as was that between 307 and 308. The inclination of 271, a small, shallow posthole, suggested that it had held an oblique strut supporting the more substantial post in 306, immediately to the north. A similar relationship may have obtained between 287 and 297. A later pit, 305, cut post-holes 306 and 307.

2. Structure E (Pl. I, Figs 18–20, Table 8 (microfiche)). Two slots with post-settings (303, 304) flanked what appeared to be the entrance to a post-built structure measuring approximately 5m x 4m, integral with the north side of the main enclosure. Two symmetrical north-to south rows of post-holes slighter than those of the main enclosure can be formed from the earlier, eastern socket of 309 with 282 and 310, and from 308 with 256, 255 and perhaps 286. 255 and 256 were, however, exiguous hollows, comparable neither with 308, with



Plate I Redgate Hill, Hunstanton. Structure E from the east

which they seemed aligned, nor with the other sockets of the structure. 255 was recorded as angled to 310, 256 to 282 and 286 to 309.

The relationship to structure E of the two pits of 264, described above, is uncertain, although a post-hole which also formed part of 264 may have formed an axial row with 282 and 256. If none of the hollows of 264 was open during the use of the structure, the slight sockets of 255 and 256 might be disregarded and the two more substantial rows seen as flanking an entrance to the main enclosure, although this would not account for the differential construction of its east and west sides. Fired clay in the topmost fill of 309 (Fig. 20), suggests the former presence of a building, whether the fragments are the debris of daub or of a hearth or oven.

The uneven size and close spacing of the post-holes of the enclosure in the area of the structure may be resolved by splitting them into two successive rows. The first would be formed of the shallower, eastern socket at the north end of 304, the earlier, eastern socket of 309, 308, and perhaps the eastern socket of 297. The first three were all relatively shallow and aligned with the facade and north-south rows of structure E. The second would be formed by the deeper, western socket at the north end of 304, 259, the later, western socket of 309, 307, 306, and the later, western socket of 297. These were all relatively

substantial sockets and would form an alignment of comparable post-size and spacing to most of the enclosure line. If these were two successive rows, then structure E predated the enclosure, and at least one of its posts (occupying the eastern socket of *309*) was replaced during its incorporation in the enclosure side.

The axial post-holes of structure E (Fig. 18: 264 and 282) suggest a pitched roof. The slight, inclined sockets of its east end (Fig. 18: 255, 256, and ?286) suggest leanto or buttressed construction.

The following radiocarbon determinations have been made on bone samples from features in this area:

Post-hole 302, layer (1): 2720  $\pm$  80 BP (OxA–2307; 1100–780 cal. BC)

Post-hole slot 303, layer (2): 3810  $\pm$  80 BP (OxA-2309; 2490–2035 cal. BC)

Post-hole 309, layer (4): 3370  $\pm$  70 BP (OxA–2308; 1880–1515 cal. BC)

Note that this, rather than that published by Hedges *et al.* (1991, 126), is the correct provenance for OxA–2309.

3. The eastern end (Figs. 21–23).

To the east of structure E the line of the main enclosure was represented by a simple row of post-holes for a



Figure 18 Redgate Hill, Hunstanton. North-west corner of main enclosure and structure E

15



Figure 19 Redgate Hill, Hunstanton. Features shown in Figure 18

distance of 9m (Fig. 9). From 327 eastwards, however, the plan suggests two possible rows (Fig. 21). The outer would change alignment slightly to run through 331, 330, 351, 364 and 347 to 345, the north-east corner of the enclosure. Except for 347 which, but for its position, would scarcely be considered a post-hole, its sockets would have held uprights between 20 and 30cm in diameter, and would have been comparable in depth, fill and profile with the post-holes of the rest of the main enclosure. The inner, approximately Im to the south,

would have run from 327 through 340, 350, 369, 363 and 343. Its post-holes would have held rather smaller uprights, all approximately 20cm in diameter. They generally survived to greater depths and were of more cylindrical profile than those of the outer row and of the rest of the main enclosure. Three of them (340, 350, and 369) could also be seen as forming part of structure F. The inner line may be extended beyond the north-east corner of the enclosure through 341, 220, and 211, which are of comparable post-size, depth and cylindrical profile.



Figure 20 Redgate Hill, Hunstanton. Features shown in Figure 18



Plate II Redgate Hill, Hunstanton. Structure E and north side of main enclosure from the east

At the north-east corner itself, 345 with 344 on one side, and 346 with 341, 337, and possibly 220 and 211, on the other might be seen as forming a funnel-shaped entrance.

4. Structure F (Pl. II, Figs 21–22, Table 9 (microfiche)). Post-holes in this area could be interpreted as the remains of a trapezoid structure measuring approximately 5.5 x 5.3m, with its corners formed by 340, 354, 360, and 369 and with a slot, 357, linking the two central post-holes, 356 and 358, of the broader, east face. Fragments of fired clay were present in 348 in the south wall and in 352 within the structure. Burnt earth fills occurred in 352 and in nearby post-holes 353 and 354. Two major problems attach to this interpretation: (1) the post-holes of the north wall, 340, 350 and 369, would also have formed part of the inner alignment described above, which extended beyond the possible structure; (2) 354, supposedly the south-west corner of the structure, survived only as a 5cm deep hollow, which retained no evidence of having held a post, in contrast to 340, the well-preserved 29cm deep post-hole of the inner line which would have been its counterpart (Fig. 21).

The eastern and central north-to-south rows of postholes, 369, 356–357-358, 360 and 350, 359, 349, 348, on the other hand, presented no such disparities. As with structure E, an alternative interpretation would see them as the two sides of an entrance into the main enclosure.

If the north side of the enclosure in this area is indeed formed by post-holes 331, 330, 351, 364, 347 and 345, then its change of alignment in the area of structure E suggests that the structure and the post-hole row extending from its north-east corner, formed by 363, 343, 341, 220 and 211, were standing, whether intact or decayed, when the north side of the enclosure was built around them (Fig. 21, Pl. III). Alternatively, the whole may be seen as a complex, contemporary entrance arrangement, perhaps incorporating a small building.

# Artefacts and environmental evidence from within the main enclosure

(Figs 28-30, Tables 6-8 (microfiche)).

Most of the post-holes attributable to the main enclosure or to structures E or F contained no more than the odd fleck of charcoal or few marine mollusc (generally mussel) shells, both of which were near-ubiquitous in the excavated features (Table 3 (microfiche)). More substantial finds from these post-holes and their related slots are confined to fifty-four pieces of worked flint and stone - most of them single, unretouched flint flakes (Table 44, Tables 18-19 (microfiche)), ninety-three sherds of pottery - one of them Romano-British and apparently intrusive and most of them so small and abraded as to have no attributes other than their fabric (Table 45), three fragments of animal bone – the samples for OxA-2307-2309 (Tables 35 and 46), and six concentrations (*i.e.* more than ten hinges) of marine mollusc shells, all mainly mussel. In addition to being sparse and often undiagnostic, most of these finds were excavated from replacement material, and can only be regarded as having been present on the surface or in the topsoil as the uprights decayed, although they may have been discarded during the use of the structures.

Distributions suggest some relationship between structures and finds, as well as some distinctions between structures. Worked flint and stone (Fig. 28) were concentrated in the areas of structures E and F and of the north-west ?entrance, with a few pieces in the post-holes of the east ?entrance, although no concentration coincided with the south ?entrance. This was, however, marked by a small concentration of sherds, as were the east ?entrance and structures E and F (Fig. 29), although both sherds and food remains were absent from the north-west ?entrance. Sherds from the post-holes of structure F were confined to fabrics U:1, Sh:1, SSh:1 and Sh:-, in contrast to the more varied fabrics of the other concentrations (Fig. 29; Table 45; pottery fabrics are defined in Table 29). Food remains showed a similar



Plate III Redgate Hill, Hunstanton. Structure E (background) and F (foreground) with north side of main enclosure from the east



Figure 21 Redgate Hill, Hunstanton. North-east corner of enclosure and structure F

19



Figure 22 Redgate Hill, Hunstanton. Sections of features shown in Figure 21

distinction: animal bone was found in structure E and its immediate area, while four of the six concentrations of marine mollusc shell relating to the enclosure were recovered from post-holes immediately east of structure F (Fig. 30). In the case of 363 and 364, which were only about a metre apart (Fig. 21), a concentration of shells seems to have been present before the posts were inserted, since most of those from 363 were in the packing and most of those from 364 in the basal fill (Table 41 (microfiche)).

Most of the worked flint and stone under consideration is undiagnostic. The exception is L38, a fragmentary object of hard chalk from the upper fill of the western socket of double post-hole 302 at the north end of slot 303 in structure E, which is most readily seen as related to the stone mace-heads of the Later Neolithic (Ch. 3. I).

Very little pottery came from the basal fills of the post-holes, where it would provide a terminus post quem for the insertion of posts into them. Slightly more can be attributed to their packing, which must at least relate to the life of the structures, bearing in mind that fresh packing may have been inserted to firm a loosened post years after its erection. All certain instances occurred within the area of Figure 18. A body sherd in fabric Sh:1, was found resting on natural at the bottom of the southernmost post-hole of *304*. Packing material in the same socket contained a rim fragment in fabric FS:3,



Figure 23 Redgate Hill, Hunstanton. Sections of features shown in Figure 21



Figure 24 Redgate Hill, Hunstanton. Structure G

perhaps from the same vessel as P48 from the replacement material of post-hole 306, while packing material in the north-east socket of the same feature contained sherds in in fabric SSh:1 and flint-tempered crumbs. The packing material and lower fill of 302 and 303 contained a sherd in fabric SSh:1 together with fragments tempered with flint, sand, flint and sand, and shell. A sherd in fabric Sh:1 was found in the packing material of 307, while the packing material of 306, the next post-hole to the west, contained two sherds in fabric SSh:1.

Pottery from replacement material exhibits a wider range of fabrics and includes fragments of a vessel possibly of Grooved Ware (P25) from post-hole 309 of the north side of the main enclosure and of structure E, a sherd of Late Beaker (P36) from post-hole 405 in the east side of the main enclosure, and sherds probably of Rusticated Beaker from post-hole 409 (P34) in the south side of the main enclosure (P34) and from post-hole 302 of structure E (P32). The replacement material of nearby post-hole 306 contained P48, a rim fragment in fabric FS:3, perhaps from the same vessel as a smaller rim fragment from packing material in the southernmost socket of 304. Its stylistic affinities are doubtful, but may lie with plain Neolithic Bowl, with Ebbsfleet Ware, or with local Iron Age wares (Ch. 3. II). It is unlikely to have beeen intrusive from later pit 305, which cut 306, since it was found well clear of the intersection of the two features. A base-angle fragment in fabric Sh:2, unique in the collection (P47), was found in the replacement material of post-hole 229 in the east ?entrance. This postsetting also produced the only post-prehistoric pottery from replacement material in the form of a small Romano-British sherd from 227, which may be regarded as intrusive, as may coal and coke fragments from adjacent post-hole 244.

Analysis (Ch. 4. III) of land mollusca from the basal fill of 259 in the north side of the main enclosure and from the replacement material of 229 in the east ?entrance indicates that the enclosure was built and decayed in an open environment. This contrasts with the woodland molluscan assemblage from the lower fill of pit 305, which cut the post-holes of the main enclosure (Figs 18, 20).



Figure 25 Redgate Hill, Hunstanton. Structures H and I with adjacent features


Figure 26 Redgate Hill, Hunstanton. Features shown in Figure 25

## Structure G

## (Table 10 (microfiche), Fig. 24)

This nine-post structure lay in relative isolation some 25m north of the main enclosure. It was approximately four metres square and sited on sloping ground, with a drop of 15cm from north-east to south-west. The most substantial post-holes lay on the upslope, north-east side and contained posts 20cm or more in diameter. Each of the two outer posts in this row, 170 and 172, was braced against the slope by a single smaller timber angled towards it. The central post-hole, 171, contained a large outer post and two smaller timbers, only one of them possibly inclined. The second row, 173, 174 and 175, consisted of single, upright posts, the central one of which, 174, was of similar diameter to the uprights of the first row. The post-holes of the third, downslope row, 176, 177 and 178, survived to a maximum depth of only 8cm. Two post-pipes were planned in each, and their irregular, elongated plans were consistent with their having been double, but no evidence of this remained in the severely truncated sections.

Few artefacts were associated. The five pieces of worked flint and stone include a fragmentary stone disc, L39, from 172. Pottery consists of six small, featureless body sherds, in fabrics SSh:1, GS:2, S:3, and FS:4 from 170, 172, and 174 (Ch. 3. II). There is a single indeterminate cereal fragment from 171 (Ch. 4. III).

## Structure H

## (Table 11 (microfiche), Figs 25 and 26)

This six-post structure measured some 2.3m square and was supported by uprights approximately 20cm in diameter. 204, a possibly back-filled post-hole, appeared unrelated to it. The few finds consist almost entirely of marine mollusca.

## Structure I

#### (Table 12 (microfiche), Figs 25 and 26)

Post-holes 185, 187, 189, 192–194, 205 and 206 seemed to have held the uprights of a circular building some 6m in diameter. 190 and 191, more substantial and more closelyspaced post-holes Im outside the circle to the south, may have supported a porch. One post-hole, between 192 and 193, should lie outside the excavated area. If this missing post-hole is taken into account, then 185 and 192, 187 and the destroyed post-hole, 189 and 193, 206 and 205 were more-or-less symmetrically opposed across and at rightangles to a central axis running from the porch, marked by 190 and 191, to 194. Two stake-holes, 195 and 196, were set Im apart within the structure opposite the entrance.

The few artefacts were concentrated close to the entrance (Figs 28–29) and include a small, sand-tempered rusticated sherd (P35) and a grogged collar or cordon fragment (P43) from *191*. Larger body sherds in fabric G:1, the same as that of the Collared Urn sherds



Figure 27 Redgate Hill, Hunstanton. Post-pipe dimensions

from pit 34, were found in this post-hole and in post-holes 185 and 190. There was a concentration of marine mollusc shells, mainly mussel, in the replacement material of 206.

## Other possible structures

It is suggested above that rows A, C and D may have been fragments of larger structures. Further structures may have existed in the north-west corner of the main enclosure, where post-holes were at their densest (Fig. 18). Three small, contiguous post-holes, 272, 273 and 275, were of exceptionally uniform size and fill (Fig. 19). These, like many of the unattributed post-holes, were smaller than those of the identified structures (Fig. 27) and may have formed part of flimsier constructions. Amidst such a profusion of post-holes, two-post structures must largely go undetected. An exception may be formed by 432 and 433, which were set only a few cm apart in the south of the 1971 area, at D 2400 9380, and distinguished by almost identical burnt, clayey fills, with burnt flint and stone. The replacement material of 432 contained sherds of a prehistoric vessel of uncertain stylistic affinities (P49).



Figure 28 Redgate Hill, Hunstanton. Distribution of worked flint and stone



Figure 29 Redgate Hill, Hunstanton. Distribution of prehistoric pottery



Figure 30 Redgate Hill, Hunstanton. Distribution of food remains

## Chapter 3. Artefacts

## I. Lithic Material

by Frances Healy

#### Introduction

This report supersedes (and sometimes contradicts) earlier accounts (Healy 1980, vol. II, 687–727; 1985a, 192–196; 1985b), all of which were based on a preliminary assessment made in 1975–6. The composition and incidence of lithic material from the site is itemized by feature and layer in Tables 13–20 (microfiche). The overall composition of excavated and collected material is summarized in Table 21, and the excavated material is summarized by context type in Table 22. Descriptive categories are defined in the Appendix (p. 39). Distribution (by feature) is shown in Figure 28. Selected artefacts are illustrated in Figures 34–36 and described in the catalogue at the end of this section.

The majority of lithic material came from pits, most of them excavated in 1970 (Tables 21–22). The surface collections, which are not illustrated here, are selective, with a strong bias towards cores and retouched pieces (Table 21). Most of the artefacts in them are heavily corticated and plough-damaged. The only fresh pieces in the 1975 Le Strange collection, which was made on an irregular grid, came from the collector's 'W Firs–500', centred at approximately TF 678 394, downslope from and to the south-west of the excavated area.

## Description

## Raw Materials

Flint. Relatively little can be characterised. Most has the white to pale blue cortication characteristic of flint recovered from features cut into the chalk, and much is further obscured by a thin post-depositional calcareous encrustation (e.g. on L17). Only 223 pieces among the excavated material, all with substantial amounts of cortex, can be ascribed to source with reasonable confidence. 196 of them have the rounded, battered surface characteristic of beach pebbles (e.g. L4, L18), and indistinguishable from that of the pebbles of the present South Beach, 1km to the west. There is an unworked flint beach pebble from pit 34; and thirteen others were recorded from the 1971 excavation and subsequently discarded (from post-holes 228, 306 and 364 of the main enclosure, post-holes 302 and 304 of structure E, postholes 349 and 360 of structure F, post-enclosure pit 305, and post-hole 432). Twelve artefacts in the surface collections are also of beach pebble flint.

	cores	irreg. waste	core rejuvenat flakes	tion flakes	blades	retouched pieces	other artefacts	totals	% of total	unworked pebbles & fragments
1970	67 5.9%	22 1.9%	19 1.7%	853 75.5%	93 8.2%	69 6.0%	9 0.8%	1132	75.7%	190
1971	5 3.0%	7 4.2%	2 1.2%	127 75.5%	8 4.8%	14 8.3%	5 3.0%	168	11.3%	359
Surface collections 1961–87	31 16.0%	0 0.0%	0 0.0%	48 24.7%	36 18.6%	76 39.2%	3 1.5%	194	13.0%	0
Totals	103 6.9%	29 1.9%	21 1.4%	1028 68.9%	137 9.2%	159 10.6%	17 1.1%	1494		549

Table 21 Flint and stone: overall composition of excavated and collected material

	cores	irreg. waste	core rejuvenat flakes	ion flakes	blades	retouched pieces	other artefacts	totals	% of total	unworked pebbles & fragments
Pits with Grooved Ware	46 5.5%	14 1.7%	15 1.7%	639 75.8%	72 8.5%	52 6.0%	7 0.8%	845	64.9%	191
Other pits	20 6.5%	9 2.9%	5 1.5%	240 77.5%	13 4.2%	19 6.0%	4 1.2%	310	23.9%	118
Main enclosure	2 6.3%	0 0.0%	0 0.0%	25 78.1%	1 3.1%	4 12.5%	0 0.0%	32	2.5%	96
Other structures	1 3.1%	1 3.1%	0 0.0%	25 78.1%	2 6.3%	1 3.1%	2 5.3%	32	2.5%	58
Remaining contexts 1970–71	3 3.7%	5 6.1%	1 1.2%	51 63.1%	13 16.1%	7 8.6%	1 1.2%	81	6.2%	86
Totals	72 5.5%	29 2.2%	21 1.6%	980 75.5%	101 7.8%	83 6.3%	14 1.1%	1300		549

Table 22 Flint and stones: overall composition of excavated material, broken down by context type

The remaining characterized flint comprises sixteen pieces from non-beach pebbles (*e.g.* L20, L21) and eleven pieces probably derived immediately from the chalk. The last include two joining fragments of banded tabular flint from pit 33, which may have come from the *Terebratulina lata* zone to the east (Ch. 1), and an unstratified partly ground axe (L41), which seems likely to be of chalk flint on the evidence of its size and of the quality and colour of the flint where it is visible in recent fractures. Flakes from ground implements (*e.g.* L27, L33) are too fragmentary and too heavily corticated for their source or sources to be apparent.

Other rocks. L38, a possible macehead from post-hole 302 of structure E, is of Totternhoe Stone, which outcrops in the chalk scarp 100m to the west (Ch. 1). L39, a fragmentary stone disc from post-hole 172 of structure G, is of fine, micaceous sandstone. Two possible quern fragments from pit 430 are respectively of sandstone and basalt. There are seven quartzite hammerstones (four, including L1, from pit 1, one from pit 12, one from pit 20, and one from pit 23 or 24) and one of gneiss (L2) from pit 1.

Unworked pebbles and fragments from pits excavated in 1970 include local formations such as Red Chalk and Carstone, both of which outcrop 500m to the west (Ch. 1). The majority, however, are worn, rolled pebbles of sandstones other than Carstone, of quartzite, and of basic igneous rocks such as basalt, the rotted surfaces of which often mimic the effects of burning. These are the predominantly Cheviot erratics of the Hunstanton Till, which today occur locally in surviving patches of boulder clay (Fig. 3), in 'Drift soils' representing its former presence on higher ground (Straw 1960, 380), and in shingle. An exceptionally large slab of basic igneous rock, measuring 270 x 195 x 70mm and weighing 5.850kg, was the sole find from pit 25. A similarly-sized slab of fossiliferous calcareous mudstone of uncertain origin, measuring 278 x 233 x 45mm and weighing 5.355kg, was found with a small fragment of sandstone in the bottom of pit 22, beneath deposits of Grooved Ware and animal bone (Ch. 2).

In contrast, only three fragments of igneous rock were found in 1971, from post-hole *191* of structure I, from post-hole *261*, and from post-hole *306* of the main

enclosure. The other pebbles and fragments, which were discarded after identification, were recorded as consisting almost entirely of Carstone, with small quantities of quartzite and quartz. Most of the stones concentrated in the west of pit 260 (Fig. 19), were, for example, of Carstone, and it was sometimes used as post-packing, as in 306 (Fig. 20).

#### Hammers

Hard hammers from pits with Grooved Ware are all nonflint pebbles with restricted areas of battering. Six are of quartzite (*e.g.* L1) and one (L2) of gneiss. There is a further quartzite hammerstone from pit 23 or 24. Flint hammerstones, spherical, often slightly faceted, and battered over virtually their entire surfaces, were confined to possibly Bronze Age pit 33, to post-hole 432, which was of uncertain date (L40), and the 1975 surface collection from the area to the west (Table 15 (microfiche)). No soft hammers have been recognised, despite the survival of bone and antler. Soft-hammer flaking seems to have been practised to a restricted extent, for example on the one Levallois-like core (L7), some blades (*e.g.* L11) and some of the smaller tertiary flakes (*e.g.* the blank of L26).

## Cores (Table 23)

Among the cores from pits with Grooved Ware, keeled (D, E and Levallois-like) forms are almost as frequent as single-platform (A1 and A2) ones. Cores associated with Collared Urn pottery in pit 34 represent the rudimentary reduction of beach pebbles (*e.g.* L28–L29). The few cores from other contexts than pits are generally much smaller, and seem to have been worked to exhaustion (*e.g.* L36). There are no true blade cores among the excavated material, and only two have any blade scars.

Cores from the surface collections, in contrast, include fifteen blade cores, six of them bipolar, and six other cores with some blade scars.

#### Core rejuvenation flakes

Most represent the removal of a platform edge and part of the adjacent core face (*e.g.* L8). The exceptions are two crested flakes, struck along the ridges of keeled cores, both from pit 21 (*e.g.* L9) and three core tablets, two from pit 20 (*e.g.* L10) and one from pit 22.

	A1	A2	B1	B2	B3	С	D	E	Leval- lois	Uncl./ Frag.	Totals	Drawings
Pits with Grooved Ware	4 8.7% Mean	12 26.1% weight o	2 4.3% of comp	2 4.3% lete cor	1 2.2% es: 109g	1 2.2% g. No. w	8 17.4% vith at le	5 10.8% east som	1 2.2% ne blade scars:	10 21.8% 2	46	L3-L7
Other Pits	0 0.0% Mean	10 50.0% weight o	0 0.0% of comp	0 0.0% lete cor	2 10.0% es: 147g	1 5.0% g. No. v	0 0.0% vith at le	0 0.0% east som	0 0.0% ne blade scars:	7 35.0% 0	20	L28, L29
Remaining contexts 1970–71	0 0.0% Mean	2 33.3% weight o	0 0.0% of comp	0 0.0% lete cor	0 0.0% es: 39g.	0 0.0% No. wi	3 50.0% th at lea	0 0.0% ast some	0 0.0% e blade scars: 0	1 16.7%	6	L36
Surface collections	1 3.2%	5 16.1%	6 19.4%	0 0.0%	1 3.2%	6 19.4% No. wi	4 13.0% th at lea	0 0.0% ast some	0 0.0% e blade scars: 2	8 25.7% 1	31	
Overall totals	5 4.9%	29 28.2%	8 7.8%	2 1.8%	4 3.9%	8 7.8%	15 14.6%	5 4.9%	1 0.9%	26 25.2%	103	
Drawings	L3	L4 L28				L29	L5 L36	L6	L7			

Table 23 Core composition



Figure 31 Redgate Hill, Hunstanton. Dimensions of complete, unretouched flakes and blades from pits *12*, *20*, *21* and *34* and of complete flake scrapers from all pits containing Grooved Ware



Figure 32 Redgate Hill, Hunstanton. Proportions of complete, unretouched flakes and blades from pits *12*, *20*, *21* and *34* and of complete flake scrapers from all pits containing Grooved ware

## Flakes and blades

Figures 31–33 summarise metrical and other characteristics of the complete unretouched flakes and blades from those pits which contained more than 100 complete examples. The near-absence of flakes less than 10mm long or broad (Fig. 31) may result from the salvage conditions in which the pits were excavated, rather than from their original scarcity. Otherwise, the flakes from each pit reflect a normal reduction sequence from larger, thicker primary and secondary flakes to smaller, thinner tertiary ones. Most flakes are of fairly squat proportions (Fig. 32), but limited production of blades, such as L11, is seen in the small number of flakes of slender proportions present in each pit and in the presence of punctiform butts (Figs 32–33).

Among the pits containing Grooved Ware, the closely similar dimensions of the flakes from pits 20 and 21 (Fig. 31) may reflect their derivation from a single knapping episode, since the two pits were only a few metres apart, while pit 12, with its generally larger flakes, lay some 25m to the north-west (Fig. 6). Flakes associated with Collared Urn in pit 34 are broader, thicker and of squatter proportions than those from the pits with Grooved Ware (Figs. 31–32). The flakes of the small assemblage from pit 33, unlocated but possibly close to pit 34 (Table 3 (microfiche)), exhibit a technology similar to that of the Early Bronze Age debitage from it and may be contemporary.

#### Retouched forms

The composition and incidence of retouched forms are set out in full in Tables 13–20 (microfiche) and summarized in Table 24. Selected forms are described further below.

Arrowheads. The three examples from pits with Grooved Ware comprise a chisel arrowhead of Clark's (1934) form D from pit l2 (L13), an atypical, unifacially flaked chisel arrowhead, perhaps of Clark's form C, from pit 32 (L12), and a fragment, probably of a chisel or oblique arrowhead, from pit 2l (L14). The surface collections include a rough triangular point and a subtriangular bifacially-flaked flake which may be an unfinished arrowhead.

Scrapers. Most of the excavated scrapers are simple sideor side-end forms, such as L16-L18 (Table 25 (microfiche)). Among the Grooved Ware-associated material, scrapers were consistently made on some of the the largest, especially the thickest, flakes (Fig. 31). These include flakes from non-beach pebbles (e.g. L20), which might be expected to provide larger and sounder masses of raw material. Primary and secondary flakes, generally larger and thicker than tertiary ones, are more frequent among them than among the unretouched flakes and blades (Figs 31–32). The only exception to the generally squat shape of scrapers from the site is L15, made on the distal end of a serrated blade. A high proportion have butts from which more than one removal has been made. None have the punctiform butts which characterize the rare blades of the industry (Fig. 33).

	Chisel/ oblique arrow- heads	Triangu- lar arrow head	?Un- finished - arrow- head	Scrapers	Borers	Plano- convex knives	Notch	Denticu- lates	Serrated pieces	Microlith	Misc. retouched	'Fabri- cator'	Axe	Flakes from ground imple- ments	End- polished chisel	Totals	?Mace- head	Hammer	- ?Quern frags.	Stone dis	c Drawings
Pits with C	Grooved W	are																			
	3 5.9%	0 0.0%	0 0.0%	29 54.9%	1 2.0%	0 0.0%	12.0%	12.0%	14 27.5%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	3 5.9%	0 0.0%	52	0	7	0	0	L1–L2, L12–L27
Other Pits																					
	0 0.0%	0 0.0%	0 0.0%	7 36.8%	1 5.3%	0 0.0%	0 0.0%	1 5.3%	2 10.5%	0 0.0%	2 10.5%	0 0.0%	0 0.0%	6 31.6%	0 0.0%	19	0	2	2	0	L30–L35
Remaining	contexts	1970-71																			
	0 0.0%	0 0.0%	0 0.0%	7 58.4%	0 0.0%	0 0.0%	0 0.0%	0 0.0%	1 8.3%	0 0.0%	3 25.0%	0 0.0%	1 8.3%	0 0.0%	0 0.0%	12	1	1	0	1	L37–L41
Surface co	llections																				
	0 0.0%	1 1.3%	1 1.3%	65 85.5%	1 1.3%	3 3.9%	0 0.0%	0 0.0%	0 0.0%	1 1.3%	2 2.6%	1 1.3%	0 0.0%	0 0.0%	1 1.3%	76	0	3	0	0	
Overall tot	als																				
	3 1.9%	1 0.6%	1 0.6%	108 67.8%	3 1.9%	3 1.9%	1 0.6%	2 1.3%	17 10.9	1 0.6%	7 4.4%	1 0.6%	1 0.6%	9 5.7%	1 0.6%	159	1	13	2	1	
Drawings																					
	L12–L14			L15–L20 L34 L35 L37	L21 L31		L22	L23 L32	L15 L24–L26				L41	L27 L33			L38	L1 L2 ?L40		L39	

 Table 24
 Retouched pieces and other artefacts

There are two smaller, more neatly-worked scrapers, one (L34) associated with Late Beaker pottery in pit 335 and the other (L37) from post-hole 293 of the north-west corner of the main enclosure. One of the scrapers associated with Collared Urn in pit 34 has heavy, stepped retouch (L30). The surface collections have a higher frequency of more extensively-retouched forms and include twelve 'thumbnail' scrapers of similar size to L37.

Serrated pieces are the most frequent implement type after scrapers (Table 24), although too few survive intact to permit of metrical presentation. They are, with two exceptions (*e.g.* L26), made on blades or blade-like flakes. Only one (L25) is bilaterally serrated. There is macroscopically visible edge-gloss on the ventral face of the teeth of L15 and L25. Its presence on others may be obscured by cortication.

*The surface collections* include several forms absent from the excavated material (Table 24), among them a fragmentary microlith, three plano-convex knives, and a fragmentary, much-damaged, end-polished chisel.

#### Other artefacts

*Macehead.* L38, a fragmentary object of Totternhoe Stone from the top of replacement material in post-hole *302* of structure E, is trimmed around its edge, perforated from both faces, and smoothed, with numerous cutmarks, on one face, while the other retains a rough, pitted natural surface.

*Quern fragments.* Two fragments, one of sandstone and one of basalt, from pit 430 each retain approximately 4sq cm of flat, ground face. There are slight parallel striations on the surface of the basalt fragment. The small size of the ground areas makes it difficult to tell whether they are the result of human or of glacial action.

Stone disc. L39, a sandstone fragment from replacement material in post-hole *172* of structure G, retains an arc of trimmed edge which suggests that it formed part of a disc.

## Discussion

#### Raw materials

*Flint*. The predominance of beach pebble flint reflects the fact that there is no flint in the *Inoceramus labiatus* chalk on which the site lies. It is not clear why this relatively low-quality source was preferred to the *Terebratulina lata* chalk to the east. The collection of flint may have been incidental to other activities.

*Other rocks.* Erratics are far commoner among the unworked stone from the pits excavated in 1970 than among that from the 1971 excavation. The dispersed occurrence of erratics in the Hunstanton Till and deposits derived from it indicates that a concentration such as that of fifty-two pebbles and fragments in pit *12* must have been deliberately collected.

#### Hammers

The almost exclusive use of quartzite hammerstones in Grooved Ware contexts, when flint and other rocks were

available, also seems to have been a deliberate choice, attributable to the toughness of quartzite pebbles and their resistence to shattering. They were also used at the contemporary flint mine site of Grime's Graves, Weetingwith-Broomhill (Site 5640), where there was no question of a shortage of suitable flint (Saville 1981 a, 4–5). It may be significant that, at Hunstanton, spherical flint 'hammerstones' such as L40 were confined to a possibly Bronze Age and an uncertainly dated feature and to a surface collection made over an area where Iron Age features were subsequently excavated. These yielded two further spherical flint 'hammerstones', which Wymer suggests (1986, 292) would have been more suited for grinding than for flint-working. Flint rubbers may well have been dressed in the same way as flint saddle querns.

#### Cores

The frequency of keeled (D,E and Levallois-like) cores in the pits with Grooved Ware, where they are second only to single-platform (A1 and A2) cores, and their absence from other pits, including Early Bronze Age pit 34 (Table 23), conforms to their generally high frequency in Grooved Ware-associated industries in East Anglia, which is unmatched in industries associated with other pottery styles, whether contemporary or later (Cleal 1984, fig. 9.10; Healy 1985 a, 192-193). Reasons for it are unclear. It is not a simple result of the Later Neolithic use of a form of Levallois technique discussed by Saville (1981 a, 47-48). Only a minority of the keeled cores in these industries would, like L7, have produced Levallois-like flakes, some of which served as blanks for transverse arrowheads such as L13. Most contemporary keeled cores, like L5 or L6, are non-Levallois forms, roughly flaked on alternate sides of a ridge.

The crudely-worked pebble cores from Early Bronze Age pit 34 (e.g. L28, L29) echo Pryor's description of contemporary flaking techniques west of the Fens, 'Gravel-based flint industries of the Bronze Age are notoriously hard to categorise; cores present very particular problems, since "striking platforms" sometimes only consist of two or three flake beds' (1985, 161).

#### Flakes and blades

The generally squat flake proportions (Fig. 32) conform to the progressive abandonment of blade-production in third and early second millennium bc industries in southern England documented by Pitts (1978). Some of the differences between the flakes associated with Grooved Ware in pits 12, 20 and 21 and those associated with Collared Urn in pit 34 correspond to to distinctions made between the debitage of Later Neolithic and Early Bronze Age industries from elsewhere in the south of England by Ford et al. (1984) and by Ford (1987). In regional terms, the metrical characteristics of the flakes from pits 12, 20 and 21 are comparable with those of the Late Neolithic Storey's Bar Road subsite at Fengate, Cambridgeshire; those of the flakes from pit 34 with those of the Bronze Age Newark Road subsite (Pryor 1980, fig. 74). Some of the non-metrical characteristics found to distinguish Bronze Age industries elsewhere are absent from or unpronounced in the pit 34 material: the proportion of flakes which are more than 2/3 cortical is only fractionally higher than among the flakes from pit 21, while the frequencies of hinge fractures and irregular





Figure 33 Redgate Hill, Hunstanton. Non-metrical characteristics of complete, unretouched flakes from pits *12*, *20*, *21* and *34* and of complete flake scrapers from all pits containing Grooved Ware

outlines are virtually constant in all four groups (Fig. 33). Possible reasons for this include the effects of a common raw material source and the presence of residual Neolithic material among the flakes from the pit.

#### Retouched forms

Arrowheads. Both classifiable arrowheads found in association with Grooved Ware are chisel rather than oblique forms (L12, L13). This is slightly surprising, given the predominant association of chisel arrowheads with Peterborough Ware and with the Woodlands substyle of Grooved ware and of oblique arrowheads with the Clacton and Durrington Walls substyles of Grooved Ware, the first of which is represented at Hunstanton (Green 1980, 235–6; Manby 1974, 84). *Scrapers.* The scraper dimensions conform to a general tendency in non-Beaker Neolithic and Bronze age industries for scraper blanks to be chosen from among the larger flakes (Healy 1985 a, table 11). Thick flakes were clearly selected (Fig. 31), as they were in the broadly contemporary industry of Hengistbury Head, Dorset (Gardiner 1987, table 4), probably because there was a need for robust blanks, resistant to breakage in use.

Smaller, sometimes scale-flaked 'thumbnail' forms, such as L34, L37 and some of the scrapers in the surface collections, are more usually associated with Beaker pottery (Clark and Higgs 1960, 219).

Serrated pieces. The consistent manufacture of serrated pieces on blades in an industry in which few blades were made is matched in other Grooved Ware-associated industries, where blade production was equally low. These include the assemblages from Storey's Bar Road, Fengate, Cambridgeshire (Pryor 1978, fig. 45: 6–15), and from Honington (Fell 1952, fig. 6) and Creeting St. Mary, both in Suffolk. At Middle Harling, Norfolk, serrated blades formed part of an industry associated with Fengate Ware and otherwise similarly dominated by broad flakes (Site 6033; Healy forthcoming). Limited blade-production in these and contemporary industries may have been directly related to the manufacture of serrated pieces.

Particularly blade-like blanks were selected for serration earlier in the Neolithic, at, for example, Windmill Hill, Wiltshire (Smith 1965, 90-91), Abingdon, Oxfordshire (Whittle 1982, 38), or Briar Hill, Northampton (Bamford 1985, fig. 36). The traditional interpretation of these implements as sickle flints, on the evidence of their frequent edge-gloss, offers a functional reason for this preference, independent of the passing of time and of changes in flint-working practice. A bladelike blank would have the combined advantages of a long, straight cutting edge and of a symmetrical shape suitable for serial hafting. Microwear indicative of their use for cutting vegetable matter, as at Tattershall Thorpe, Lincolnshire (R.M. Bradley this volume) or Abingdon, Oxfordshire (Whittle 1982, 38) is compatible with this. What, and how many kinds of, vegetable matter were cut remains to be determined. A restricted function would accord with their uneven incidence in Neolithic and Bronze Age industries (Healy 1985 a, 196).

*Plano-convex knives*, such as occur in the surface collections, are found in predominantly Early Bronze Age associations (Saville 1985, 129–130).

*End-polished chisel.* A chisel fragment collected from the area to the west in 1987 is of a form seldom found in closed associations. Some indication of date and affinities is given by Yorkshire finds of two examples in pits with Grooved Ware at Fimber Church and Flamborough site 3 (Manby 1974, 11, 74, figs. 3:17, 31:1) and of another in the Seamer Moor grave-group of finely-worked Later Neolithic implements (Smith 1921, 121, fig. 4; Manby 1974, 90; Thorpe and Richards 1984, 71).

*?Macehead.* The size of L38 makes it unlikely to have been a spindle whorl. Its combination of an apparently central perforation with a carefully-trimmed, subquadrangular outline distinguishes it from hourglass-

perforated chalk lumps found in Earlier Neolithic contexts, for example those from the primary levels of causewayed enclosures at Windmill Hill, Wiltshire (Smith 1965, fig. 57: C16, C19) and at the Trundle, Sussex (Drewett 1981, fig. 4:3) or from the ditch silts of an oval barrow at North Marden, Sussex (Thompson 1986, fig. 6: 3, 4). It bears a strong resemblance to the stone maceheads of the Later Neolithic and Early Bronze Age, for which Roe has documented some Grooved Ware associations (1968, 153-163, 165-167; 1979, 30). The difference of material may not invalidate the parallel. Stone maceheads may themselves have been derived from antler prototypes (Roe 1968, 159-163), and the finer examples, laboriously worked from aesthetically-pleasing hard rocks of exotic origin, are unlikely to have been functional. In a period in which decidedly non-functional axeheads were made of chalk and deposited in major henge monuments (Megaw and Simpson 1979, 158) it would be no surprise if other stone implements were also reproduced in less resilent material.

### Conclusions

Most of the flint worked on the site was collected as beach pebbles. Erratic pebbles and fragments, perhaps collected at the same time, seem to have been deliberately concentrated in some of the pits excavated in 1970. The deposition of exceptionally large slabs of rock in pits 22 and 25 seems even more purposeful. There is, however, little evidence of the selective or ordered deposition of struck flint beyond its uneven incidence in the Later Neolithic pits (Table 43).

The overall technology and typology of the struck flint from pits with Grooved Ware are comparable with those of larger contemporary assemblages, both within East Anglia, as Storey's Bar Road, Fengate, Cambridgeshire (Prvor 1978, 104-150) or Tye Field, Lawford, Essex (Healv 1985 a), and farther afield, as on the Yorkshire Wolds (Manby 1974, 83-90) or in Wessex (Wainwright and Longworth 1971, 156-181, 254-261; Wainwright 1979, 139-163). The assemblage associated with Collared Urn sherds in pit 34 is technologically distinct and is comparable with other Bronze Age industries. Lithic material excavated from structural and other contexts in 1971 is difficult to categorise because of its small total quantity and dispersed distribution (Fig. Table 44, Table 14 (microfiche)). Its few 28: characteristics would be compatible with a Later Neolithic or Early Bronze Age date. This is particularly true of a possible chalk macehead (L38) from structure E.

Surface collections, made mainly to the west of the excavated area, are of different composition. Many of the distinctions are attributable to selective collection, but this cannot account for the presence in them of forms unrepresented among the excavated material. These include artefacts likely to relate to the Grooved Ware pits, notably a fragmentary end-polished flint chisel, but they are also suggestive of other episodes. A Mesolithic component, in the form of regular blade cores, some of them bipolar, and a microlith fragment, finds no clear reflection in the excavated area, although a collection made in the valley to the south (Fig. 3) includes at least one tranchet axe and further blade cores, some of them small, in addition to later material (Site 17754; Table 2 (microfiche)). Plano-convex knives and several 'thumbnail' scrapers suggest that a Beaker element, represented in the excavated area by pit 335 and its contents (L34, P33), a few further sherds (P31–32, P34–36) and a further 'thumbnail' scraper (L37), may have been more substantial to the west and south.

## **Catalogue of Illustrated Lithic Material**

*Note.* The information following each drawing number is arranged in the following order: category (defined below); raw material; descriptive or other comment (where appropriate); context.

## Pits with Grooved Ware

- L1 Hammerstone. Quartzite pebble. Pit 1.
- L2 Hammerstone. Gneiss. Pit 1.
- L3 A1 core. Indeterminate flint. Pit 20.
- L4 A2 core. Beach pebble flint. Pit 21.L5 D core. Beach pebble flint. Pit 20.
- L6 E core. Beach pebble flint. Pit 20.
- Lo Levallois core. Indeterminate flint. Pit 12.
- L8 Core rejuvenation flake. Indeterminate flint. Pit 21.
- L9 Core rejuvenation flake. Indeterminate flint. Pit 21.
- L10 Core rejuvenation flake. Beach pebble flint. Pit 20.
- L11 Blade. Beach pebble flint. Pit 21.
- L12 Chisel arrowhead. Beach pebble flint. Unifacially-retouched, perhaps of Clark's (1934) form C. Pit 32.
- L13 Chisel arrowhead. Indeterminate flint. Clark's (1934) form D. Pit *12*.
- L14 Fragmentary chisel or oblique arrowhead. Indeterminate flint. Pit 21.
- L15 End scraper/serrated blade. Indeterminate flint. Slight gloss on ventral face of serrated edge. Pit *1*.
- L16 End scraper. Beach pebble flint. Pit 22.
- **L17 Side-end scraper** made on the bulbar end of a flake ending in a hinge fracture; chalk-filled void; heavy calcareous encrustation. Chalk flint. Pit 20.
- L18 Side-end scraper. Beach pebble flint. Pit 1.
- L19 Side scraper. Indeterminate flint. Pit 12.
- L20 Fragmentary scraper. Banded non-beach flint with fresh cortex. Pit 12.
- L21 Piercer. Non-beach flint with relatively fresh cortex. Pit 20.
- L22 Notch. Indeterminate flint. Pit 21.
- L23 Denticulate. Indeterminate flint. Pit 1.
- L24 Serrated blade. Indeterminate flint. Pit 22.
- L25 Serrated blade. Indeterminate flint. Gloss on ventral face of right edge. Pit 22.
- L26 Serrated flake. Indeterminate flint. Pit 22.
- L27 Flake from polished implement. Indeterminate flint. ?Utilized; small find 11. Pit 260, layer (2).

#### Other pits

- L28 A2 core. Beach pebble flint. Pit 34.
- L29 C core. Beach pebble flint. Pit 34.
- L30 Horseshoe scraper. Indeterminate flint. Pit 34.
- L31 Spurred piece. Non-beach flint. Pit 34.
- L32 Denticulate. Indeterminate flint. Pit 34.
- L33 Flake from ground implement. Indeterminate flint. Pit 34.
- L34 Side-end scraper. ?Beach pebble flint. Small find 5. Pit 335, layer
- L35 End scraper. Indeterminate flint. Pit 430, layer (7).

#### Structures

- **L36 D core.** Indeterminate flint. Post-hole 329, layer (1); N side of main enclosure.
- L37 End scraper. Beach pebble flint. Small find 9. Post-hole 293, layer (1); NW corner of main enclosure.
- L38 ?Macehead. Totternhoe stone. Broken by mechanical excavator during topsoil-stripping; petrology no. N217; small find 4. Posthole 302, top of layer (1) in W socket; structure E.
- **L39 Stone disc.** Fine, laminated micaceous sandstone. Small find 3. Post-hole *172*, layer (1); structure G.

#### Remaining contexts

- **L40 Hammerstone or rubber.** Indeterminate flint. Battered over entire surface. Post-hole 432, layer (1).
- L41 Axe. Probably chalk flint. Recent damage to cutting edge; thermally fractured area at butt; small find 12. Unstratified in spoil from modern pipe trench at approx. B20/00.



Figure 34 Redgate Hill, Hunstanton. Lithic material from pits with Grooved Ware





















Figure 35 Redgate Hill, Hunstanton. Lithic material from pits with Grooved Ware



Figure 36 Redgate Hill, Hunstanton. Lithic material

#### Appendix. Terms used in describing lithic material

A. Debitage

**Core.** Classified according to Clark and Higgs (1960, 216) with the addition of Levallois:

Single-platform	
A1.	Flakes removed all around (e.g. L3)
A2.	Flakes removed part of way around (e.g. L4, L28)
Multi-platform	
B1.	Two parallel platforms
B2.	Two plaforms, one at an oblique angle
B3.	Two platforms at right-angles
С.	Three or more platforms (e.g. L29)
Keeled	
D.	Flakes struck from either side of a ridge (e.g. L5)
E.	As D, but with one additional platform or more

As D, but with one additional platform or more (e.g. L6)

Levallois. Discoidal keeled core prepared for the detachment of flakes of predetermined shape (e.g. L7)

Unclassifiable or fragmentary

Irregular waste. Fragment produced during the breaking-up of a nodule or pebble.

**Core rejuvenation flake.** Removal made to prepare a core platform for further flaking (*e.g.* L8, L9, L10).

Flake. Generally used to denote any removal from a core. Sometimes subdivided visually, for example in Tables 13–20 (microfiche) and 21–22, into

Blade	(e.g. L11). A proportionately narrow, parallel-
	sided flake, often with parallel arrises on the dorsal
	face.
Flake.	Any other removal.

In Figures 31-33 f	lakes are divided into
Primary	(e.g. the blank of L20). Dorsal face completely
	cortical
Secondary	(e.g. L11). Dorsal face partly cortical
Tertiary	(e.g. the blank of L23). Dorsal face non-cortical

Flake dimensions, represented in the same diagrams, have been measured according to Saville (1981 b, 146–147):

Length. Maximum dimension along bulbar axis at right-angles to striking platform
 Breadth. Maximum distance between any two points on opposite lateral edges, taken at right-angles to length measurement

Thickness. Maximum dimension between dorsal and ventral faces, measured at right-angles to ventral face

Flake butts (or striking platforms) are divided in Figure 33 into

Cortical. Completely cortex-covered

Plain. Formed by a single removal

With more than one removal. Having more than one truncated flake scar on the striking platform.

*Faceted.* With a series of negative bulbs along the dorsal edge, forming part of the flake scars truncated at the ventral edge by the detachment of the flake (Saville 1981 a, 6)

Punctiform. Slender and of restricted area, likely to have been by a soft hammer or punch-struck blow

Hinge fracture (*e.g.* L26). Flake or blade in which the fracture plane turns abruptly up at the distal end, leaving a smoothly rounded tip.

Irregular flake (e.g. the blank of L19). A flake of markedly asymmetrical outline.

#### B. Retouched forms

**Chisel arrowhead** (*e.g.* L12, L13). Roughly symmetrical arrowhead of quadrangular or triangular outline, generally formed by bifacial retouch and retaining one unworked primary flake edge. Equivalent to forms B-D of Clark's (1934) *petit tranchet* derivative arrowhead classification (adapted from Green 1980, 30).

**Oblique arrowhead** (*e.g.* Pryor 1978, fig. 43). Asymmetrical arrowhead of subtriangular outline, formed by bifacial retouch along one long edge and often around an asymmetrically hollowed base, with the remaining primary flake edge generally unworked, but sometimes also retouched, especially towards the tip. Equivalent to forms E–I of Clark's (1934) *petit tranchet* derivative arrowhead classification (adapted from Green 1980, 30).

**Triangular arrowhead** (*e.g.* Smith 1965, fig.50:F181; Saville 1985, fig.15:5). Bifacially-flaked point of triangular or subtriangular outline. **?Unfinished arrowhead** (*e.g.* Clark and Higgs 1960, fig.14:F45, F47). Large, relatively thin and flat biface more likely to have been an arrowhead blank than a finished implement.

**Scraper.** Implement part of the edge of which is bevelled by unifacial blunting retouch, forming an angle of approximately 20–90 degrees with the flat underside of the blank, the modified edge being usually convex (Saville 1981 a, 8–9). Forms present at Hunstanton are:

End scraper (e.g. L15, L16, L17). Worked at the distal or, rarely, the bulbar end of a flake.

*Side-end scraper (e.g.* L18, L34). Worked at the distal or bulbar end of a flake and along more than half of one lateral edge.

Horseshoe scraper (e.g.  $\overline{L}$ 30). Worked at the distal or bulbar end of a flake and along both lateral edges or, rarely, at both distal and bulbar ends and along one lateral edge.

Side scraper (e.g. L19). Worked along one lateral edge of a flake. Fragmentary scraper (e.g. L20).

**Borer or point.** Implement with a narrow retouched projection, apparently used for perforation. Forms present at Hunstanton are:

*Piercer* (*L21*). Borer formed by the removal of secondary flakes from only one direction (Clark and Higgs 1960, 223). *Spurred piece* (L31). Borer with a short projection formed either

on a scraper-like edge or by the working of two closely-spaced notches (Smith 1965, 105).

**Plano-convex knife** (*e.g.* Saville 1985, fig. 14:3, 4; fig. 15:6–8). Sharpedged implement of thin, plano-convex section with sharp edges and generally of ovoid outline, scale-flaked over all, or almost all, of its dorsal face (Clark 1932).

**Notch** (L22). Piece in the edge of which one or more indentations have been worked by abrupt or semi-abrupt retouch.

**Denticulate** (L27, L32). Piece in the edge of which coarse teeth have been formed, sometimes by the working of contiguous notches, sometimes by the detachment of single flakes. Includes the more restricted classes of '(keeled) denticulated flakes' (Wainwright and Longworth 1971, 176) and 'denticulate scrapers' (Saville 1981 a, 9).

**Serrated piece** (*e.g.* L24–L26). Straight-sided blank, generally a blade, with one or occasionally both lateral edges finely serrated by the removal of a single chip on either side of each tooth (Smith 1965, 108). This effect may be obtained by striking downwards onto the edge of the flake to be serrated with the edge of another flake held at right-angles to it.

Microlith. Small blade or flake fragment, its bulb normally removed, modified to a regular form by abrupt retouch.

Miscellaneous retouched piece.

Any retouched flake or blade which does not fall into the above categories.

**'Fabricator' or rod** (*e.g.* Saville 1981 a, figs. 78–80). Uni- or bifaciallyflaked, blunt-ended, parallel-sided implement, of thick plano-convex or biconvex section, sometimes heavily-worn. Includes all but the unilaterally-retouched forms among 'rods', as defined by Saville (1981 a, 10).

Axe (L4l). Relatively heavy cutting tool of symmetrical section with a transverse cutting cdge, sometimes wholly or partly ground.

Flake from ground implement (e.g. L27, L33).

**End-polished chisel** (*e.g.* Manby 1974, fig. 3:17, fig. 31:1). Parallelsided bar of flint of biconvex section, ground on both faces of a doublebevelled cutting edge (Manby 1974, 90).

## **II.** Pottery and Fired Clay

by Rosamund M. J. Cleal

## Introduction

A total of 773 sherds, weighing 9644g, was recovered. Sherd counts and weights of pottery from all the contexts are given in Table 26 (microfiche). All but a handful are prehistoric in date, and most belong to the Grooved Ware tradition of the Later Neolithic. No certainly Earlier Neolithic pottery is identifiable, but there are small amounts of Peterborough Ware, Beaker pottery, and sherds of several Collared Urns, as well as a small amount of less easily classified pottery which probably belongs in the second millennium cal. BC, and a few sherds which may be of first millennium BC date. The post-prehistoric pottery comprises a few Romano-British and one or two possibly medieval sherds; the former are mainly and the latter all body sherds.

## Method

Sherds were examined with a X10 hand lens and fabrics were defined mainly on the basis of the inclusion types present. Fabric names are based on abbreviations of the inclusions, excluding rare inclusions (i.e. inclusions not present in most sherds of that fabric): e.g. SSh:1 is a fabric with sand and shell inclusions, and is the first fabric with that combination of inclusions to have been identified. In addition, once the ceramic styles represented by each fabric were established a ceramic style code was added, e.g. SSh:1/GW, which indicates that Grooved Ware occurs in fabric SSh:1. This is the form of the fabric code used in most tables - it is not meant to imply that all sherds noted as belonging to such fabrics actually belong to that style, as with plain body sherds an element of doubt must remain, but simply that there are reasonable grounds to suppose that they do. Small fragments were assigned only to broad fabric groups on the basis of the inclusions visible, and recorded by the abbreviations for those materials e.g. FS:-, Sh:-

The abbreviations used in the fabric descriptions are as follows:

Fe: Iron (Oxides)

F: Flint

G: Grog (Crushed potsherd)

S: Sand

Sh: Shell

U: No visible inclusions

The term 'temper' is used only where it is clear that the material was added by the potter in the preparation of the clay body. 'Inclusion' merely denotes a material present in the fabric other than the clay itself, and which may be either a natural feature of the clay, or an addition of the potter's.

In addition to the usual counting and weighing of sherds, sherds were also measured for area, using a grid divided into square centimetres. Many of the sherds showed extremely fresh breaks, almost certainly caused during excavation by the lifting of the pottery, as it was mainly of a very fragile nature. As the main object of the size measurement was to try and quantify the size of sherds as they were at burial, such fresh breaks were ignored, the broken sherds being rejoined wherever possible and measured as one.

The condition of the sherds was recorded using the following terms:

*'fair'* – some abrasion visible, usually along the edges of breaks; this is particularly obvious on fabrics with a hackly fracture, as the rough edges become rounded with abrasion.

*'worn'* – edges and surfaces clearly abraded, but surface features and decoration still visible.

*'very worn'* – abraded to such a degree that the surface is either removed altogether or so worn that surface features and decoration are obscure.

## Grooved Ware

(P1-P26, Tables 27-28, 30)

A total of 542 sherds, weighing 6818g, appear to belong to this tradition. Of this total, 355 are basal sherds, rims, and decorated body sherds, while the remaining 187 are featureless sherds in the same fabrics. The total sherd counts and weights in each context, with a summary of non-Grooved ware pottery from the same contexts, are given in Table 27, and a more detailed breakdown of sherd type in Table 28.

## Fabric

Three Grooved Ware fabrics were identified, in all of which the temper is crushed shell (Table 29), identified by Peter Murphy in a sample of sherds as oyster and mussel (Ch. 4. III). Most of the Grooved Ware was in Fabric SSh:1 and although there were slight variations in the density of the temper and the quality of finish, overall the sherds in this fabric were homogeneous, and it was difficult to isolate separate vessels, particularly as the decoration as well as the fabric tends to show a fairly narrow range of variation. Fabric FeSSh:1 is a variant of SSh:1 which contains small black grains – probably iron oxides. Fabric Sh:1 is similar to SSh:1, but could be readily distinguished by the lack of sand visible at X10 magnification; it was also notable for its smooth, almost 'soapy' feel, which was not a feature of SSh:1.

#### Illustrated sherds

Although the Grooved Ware was fairly homogeneous, some attempt was made to identify individual vessels in order to provide an alternative estimation of minimum number of vessels than that to be derived from a simple rim count (counting joining rim sherds as one). This alternative estimate is obtained by only counting rims which could not belong to any other vessel (i.e. discounting small or featureless rims, and rims which could belong to a vessel already counted), and adding in sherds which must belong, by virtue of their fabrics, to vessels not already represented. On an admittedly even more subjective basis, other vessels not represented by rims may be distinguished, mainly on the grounds of very different decoration to the vessels already represented. In the list of illustrated sherds below many of the sherds could belong to the same vessels, and only those distinguished by an asterisk have been regarded as individual vessels for the purposes of the minimum number of vessels count. In the case of the vessels indicated by an asterisk, all the sherds belonging to a vessel are described, although they may not all be illustrated. A complete summary of all sherds found in each context is included in Tables 27 and 28 and in Table 26 (microfiche).

Context	SSh:1	Sh:1	FeSSh:1	Sh	:-	Other fabrics in same context (illustration numbers given where relevant)
1970 Pit 1 Pit 2 Pit 6 Pit 9	8 75g 1 32g 6 24g 2 18g			5	5g	1 indeterminate fragment with some sand
Pit 12	(1) 94 1089g					
Pit 20	(11) 15 149g					
Pit 21 Pit 22	(8) 43 565g 134 1239g (15)		3 169g			
Pit 32	(15) 168 2854g (6)			1	3g	
1971 Footoor (1						
Feature (1 170(1) 172(1) 260(1) 260(2) 264(3)	1 1g 2 3g 9 41+g 1 2g	1 21g				1 plain body sherd – GS:2/BA 1 plain body sherd – S:3/Bkr. 10 plain body sherds – indeterminate fabric with flint and sand
292(1) 302(1)	1 15g	2 13g 3 11g		1	3g	<ul> <li>3 plain body sherds - U:1/Indet.</li> <li>2 decorated body sherds - FS:2/Bkr;?BA (P46)</li> <li>4 sherds - FS:2/Bkr;?BA (P32)</li> <li>3 plain body sherds - FS:1/Pet.</li> <li>4 plain body sherds of an indeterminate fabric with flint and sand</li> </ul>
302(3) 304(1)	1 4g 2 10g					<ul> <li>4 plain body sherds of an indeterminate fabric with flint and sand.</li> <li>1 plain body sherd – FS:3/Indet.</li> <li>1 plain body sherd – indeterminate fabric with sand</li> <li>1 plain body sherd – indeterminate fabric with flint and sand</li> </ul>
304(3) 304(5) 305(2)	7 25g 3 27g	2 6g 5 168g				<ul> <li>1 plain body sherd – indeterminate fabric with flint</li> <li>1 small plain rim sherd – FS:3/Indet.</li> <li>1 plain body sherd – FS:3/Indet.</li> <li>1 plain body sherd – indeterminate fabric with sand</li> <li>2 plain body sherd – indeterminate fabric with flint and cond</li> </ul>
306(3) 307(2) 309(1)	2 9g	1 11g 4 47g (1)				1 plain body sherd – FS:2/Bkr;?BA
310(1) 349(1) 353(1–2)	3 8g	2 8g				2 plain body sherds – U:1/Indet. 8 plain body sherds – U:1/Indet.
356(1) 360(1) 400(1) 444(1)	1 16g 1 134g	5 8g 1 3g				1 plain body sherd – indeterminate fabric with flint and sand
Totals 1970 1971	471 6045g 35 297g	26 296g	3 169g	6 1	8g 3g	
Overall	506 (242-	26 206-	2 160~	7	110	
Total	542 sherds	6818g	5 109g	/	iig	

Table 27 Grooved Ware - sherd counts and weight; rim count given in brackets as well as being included in the sherd count

## Illustrated Grooved Ware

1970

- P1\* Five rim sherds and three decorated body sherds probably of a single vessel at least 18cm in diameter at the rim. The decoration is of grooves and paired plastic fingernail impressions. On the exterior there appears to have been a zone of plastic decoration bounded by grooved lines, and there are grooves and slightly plastic paired fingernail decoration on the interior just below the rim. SSh: 1
  - Condition: fair

Fabric:

Colour: Exterior and core: black; interior: black, pale brown (one sherd only)

Context:

pit 12 (N.B. some confusion may have arisen during or subsequent to the excavation as two of the rim sherds join along a fresh break but are in envelopes marked as coming from different pits: pit 12 in the case of one of the sherds, and pit 2 the other. As the majority of sherds are from pit 12, and the sherds themselves are not marked, it is assumed that a mistake has occurred, and that all the sherds were found in pit 12. The mistake is, however, understandable, as it is possible that P2, which is from pit 2, forms part of the same vessel as P1, although there are no joins.)

Context	Decorated	d body	Featureles	ss body	Rim shere	ls	Basal and	Base Angl	e Total		Illustra-	
1070	Grooved Ware	Other	Grooved Ware	Other	Grooved Ware	Other	Grooved Ware	Other	Grooved Ware	Other	Grooved Ware	Other
1970 Pit 1	11		2	1					13	1		
Pit 2	1		F				1		1		P2	
Pit 6 Pit 9	1		2		1		1		2		P3	
Pit 12	49		30		Ĩ1		4		94		P1, P4,	
Pit 20	3		1		8		3		15		P8-P11	
Pit 21	24		18				4		46		P12-P15	
Pit 22	74		39		15		6		134		P16-P21	
Pit 32	114		45		6		4		169		P22	
<i>1971</i> Feature ( <b>1</b>	Layer)											
170(1)			1	1					1	1		
172(1)			2	1					2	1		
260(1)	6		3						9		P23	
260(2)	1		,	10					1	10		
204(3)		2	1	10					1	10		D16
302(1)	2	2	2	9		2			5	11	P74	P37
302(3)	2		1			2			1		121	1 54
304(1)			2	6					2	6		
304(3)			7	2					7	2		
304(5)			2			1			2	1		
305(2)			7	4			1		8	4	P25	
306(3)			2						2			
307(2)			1	1	,		1		1	ï	D25	
309(1) 310(1)			2	1	1		1		4	1	P25	
349(1)			2	2					2	2		
353(1-2)			2	8	1				1	8		
356(1)	1								1			
360(1)			5						5			
400(1)	1			2					1	2	P26	
444(1)			1						1			

Table 28 Sherd type of pottery in Grooved Ware contexts

(Plain sherds classed as Grooved Ware are in fabrics SSh:1, Sh:1, ?FeSSh:1 or Sh:-)

- Single decorated body sherd, possibly belonging to the same **P**2 vessel as P1. The decoration is of parallel horizontal grooved lines, bordering a zone filled with paired plastic fingernail decoration.
  - Fabric: SSh:1
  - Condition: fair
  - Colour: Exterior: pale orange; core: obscured; interior: black.
  - pit 2 Context:
- P3 One plain base angle and three plain body sherds probably of one vessel. The sherds are not typical of fabric SSh:1, but appear to be within the range of that fabric: they have also been treated, probably with PVA, which renders a comparison of the fabric with the untreated sherds of SSh:1 more difficult. The sherds are probably, but not certainly, Grooved Ware. SSh:1
  - Fabric:

Condition: fair

Exterior: pale brown; core: black; interior: dark Colour: brown.

Context: pit 6

P4\* Three rim sherds, nineteen decorated body sherds, and two base angle sherds, probably belonging to one vessel. The form of the vessel and the organisation of the decoration is unclear, but it appears to have been a large tub-shaped pot with straight walls, at least 36cm in diameter at about mid-height, and with horizontal grooved lines arranged in zones which are interrupted by areas of paired plastic fingernail decoration. The decoration was clearly executed when the clay was still fairly plastic as there are ridges of clay along each side of several of the grooves, created by the displacing of the clay when the groove was formed. SSh:1 Fabric:

- Condition: most sherds fair, some worn.
- Exterior: pale orange, pale brown; core: brown, Colour:
- reddish brown; interior: orange. pit 12 Context:
- P5\* Three rim sherds, seven decorated body sherds, and two base angle sherds, probably belonging to a single vessel. The rim diameter is uncertain, but is greater than 16cm. The decoration is of grooved lines, bounding a zone of paired plastic fingernail decoration. Near the base there is also an area of paired plastic fingernail decoration interrupting a zone of horizontal grooved lines.
  - Fabric: SSh:1
  - Condition: fair
  - **Colour:** Exterior: grey-brown - patchy; core: black; interior: black, brown, grey-brown (black around base interior).
  - Context: pit 12 and pit 22 (one rim sherd only).
- One decorated body sherd, which may belong to P4. The **P6** decoration is of grooved lines, except that at one point, where there is a break in the lines, the break is impressed with a single short length of whipped cord.

Fabric: SSh:1

- Condition: worn
- Colour: black throughout.
- Context: pit 12

Fabric Code	Hardness	Colour	Inclusions	Frequency	Rounding	Size range
G:1/CU	. —	Surfaces oxidised or partially oxidised core unoxidised.	Grog	Moderate– dense	Sub-angular	<10mm; most <5mm
			Flint	Rare	Angular	<4mm
G:2/CU	Soft	Surfaces oxidised or partially oxidised; core unoxidised	Grog	Sparse– moderate	Rounded	<3mm
S:1/Indet.	Soft	Partially oxidised surfaces	Sand	Moderate-	Rounded	Fine-coarse
			Flint	dense Rare	Angular	
S:2/IA or RB	Very Hard	?Reduced	Sand	Moderate- dense	Rounded	Fine
S:3/Bkr	Hard	Surfaces oxidised or partially oxidised; core unoxidised	Sand	Sparse	Rounded	Coarse
S:4/Indet.	Hard	Surfaces unoxidised or partially oxidised; core unoxidised	Sand	Dense	Rounded	Coarse
Sh:1/?GW	Soft	Surfaces oxidised or partially oxidised; core unoxidised	Shell	Moderate- dense	Plate-like	<10mm; most <5mm
Sh:2/Indet.	Hard	Surfaces partially oxidised; core unoxidised	Shell	Sparse– moderate	Plate-like	<2mm
U:1/Indet.	Soft	Oxidised	None Visible		_	
FS:1/Pet.	Hard	Exterior surface oxidised; core and interior surface unoxidised	Flint	Moderate– dense	Angular	<8mm most <4mm
			Sand	Moderate	Rounded	Coarse
FS:2/Bkr;?BA	Hard	Surfaces oxidised or partially oxidised; core unoxidised	Flint	Moderate– dense	Angular	<7mm; most <3mm
			Sand	Sparse	Rounded	Fine
FS:3/Indet.	-	Surfaces oxidised or partially	Flint	Sparse-	Angular	<4mm most
		oxidised; core unoxidised		moderate		<2mm
770 1 77 1	** 1		Sand	Sparse	Rounded	Fine-coarse
FS:4/Indet.	Hard	Surfaces oxidised or partially oxidised; core rarely oxidised	Flint	Dense	Angular	<5mm; most <3mm
00 1/01	0.6		Sand	Sparse	Rounded	Fine
GS:1/CU	Soft	oxidised	Grog	Moderate	Rounded	<7mm; most <3mm
CS.2/DA	Hard	Surfaces oridized or partially	Grog	Sparse	Rounded	Coarse
G3:2/BA	Hard	oxidised; core unoxidised	Sand	Sparse Sparse– moderate	Rounded	Fine
SSh-1/GW	Hard	Surfaces generally partially	Sand	Sparse	Rounded	coarse
oomin o m		oxidised; core unoxidised	Shell	Moderate– dense	Plate-like	<10mm; most <5mm
?FeSSh:1/GW	Hard	Surfaces generally partially oxidised; core unoxidised	?Iron oxide (dull, matt black inclusions)	Moderate	Rounded	<2mm
			Sand Shell	Sparse Moderate–	Rounded Plate-like	Fine–coarse <6mm; most
00	0.6	9	C	dense	D	<3mm
GS Unidentified	Soft	Surfaces oxidised of partially	Grog	Sparse	Rounded	< 3mm Fine
Inclusion: 1/Indet.		oxidised; core unoxidised	Unident.*	Moderate– dense	Rounded	<3mm
Key: GW Bkr	Grooved Wa Beaker occu	are occurs in this fabric rs in this fabric n occurs in this fabric				
BA	Bronze Age	pottery of uncertain type occurs in t	his fabric			
IA or RB	Iron Age or	Romano-British pottery occurs in th	nis fabric			
Indet	No potterv	certainly belonging to an identifiable	e ceramic style occ	urs in this fabric		
Soft	Scratched ea	asily with the fingernail				
Hard	Not scratche	ed easily with the fingernail				
Very hard	Not scratche	ed with the fingernail				
Oxidised	Clear bright	colours				
Partially oxidise	d Shades of gr	ey and brown				
Unoxidised	Dark greys,	black		1 0	<b>`</b>	
(see Shepard 195	of for discussion of	of terms; see individual sherd descrip	otions in text for fo	or colour of potte	ry.)	
Fine (sand only)	Grains not s	een easily at $\times 10$ magnification				
Size range	Measuremen	nts taken from 2–3 typical sherds an	d should represent	t the commonest	range of sizes. Me	asurements are

\*UnidentifiedThe unidentified inclusions are soft (scratched easily with the fingernail), black, round and matt. It is possible that theyInclusionare grog, as there is grog in the fabric, and they are of a similar hardness, but the difference in colour is striking.

Table 29 Fabrics

- **P7** One rim sherd of a vessel decorated with shallow grooves inside and out. The rim diameter is not certain, but is in the range 18-28cm Fabric: SSh:1 Condition: worn Colour: Exterior: grey-brown; core: dark grey; interior: brown. pit 12 Context: P8\* Two rim sherds, and one decorated body sherd of a vessel decorated with shallow grooves and plastic fingernail decoration (it is not possible to determine whether the fingernail impressions are single or double). Fabric: SSh:1 Condition: fair Colour: Exterior: brown, orange-brown; core: black; interior: dark grey-brown. pit 20 Context: po\* Two rim sherds of a vessel decorated with grooved lines. Fabric: SSh:1 Condition: worn Colour: Exterior: pale brown; core: dark grey; interior: dark grey Context: pit 20 P10\* Four rim sherds of a vessel with grooved decoration. Fabric: SSh:1 Condition: worn Colour: Exterior: pale brown, black; core: black; interior: pale brown, dark grey. Context: pit 20 P11 One decorated body sherd decorated with grooved lines and large round impressions. Fabric: SSh:1 Condition: worn Colour: black throughout. Context: pit 20 P12\* Ten decorated body sherds and one base angle sherd of a vessel with low ridges and plastic fingernail decoration. Fabric: SSh:1 Condition: fair Colour: Exterior: orange; exterior margin: orange; interior margin: dark grey; interior: orange, greybrown. Context: pit 21 P13\* Two decorated body sherds and one base angle sherd of a vessel decorated with grooves and paired plastic fingernail decoration. Fabric: FeSSh:1 Condition: worn Colour: Exterior: pale brown; core: obscured; interior: pale brown. Context: pit 21 P14 One base angle sherd with paired plastic fingernail decoration. Fabric: SSh:1 Colour: Exterior: buff; core: black; interior: buff Context: pit 21 P15 One base angle sherd of a vessel with paired plastic fingernail decoration and horizontal grooves. Fabric: SSh:1 Condition: fair Exterior: buff, pale orange; underside of base: Colour: orange; core: black; interior: orange, also some black carbonised material adhering around inside of base angle. Context: pit 21 P16\* Six rim sherds and thirty-six decorated body sherds of a single vessel. The decoration is of wide, shallow grooves on the exterior, interrupted by some fingernail decoration. On the interior are three shallow ridges. The rim diameter is not certain, but is at least 22cm, and may be as great as 30cm. Fabric: SSh:1 Condition: fair Colour: Exterior: black, pale orange, pale brown; core: dark P20 grey, black; interior: pale brown, brown, black. Context: pit 22 P17\* One rim sherd of a vessel with grooved decoration on the exterior. Fabric: SSh:1
  - Condition: fair
  - Colour: Exterior: black; core: black; interior: dark brown. Context: pit 22



Figure 37 Redgate Hill, Hunstanton. Grooved Ware

- P18\* One rim of a vessel with grooved lines on the exterior and interior. There also appear to be some fingernail or other impressions on the exterior.
  - Fabric: SSh:1
  - Condition: worn

Colour: Exterior: pale brown; core: black; interior: brown. Context: pit 22

- **P19**<sup>★</sup> One rim sherd of a vessel with shallow ridges on the exterior and very shallow grooves on the interior.
  - Fabric: SSh:1
  - Condition: worn
  - **Colour:** Exterior: orange-brown; core: obscured; interior: pale brown.
  - Context: pit 22
- 20 Five conjoining base angle sherds of a vessel decorated with grooved lines.
  - Fabric: SSh:1
  - Condition: worn
  - **Colour:** Exterior: buff, pale orange; core: black, dark brown; interior: dark brown, also some carbonised material adhering to the interior.
  - Context: pit 22



Figure 38 Redgate Hill, Hunstanton. Grooved Ware

- P21 Two conjoining decorated body sherds of a vessel decorated with grooved herringbone; also one other sherd also probably belonging to this vessel not illustrated. SSh:1 Fabric:
  - Condition: worn

Context: pit 22

P22\* Six rim sherds, three base angle sherds, and seventy-three decorated body sherds of a single vessel decorated with zones of horizontal lines. Some grooving is present, but over much of the vessel there are ridges which appear to be have been formed by emphasising the natural contours of the coils from which the pot is made, rather than adding clay or grooving: there seems to be some indication of this in the body wall section. The decorative scheme is difficult to reconstruct but appears to have consisted of four or five horizontal zones of parallel grooves or ridges, which are also interrupted by areas of large oval - possibly fingertip impressions. It is possible that there is convergence of some of the lines, but this is not certain because of the fragmentary nature of the sherds. The height and rim diameter of the vessel are unknown but the vessel was clearly a large one, with a base diameter of 22cm. The vessel also has a pair of holes drilled after firing, on either side of an ancient break.

Fabric: SSh:1

Condition: most sherds are fair, some worn

Colour: Exterior: varies greatly - pale orange, black (large areas of both); core: black; interior: lower body black, with some carbonised material adhering upper body - pale brown. Context: pit 32

1971

P23 Six body sherds decorated with grooved lines. The sherds are in a very friable condition, and the decorative scheme is unclear, except that it seems to consist of rows of opposed oblique lines separated by single grooved lines.

SSh: 1 Fabric:

Condition: worn.

Colour: Exterior: pale brown; core: grey; interior: obscured.

- Context: pit 260, layer (1) One small body sherd with a single perforation made before
- P24 firing.

Fabric: Sh:1

- Condition: worn
- Colour: Exterior: pale brown; core: dark grey; interior: pale orange.

post-hole 302 of structure E, layer (1) Context:

- P25\* One rim sherd, two base angle sherds, and six plain body sherds of a vessel with a protruding foot and very faint non-plastic single fingernail impressions. The rim diameter is not determinable. Fabric: Sh:1
  - Condition: some fair, some very worn.
  - Colour: Exterior: pale orange; core: pale grey; interior: pale orange
  - Context: post-hole 309 of main enclosure, layer (1) - the rim sherd, one base angle sherd, and two plain body sherds

post-enclosure pit 305, laver (2) - one base angle sherd and four plain body sherds

Exterior: patchy - black, buff; core: black; interior: Colour: orange, orange-brown.



Figure 39 Redgate Hill, Hunstanton. Grooved Ware

**P26** Decorated body sherds belonging to a single vessel – possibly the remains of a single large decorated sherd some of which some may have disintegrated during excavation, as there are very fresh breaks present, but no conjoining sherds (all counted as one). The decoration is of grooved lines on either side of a zone of plastic decoration.

Fabric: SSh:1

Condition: fair

Colour: Exterior: pale orange; core: dark grey; interior: pale orange

Context: pit 400, layer (1)

## Grooved Ware - Discussion

The majority of the Grooved Ware from Hunstanton, and all the Grooved Ware recovered from the pits excavated in 1970, is fairly similar in appearance, both in fabric and decoration, although the quality of finish varies somewhat from vessel to vessel. Only a small quantity of Grooved Ware, all from the 1971 excavations, differs from this: the fabric (Sh:1), although also shell-tempered, is distinct from that of the majority (*i.e.* SSh:1), and the decoration is much more restrained.

*Form.* None of the Hunstanton Grooved Ware vessels are whole, or completely reconstructable, but virtually all the vessels from the pits appear to be tub-shaped forms of various sizes, with straight, slightly splayed sides. This is well illustrated by P4, a large vessel, P5, and P16. This form is most common in the Clacton sub-style of Grooved Ware, although small tub-shaped vessels do occur in the Woodlands sub-style. Only the vessel represented by P25, from the 1971 excavations, appears unlikely to be of a straight-sided form, as the vessel wall curves away from the protruding foot, probably to form a convex body: this is compatible with the form of many Durrington Walls



Figure 40 Redgate Hill, Hunstanton. Grooved Ware



Figure 41 Redgate Hill, Hunstanton. Grooved Ware





style vessels, which are commonly slightly barrel-shaped, and occasionally have protruding feet, as at Durrington Walls, Wiltshire (Wainwright and Longworth 1971, fig. 35: P35). It should also be mentioned that on form and decoration alone P25 could be interpreted as a fingerdecorated Beaker, but the fabric would be very unusual for a Beaker in this area, and the similarity of the fabric to that of the certainly identified Grooved Ware from Hunstanton weighs heavily in favour of the interpretation of P25 favoured here.

*Decoration.* Overall, only six types of decorative technique are used on the Grooved Ware from Hunstanton, and these are represented as follows (counting only those sherds which seem to represent separate vessels):

Grooves - occur on 11 out of 14 vessels (*i.e.*79%)Plastic fingernail decoration - occurs on 7 out of 14 vessels (*i.e.*50%)Ridges - occur on 4 out of 14 vessels (*i.e.*29%)Impression - occurs on 1 out of 14 vessels (*i.e.*7%) Non-plastic fingernail decoration — occurs on 1 out of 14 vessels (*i.e.* 7%)

Whipped cord - occurs on 1 out of 14 vessels (*i.e.* 7%)

It is more difficult to summarize the arrangement of the decoration on the vessels, as on most the overall scheme is difficult or impossible to identify, but the following features are certainly present:

vesse	ssels (P1, P12; also which at represent parate
Horizontal zones of parallel lines, interrupted by – 4 ves. groups of impressions (fingernail and other) – 5, P	sels (P4, P16, P22)
Geometric design (triangles) - 1 ves	sel (P11)
Herringbone – 1 vest	sel (P21)
Random impressions – 1 vest	sel (P25)

Although only a small number of vessels can be included in this summary, as too little survives of the



Figure 43 Redgate Hill, Hunstanton. Grooved Ware and possible Grooved Ware

others to be certain of the nature of their decoration, the impression given by the sherds is that the decoration on the remaining vessels could also be classifiable under those six headings.

The fairly restricted nature of the decoration would seem to suggest that the majority of the material should be regarded as one group - made, used and deposited together. In particular, the arrangement of horizontal zones of parallel grooved lines, interrupted by groups of impressions, and separated by undecorated zones, is an unusual decorative scheme, but occurs on at least four vessels from Hunstanton: P4, from pit 12, P5, from pits 12 and 22, P16, from pit 22, and P22, from pit 32. Although these pits do not form a tight group, they were within about 30m of each other, and it seems likely that they were filled at a similar time, or from a single source. Contemporaneity of at least three of the pits is suggested by sherds apparently belonging to P5 being found in pits 12 and 22, and sherds possibly of a single vessel (P1 and P2) being found in pits 2 and 12.

Relationships. Of the criteria for the sub-styles of Grooved Ware established by Longworth in 1971 (Wainwright and Longworth 1971, 236-243) the Hunstanton material exhibits only four: three characteristic of the Clacton substyle, and one of the Durrington Walls sub-style. Of the Clacton style features, simple rounded rims with horizontal grooves on the interior are common in the Hunstanton assemblage (e.g. P18, P9, P10), but a dotfilled grooved triangle occurs only once (P11), and staggered oval impressions also only occur on one vessel (P22). Apart from P23, which has decoration reminiscent of the Durrington Walls sub-style - although the orientation of the sherds is uncertain as they are in very poor condition - the single unambiguous instance of a feature characteristic of the Durrington Walls sub-style occurring in the assemblage is the short length of whipped cord which fills a 'stop' between grooves on P6, a sherd which might be part of the vessel represented by P4. Not only is the use of whipped cord anomalous in an assemblage which otherwise shows Clacton style

Context	Weight (gram	s)	Area of sh	erds (sq cm)	Area of l	argest sherd	No. of rims	Likely no. of vessels	
1050	Grooved Ware	Other	Grooved Ware	Other	Grooved Ware	Other		vessels	
1970	00	1	51	1	22	1		2	
Pit I	80	1	54	1	22	1	2	2	
Pit Z	52		19		19		2	1	
PIL 0	19		10		15		1	1	
Pit 9	18		722		121		1	1	
Pit 12 Die 20	1089		133		24		11	4	
Pit 20	149		120		116		0	4	
PIL 21 Dit 22	1220		857		128		15	2 01 5	
Pit 22	1259		1697		150		15	0	
1971	2007		1007		202		0		
Feature (layer	)								
170(1)	1	8	1	5	1	5			
172(1)	3	4	3	4	2	4			
260(1)	41+		55		13				
260(2)	2		2		2				
264(3)	21	12	15	10	15	1			
292(1)	13	141	10	88	9*	57			
302(1)	29	62	20	43	9	8			
302(3)	4		4		4				
304(1)	10	21	5	17	4*	10			
304(3)	25	2	18	2	9	2			
304(5)	6	11	6	8	5*	8			
305(2)	195	13	125	4	35	5			
306(3)	9		7		6*				
307(2)	11		6		6				
309(1)	47	12	43	9	29	9			
310(1)	8		5		3*				
349(1)	8	4	6	4	5*	3*			
353(1-2)	2	17	2	14	2	7*			
356(1)	16		11		11				
360(1)	8		8		4*				
400(1)	134	6	66	5	66	4*			
444(1)	3		2		2				

\*The areas of plain sherds were not recorded individually for contexts in which there was more than one sherd, so for such contects (distinguished by an asterisk) the maximum possible for any one sherd was calculated as follows:

Maximum possible area = Total sherd area - (Total number of sherds - 1). This is likely to give a figure higher than the true figure, especially for contexts with large numbers of large sherds, but in fact none of the contexts so treated did contain such sherds.

Table 30Weight and area of Grooved Ware sherds

features, but the presence of a stop between the grooves is also extremely unusual, and is perhaps to be related to the way in which some of the vessels from the site show multiple zones of grooved lines interrupted by forms of impression. The only other occurrence of anything of this type in the Grooved Ware tradition is the occasional use of grooved 'knots' between converging cordons in the Woodlands sub-style, but in the absence of any firm Woodlands style characteristics in the assemblage this slight similarity cannot be presumed to be particularly meaningful. However, although certainly none of the vessels in the assemblage can be classified as belonging to the Woodlands style, and none have any of the particular features specified by Longworth as diagnostic of that style, there is a slight hint of Woodlands style usage in the arrangement of the grooves/ridges on P22. One sherd of that vessel appears to show a group of oval impressions which interrupt the grooved zones - lying between two groups of grooved lines, with at least three of the interrupted lines converging towards the impressions, as applied cordons do at 'knots' in Woodlands style Grooved Ware. Whether or not any knowledge of Woodlands style decoration actually influenced the makers of the Hunstanton pottery, this at least highlights the fact that the assemblage is not solely a simple Clacton style group:

it is quite common at Grooved Ware sites to find features of more than one sub-style present, although one is usually dominant.

In spite of these slightly anomalous features, the assemblage from the pits excavated in 1970, together with P26 from the 1971 excavations, does fit well within the Clacton sub-style of the Grooved Ware tradition. Longworth notes as general features of the Clacton sub-style the marked preference for zoned decoration, and for bands of rustication (Wainwright and Longworth 1971, 247), and these are certainly present at Hunstanton.

*Distribution.* Table 30 summarizes the weight of Grooved Ware found in each context, together with the total area of the sherds, and the area of the largest sherd in each context (with rim counts and number of vessel estimates for the 1970 material only). This clearly illustrates the dominance of the Grooved Ware from the pits excavated in 1970 over the assemblage as a whole, both in the total weight of the sherds and their size. Pits *12, 21, 22,* and *32* in particular contained large quantities of Grooved Ware which included some very large sherds.

Sixteen features excavated during the 1971 excavations produced either identifiable Grooved Ware or plain sherds in the three Grooved Ware fabrics. Apart

from the obvious cases where the Grooved Ware sherds are associated with certainly or possibly later material, and are therefore certainly or probably residual, most of the Grooved Ware from the 1971 excavations could be residual, if size is related to length of time between discard and burial. Wear was not recorded for plain body sherds, as in most cases the sherds are small and it is difficult to assess, but their small size alone may be taken as an indication that they may have lain on the surface for some time before burial. Only in two features, pits 260 and 400, does the evidence not suggest this, and in two more, post-enclosure pit 305 and post-hole 309 of the main enclosure and/or structure E, the evidence is ambiguous. Both pits 260 and 400, but more especially the latter, seem to fit the pattern of the pits excavated in 1970 - that is, that they contain large sherds of Grooved Ware with little indication that much time had elapsed between discard and burial. In the case of P25, the sherds from post-enclosure pit 305 are fair or only slightly worn, whereas those from 309, only 2 metres away and predating 305 (Figs 18, 20), include a fairly large sherd one surface of which is completely abraded. However, the fabric of P25 is soft and so the wear on the sherd from 309 may have occurred quite rapidly, and the large size of the sherds would seem to suggest that thay had not been trodden underfoot. The structural function of 309, the stratigraphic position of 305 and the presence in both of sherds in non-Grooved Ware fabrics (Table 27) indicate that they cannot be placed in the same category as the 1970 pits or pits 260 and 400, and in view of the slightly doubtful attribution of the pottery itself, it seems impossible to be certain of the date of these features or the nature of the processes which filled them. It can only be said that if P25 is Grooved Ware, which does seem the most reasonable identification, then it is unlikely that much time had elapsed between its discard and its incorporation into 309 and one of the post-holes cut by 305, unless it had been lying in a midden.

The pits excavated in 1970 present a quite different picture, and contain large quantities of sherds apparently representing only a few vessels, which seem to have been buried soon after discard, although none of the vessels are complete, or even nearly complete. The difference between the two assemblages can be illustrated by the size of the largest sherds and the overall weights (see Table 28). Excluding pits 260, 305 and 400 and post-hole 309 from the 1971 excavation, as these have already been identified as different from the majority, the maximum weight of Grooved Ware fabric sherds from any 1971 feature is 33g, and the maximum sherd size of a single sherd is 15sq cm; in the case of the 1970 excavations the figures are 2857g and 262sq cm, and the total weights and maximum sherd size for individual pits exceed the maximum figures for the 1971 features in all but two cases (pits 6 and 9). The total weight of Grooved Ware from each of the four anomalous 1971 features exceeds the maximum of 33g achieved by the other 1971 features in all four cases, and exceeds the maximum size of 15sq cm in all but one (pit 260).

The nature of the deposits in the 1970 pits is unclear: few vessels are represented in each pit, and very few vessels are represented in more than one pit. The exact numbers, as far as can be established are included in Table 30, using both a rim count (counting joining sherds as one), and the more subjective method of only counting rims which could not belong to another vessel. In addition, as it is number of vessels per pit which is of importance here, and not the overall minimum number of vessels at the site, other considerations are taken into account, in particular differences in decoration of body sherds and differences in finish and thickness of sherds.

Pits 1, 2, 6 and 9 contained small numbers of sherds, probably representing single vessels (one vessel in pit 1 is represented only by a small sherd of a sandy fabric: this may, as there is no stratigraphic information, have been a later sherd in the top of the feature, as it is not in a Grooved Ware fabric, whereas the other pits, 12, 20, 21, 22 and 32, have only marginally more vessels per pit, represented by a much larger quantity of pottery. In particular, pit 32 appears to contain a considerable proportion (probably about a quarter to a third) of a single vessel.

The majority of the pottery is in fairly good condition, and certainly does not give the impression that it was discarded and left on the ground surface of a settlement for a time before being buried. It is possible that the pits contain material derived from a midden, but then it would be reasonable to assume that more mixing of sherds belonging to different vessels would occur than appears to be the case, although, as has been pointed out previously, there is some difficulty in distinguishing separate vessels because of the similarity of much of the material. The possibility that some selection of the material for burial took place cannot be easily dismissed, although there can be no suggestion that the pottery was made for formal deposition, or even buried shortly after manufacture, as, firstly, the vessels are not whole or even nearly complete, and secondly, at least one of the vessels was repaired in antiquity, as it has a pair of holes drilled after firing, either side of an apparently ancient break (P22). This repaired vessel is also the one which occurred with no other pottery in pit 32, which might be taken as an indication that the vessel itself was of some importance.

Regional parallels. Although Grooved Ware is fairly common in East Anglia (Fig. 2; Cleal 1984, fig. 9:4), Hunstanton is an isolated site, and it is difficult to find parallels for the pottery that are close both stylistically and geographically. The only close parallels, in both senses, are the vessels from Spong Hill, North Elmham (Site 1012; Healy 1988, P201–P214), just over 30km from Hunstanton. There, fairly few vessels are represented, but, as at Hunstanton, quite a high proportion of each vessel is present, including large sherds. Stylistically, the similarities between the Hunstanton and Spong Hill Grooved Ware are general rather than specific: in particular the Spong Hill Grooved Ware favours horizontal zones of decoration, in one case filled with paired plastic fingernail decoration, as at Hunstanton, but also with zones of grooved herringbone and chevrons. The Spong Hill pottery also exhibits one example of plastic decoration on the interior of the rim, a diagnostic feature of the Clacton sub-style which is absent from Hunstanton.

A single vessel of the Clacton sub-style was also recovered from West Runton (Site 6370; Gell 1949), approximately 50km along the Norfolk coast from Hunstanton, but the vessel's decoration and fabric are unlike the Hunstanton pottery. Further afield, the other

side of the Fens to Hunstanton, there is shell-tempered Grooved Clacton-style ware from Barholm, Lincolnshire, which shows some resemblance to the Hunstanton Grooved Ware, particularly in the occurrence of multiple ridges on the interior of rims (Simpson forthcoming). There are also some parallels between the Hunstanton pottery and that from the typesite of the Clacton sub-style, at Lion Point, Clacton, Essex, notably in the occurrence of zones bounded by grooving and filled with plastic fingernail decoration (Longworth, Wainwright and Wilson, 1971, P89-P93). In particular, Dr Longworth has pointed out the similarity between the plastic finger decoration on P5 from Hunstanton and that on P89 from Lion Point (pers. comm; Longworth, Wainwright and Wilson 1971, pl. XXVII). There is one example from Hunstanton of the impression-filled grooved triangles so prevalent at Clacton (this report P11).

Overall there is no other single assemblage which shows marked and numerous similarities to the Hunstanton assemblage, but this is not unusual. No site of the Clacton sub-style in East Anglia, or indeed generally, shows the richness and variety of the assemblage from the type site, and it is fairly common for only one or two diagnostic traits to be present at any one site, together with the general preferences already noted for tub-shaped vessels, horizontal zoning of decoration, and for zones of rustication.

## Peterborough Ware

#### (P27–P30; Table 31)

Only three sherds, weighing a total of 97g, can be certainly assigned to the Peterborough tradition, and all are in one fabric: FS:1. This fabric is characterised by moderate to dense flint inclusions, up to 8mm in length, and moderate, patchily distributed, sand. The surfaces of the sherds in this fabric tend to be oxidised, or partially oxidised, with unoxidised cores. There are no rim sherds, but the body sherds can be assigned to this tradition on the grounds of their fabric and decoration, and the coarseness of the fabric and the density of inclusions suggests that the sherds belong to vessels of the Mortlake, rather than the Ebbsfleet, sub-style. Five other sherds appear to be in this fabric: two small, worn sherds with indistinct decoration from pit 34, and three plain sherds from post-hole 302 of structure E. Pit 34 contained Collared Urn sherds, and post-hole 302 sherds possibly of Beaker and possibly of Grooved Ware: in both cases the FS:1 sherds may not be Peterborough Ware, but the sherd counts and weights have been included in Table 31 for reference. In particular, the sherds from pit 34 could be seen as being of Middle Bronze Age date, but the decoration - impression in one case (P27), and lines of plaited or knotted cord in the other (P28) - is not diagnostic, and the fact that the sherds are small and have been treated with PVA renders any attribution difficult. Although small, they seem to approximate most closely to fabric FS:1, and are therefore illustrated with the other FS:1 sherds.

#### Illustrated sherds

P27

One body	sherd deco	rated wit	h three	roughly	y circular
impression	s.				
Fabric:	FS:1				
Condition:	fair; has b	een treate	d with	<b>PVA</b>	
Colour:	Exterior:	orange;	core;	black;	interior:
	black				
Context:	pit 34.				

P	eterborough W	are		Beaker	
Context	FS:1	FS:1	FS:2	S:3	S:-
	Decorated sherds	Plain sherds	Decorated sherds only*		
1970					
Pit 34	2 25g (P27, P28)				
1971					
Feature (la	ayer)				
172(1)				14g	
184(1)				1 2g	
191(1)				0	1 1g
257(1)				1 13g	(P35)
302(1)		3 18g	4 35g	(1; P31)	
335(1)			(1; 152)	4 27g	
405(1)				(2; P33) 1 2g	
409(1)			1 7g	(130)	
229(3)	2 36g		(1 )+)		
429(4)	1 24g (P30)				
430(6)	2 37g (P30)				

\* As there are sherds of more than one ceramic style in this fabric (i.e. FS:2/Bkr;?BA) only the decorated and certainly Beaker sherds are included in this table, whereas all sherds in Fabric S:3/Bkr. are included, although not all are decorated.

Table 31 Peterborough Ware and Beaker — sherd counts and weight; rim count given in brackets as well as being included in the sherd count, illustration numbers given where relevant.

P28	One decorated body sherd, same vessel as P27. The appears to be either plaited o occurs on both Bronze Age Ware, and this sherd, and P Peterborough ware incorpor pit 34, or of Bronze Age date filling of that pit. <b>Fabric:</b> FS:1	which may belong to the decoration is unclear but r knotted cord. Plaited cord ceramics and Peterborough 27, could be either residual ated into Early Bronze Age and contemporary with the				
	Condition: fair; has been tre	eated with PVA.				
	Colour: Exterior: orange	; core and interior: black				
	Context: pit 34.					
P29	Two body sherds, not joinin	ig, but from a single vessel,				
	decorated with horizontal ro	ws of bird-bone impression.				
	Fabric: FS:1					
	Condition: fresh; the edges	s show little wear, and the				
	surfaces appear	completely unworn.				
	Colour: Exterior: pale	orange; core and interior:				
	black.					
	<b>Context:</b> pit 429, layer (3)	).				
P30	Three joining body sherds	Three joining body sherds of a vessel decorated with				
	horizontal rows of plastic sin	gle fingernail impressions.				
	Fabric: FS:1					
	Condition: fair					
	Colour: Exterior: pale b	rown; core: black; interior:				
	greyish brown.					
	Context: pit 429, layer (4)	- I sherd				
	pit 430, layer (6)	-2 sherds.				

#### Discussion

The two sherds from pit *34* appear ambiguous, as discussed above, and cannot be certainly attributed to the Peterborough tradition. Two Peterborough Ware vessels

are represented, however, by the sherds from intersecting pits 429 and 430, and both are likely to belong to the Mortlake sub-style. The Peterborough tradition is poorly represented in north-west Norfolk, but Mortlake Ware does occur at Reffley Wood, King's Lynn, and Brancaster. At Reffley Wood, approximately 21km to the south of Hunstanton, two rim sherds and one body sherd of Mortlake Ware occur in a general scatter of Beaker sherds (Site 5489; Cleal 1985, fig. REF: 1), but there is no particular resemblance to the Hunstanton Mortlake Ware. However, at Brancaster, only 11km to the east of Hunstanton, four small pits produced Mortlake Ware sherds with some similarity to the Hunstanton material, particularly to P29, the sherd with bird-bone impressions (Site 1002; Bond 1985, fig. 43). Although bird-bone impressions are characteristic of Mortlake Ware, they are rare in absolute terms. In Norfolk, Suffolk, and Cambridgeshire, for instance, they occur only at Witton, Norfolk (Site 1009; Lawson 1983, fig. 15: A1), possibly at Bacton Wood Mill Farm, Edingthorpe, Bacton (adjoining Witton parish), where they occur on badlyworn sherds (Site 6899; Cleal 1985, fig. EDI: 4, P41), and at Brancaster and Hunstanton. In view of the rare use of this technique, and its occurrence on two sites within a few kilometres of each other, it is difficult to escape the conclusion that the two assemblages may be connected, and may have been manufactured by the same potters, or closely related potters. The use of single plastic fingernail impressions is also fairly rare on Mortlake Ware, although it is commonly found on Beaker pottery, and there are no similar occurrences in the region.

#### Beakers

(P31–P36, Table 31)

Eleven Beaker sherds, in two fabrics, were recovered, and two other plain sherds are almost certainly also from Beakers.

#### Fabric

One of the fabrics, S:3, is a fairly typical fine Beaker fabric, hard and smooth with sparse coarse sand. The other fabric, FS:2, is a much coarser fabric, and has moderate to dense flint inclusions, of varying size, but with some large inclusions (<7mm) and sparse fine sand.

#### Illustrated sherds

P31	One rim sh	One rim sherd of a Beaker with small, paired, slightly					
	plastic, fing	plastic, fingernail impressions.					
	Fabric:	S:3					
	Condition:	Condition: fair					
	Colour:	Exterior: orange; core: black; interior: pale brown.					
	Context:	post-hole 257, layer (1).					
P32	Two rim sh	Two rim sherds and two plain body sherds of one vessel,					
	probably d	probably decorated with paired fingernail impressions,					
	although ve	ery little of the impressions survives.					
	Fabric:	FS:2					
	Condition	Condition: worn to very worn					
	Colour:	Exterior: orange; core: dark grey; interior: orange, dark grey					
	Context:	post-hole 302 of structure E, layer (1).					
P33	Two decor	Two decorated rim sherds and two decorated body					
	sherds of a	sherds of a Beaker with incised decoration, consisting of					
	a ladder-ty	a ladder-type band beneath the rim, and lattice-filled					
	lozenges.						
	Fabric:	S:3					
	Condition	: fair					
	Colour:	Exterior: pale brown; core: black; interior: grev-brown					
	Context:	pit 335, layer (1).					

P34	One rusticated body sherd with plastic fingernail decoration.					
	Fabric: FS:2					
	Condition: fair					
	Colour: Exterior: pale brown; core: black; interior: pale brown					
	<b>Context:</b> post-hole 409 of main enclosure, layer (1).					
P35	One small body sherd decorated with small plastic					
	fingernail impressions.					
	Fabric: indeterminate, with some sand					
	Condition: very worn					
	Colour: Exterior: pale brown; core: dark grey; interior: abraded					
	<b>Context:</b> post-hole 191 of structure I, layer (1).					
P36	One small body sherd with part of a hexagon motif,					
	executed in rectangular toothed comb.					
	Fabric: S:3					
	Condition: worn					
	Colour: orange throughout					
	<b>Context</b> : post-hole 405 of main enclosure, layer (1)					

#### Discussion

Only P33 and P36 can be dated on stylistic grounds, and both are late Beakers. Both lozenge and hexagon motifs are characteristic of Clarke's Southern Tradition (Clarke 1970), and in the case of P33 at least it seems likely that the vessel belongs to either the Late or Final Southern Beaker group (S3 or S4) rather than to the Primary or Developed Southern groups (S1 and S2). In terms of Lanting's and van der Waals' Steps this would place P33 in Step 6 or 7 (Lanting and van der Waals 1972, 44). P33 and P36 were not found in close proximity to each other, as P33 was recovered from a pit just to the north of the north side of the main enclosure, and P36 from a posthole forming part of the east side of the main enclosure, where it was found within replacement material.

The remaining Beaker material from the site is too fragmentary and undiagnostic to be assigned to a particular stylistic group, but could all be contemporary with the late Beaker sherds. The identification of P32, P34 and P35 as Beaker is admittedly tentative, but they would seem to be acceptable as belonging to the coarser, frequently rusticated, element common in Beaker assemblages.

North-west Norfolk is not an area where Beaker finds are particularly plentiful; the intense activity associated with the south-eastern fen edge appears to have tailed off around the shore of the Wash, and there is no major site along the coast north of King's Lynn, although there is a scatter of Beaker burials and sites with very fragmentary material, often of indeterminate Beaker style, in the general area (Clarke 1970, 557-566; Cleal 1984 figs 9:5 to 9:7; Cleal 1985, fig. 6:16; Healy 1984a, fig. 5.11). The nearest Southern tradition Beaker to the site is a single vessel found with a young adult female skeleton 1.8km to the east of Redgate Hill, on Ringstead Downs. This vessel is of a slightly unusual form, but clearly belongs within Clarke's Southern tradition, and possibly within Steps 4-5 of Lanting and van der Waals' East Anglian/Kentish focus area (Site 12736; Kinnes 1978). As Kinnes notes, it is tempting to link this burial with the possibly contemporary settlement on Redgate Hill, but this seems likely only on the grounds of proximity and general contemporaneity, as no great stylistic similarity is apparent between the Ringstead Downs vessel and the two Late vessels from Redgate Hill, although admittedly the two latter are far from complete.



Figure 44 Redgate Hill, Hunstanton. Certain and possible Peterborough Ware, Beaker and Collared Urn

Further afield, there is Late Style Beaker material from Brancaster (Site 1362), North Creake (Site 1935), Massingham (Site 2300), Gayton Thorpe (Site 3738), Reffley Wood (Site 5489) and South Wootton Lane (Site 5497), the last two both in King's Lynn. At Brancaster and North Creake there are single, whole, handled vessels; at Gayton Thorpe a single S4 vessel; at Massingham very fragmentary sherds of several vessels, one probably an S4 vessel; and at South Wootton Lane sherds of several heavily rusticated Beakers with two sherds belonging to fine Beakers, also probably of the S4 group (all references in Clarke 1970). At Reffley Wood the assemblage consists of several hundred sherds, representing at least 80-90 vessels, of which the fine component appears to be all S4 Beaker (Cleal 1985; Gibson 1982, figs REF:1 and REF:2, where most of the sherds illustrated are of the rusticated element; Bamford 1982, fig. 43). Not only would the fine Beaker from Hunstanton not be out of place in this assemblage, but the rusticated sherds from the site would also appear to fit well within the admittedly broad range of rusticated pottery found at Reffley Wood, and the two sites are likely to be broadly, if not closely, contemporary.

## **Collared Urns**

(P37–P43, Table 32)

Nine sherds, weighing a total of 159g, can definitely be attributed to this tradition, and eight of these were recovered from pit 34. A further twenty-three sherds, weighing 442g, are featureless, but of the same fabrics as the Collared Urns, and possibly belong to the same tradition.

Context	Fabric G:1/CU		Fabric G:2/CU		Fabric GS:1/CU	Fabric G:-
	Decorated sherds	Plain sherds	Decorated sherds	Plain sherds	Decorated Decor sherds she	Decorated sherds
1970						
Pit 34	4 112g	18 201g	2 22g		1 11g	1 10g
	(3; P37, P38)	(P42)	(P40)		(1; P39)	(P41)
1971						
185(1)		1 8g				
190(1)		2 42g				
191(1)		1 160g				1 4g (P43)
435(1)				131g		. ,

Table 32 Collared Urn – sherd counts and weights (figures in brackets give number of rims – also included in sherd count – and illustration numbers where relevant)

#### Fabric

Three fabrics are represented among the Collared Urn sherds, in all of which grog fragments are a major constituent. In two of the fabrics, G:1 and G:2, grog is the only inclusion type, while in fabric GS:1 sand as well as grog appears to have been added as tempering material (Table 29).

#### Illustrated sherds

(Longworth Corpus Numbers refer to the catalogue in Longworth 1984)

**P37** Two non-joining rim and collar sherds – the larger sherd broken into four pieces, possibly in antiquity; the breaks could not be examined as the sherds are glued together and heavily treated with PVA. The decoration consists of incised herringbone on the exterior of the collar, and this may extend onto the neck, as the beginnings of incised decoration are visible below the collar. On the interior the horizontal parallel lines are executed in rather irregular whipped cord, applied in short lengths of approximately 2cm each. The relatively simple rim, repetitive decorative motif repeated on collar and neck, and use of whipped cord, are all Primary traits in Longworth's terms (Longworth 1984).

Longworth Corpus No. 949 Fabric: G:1 Condition: fresh to fair; slightly obscured by postexcavation treatment.

Colour: Exterior: orange; core: black; interior: pale brown.

Context: pit 34.

P38

P39

One rim and collar sherd and one small collar fragment from a vessel decorated with rows of slightly curved whipped cord impressions interspersed with rows of deep round impressions; the whipped cord impressions also appear to continue onto the neck. The internal rim bevel carried small crescentic impressions, possibly of twisted cord, although the detail is unclear. The relatively simple rim, repetitive decorative motif repeated on collar and neck, straight external surface to the collar, and use of whipped cord, are all Primary traits in Longworth's terms.

Longworth Corpus No. 950 Fabric: G:1

Condition: fair

- Colour: Exterior: pale orange; core: black; interior: pale brown Context: pit 34.
- One rim and collar sherd of a vessel decorated with small round impressions, roughly arranged in rows. Longworth Corpus No. 951 (noted as a Primary Series vessel)
  - Fabric: GS:1
  - Condition: worn
  - Colour: Exterior: orange; core: obscured; interior: orange
- Context: pit 34. P40 Two non-joining sherds from one vessel, both from the lower part of the collar. The decoration is of grooved parallel lines on the collar and round impressions on the neck, and this is sufficiently different to the other sherds from the pit to indicate that they are from a different vessel to the rims illustrated as P37-P39. Longworth Corpus No. 952 G:2 Fabric: Condition: fair Exterior: orange; core: black; interior: pale Colour. brown Context: Pit 34. P41 One body or collar sherd with cuneiform and round impressions.
- Longworth Corpus No. 954 Fabric: indeterminate, with some grog Condition: fair Exterior: orange; core: obscured; interior: Colour: pale brown pit 34 Context: P42 Approximately 40% of a base, probably belonging to P37 or P38; the latter is more likely as both it and P42 have very rare small flint inclusions as well as grog. Longworth Corpus No. 953 Fabric: G:1 Condition: fair Exterior (including underside of base): Colour: orange; core: black; interior: buff Context: pit 34. P43 One small, undecorated sherd probably from the lower
  - part of a collar, or possibly a very pronounced cordon.
    Fabric: indeterminate, with some grog
    Condition: fair
    Colour: Exterior: pale brown; core and interior obscured
    Context: post-hole 191 of structure I, layer (1).
- 56

## Discussion

Excluding the possible Collared Urn sherd from posthole 191, all the certainly Collared Urn sherds were recovered from pit 34, and represent a minimum of four vessels, although two more may be represented. Very little of each vessel is present, and no complete profiles are reconstructable, so that it is difficult to assign these vessels to either Longworth's (1984) Primary or Secondary Series or Burgess' (1986) Early, Middle or Late groups. However, there are some indications that none of the vessels was made late in the life of the tradition, and one or two show stronger indications of belonging to the Primary Series, and of being Early or Middle Urns.

Of Longworth's seven criteria (Longworth 1984, 21) for the Primary series, P37, P38 and P39 exhibit the following:

Internal moulding	?P39
Simple, pointed, rounded, or flattened rim, or simple,	unexpanded rim
bevel	P37 P38 ?P39
Collar with convex or straight external surface	P38
Well-executed herringbone or repetitive vertical or di	iagonal short-line
motif, repeated on the collar and neck	?P37 ?P38
Use of whipped cord	P37 P38

In Burgess' recently published re-evaluation of Collared Urns he lists eight traits characteristic of Early Collared Urns, which are based on the Longworth criteria, and ten characteristic of Late vessels (Burgess 1986, 345). Of these, the Hunstanton Collared Urns exhibit no Late traits, and only two Early traits: short line motifs repeated on collar and neck (P37 and P38), and use of whipped cord decoration (also P37 and P38). Admittedly the profiles of the Hunstanton vessels are unknown, so that some of both Longworth's and Burgess' criteria cannot be applied, but there seem to be considerable grounds for supposing that the vessels are not late in the tradition. Indeed, in Longworth's terms, vessels P37, P38 and P39 should qualify as Primary Series vessels as they each have at least two Primary traits, and even in Burgess' tripartite scheme they could be Early vessels: Burgess prefers to find three Early traits before assigning a vessel to his Early group, and none of the vessels certainly have three Early traits, but they also lack Late traits, which implies that they are unlikely to belong to the Middle group (Burgess 1986, 345-348). This is in contrast to the two Collared Urns recovered from a barrow in Old Hunstanton, 0.4km to the north of the site (Site 1263; Lawson 1986, 108-110), which are Secondary Series vessels (Longworth 1984, Corpus nos 947 and 948); using Burgess' criteria, one at least (Lawson 1986, fig. 95:1) appears to be a Late vessel, but the other has no Early or Late traits.

In summary, then, apart from P43, a very small sherd from structure I, which is also likely to belong to this tradition, all the certain Collared Urn sherds from Hunstanton were recovered from pit *34* and appear to form a small, non-funerary group of fragmentary early vessels, possibly datable to the early second millennium cal. BC (Burgess 1986, 350).

# Indeterminate Bronze Age and Later Prehistoric Pottery

## (P44-P50)

The remaining material consists of a fairly small number of sherds which, although possessing some decoration or other feature, are difficult to assign with certainty to one ceramic style, and featureless body sherds in fabrics for which a date cannot even be hazarded, or which could belong to more than one tradition. The sherds with some features will be discussed individually below, but the featureless sherds are merely recorded by number, weight and fabric in Table 26 (microfiche).

#### Illustrated and unillustrated sherds

- P44 One rim sherd of a vessel with an upright, slightly inturned rim. The fabric is soft and grog-tempered and there are close parallels, in both form and fabric, from Middle Bronze Age contexts at Grime's Graves, Weeting with Broomhill, approximately 53km to the south-east (Site 5640; A. Ellison pers. comm.; Longworth, Ellison and Rigby 1988).
  - Fabric: GS:2
  - Condition: worn
  - Colour: Exterior: pale brown; top of rim: orange; core: obscured; interior: orange, with a dark grey area 3cm in diameter

**Context:** post-hole 435, layer (1).

- Unillustrated: One thick, coarse, basal sherd; no inclusions are visible in the fabric, but the sherd was clearly in a fragile condition when excavated and has been heavily treated with PVA, so obscuring the fabric. Although no grog is visible in the fabric, it seems likely that the sherd is of Bronze Age date, and contemporary with P44, with which it was found, although not from the same vessel.
   Fabric: indeterminate, but with no visible inclusions
  - Condition: treated with PVA
  - Colour: indeterminate

**Context:** post-hole 435, layer (1).

P45(i) Three large basal sherds belonging to one vessel. The fabric is very coarse, and the sherds have been treated with PVA. The fabric – which contains large fragments of grog – and the large size of the vessel, strongly suggest a Bronze Age date, although the exact type of urn is impossible to determine. Fabric: G:1

## Condition: poor, fragile; sherds have been treated, with PVA

Colour: Exterior: brown; core: red-brown; interior: brown, with some black

Context: 'Complex'.

P45(ii) Three non-joining basal sherds, eight body sherds, and nine fragments, some of them joining with sherds of P45.

Condition: fair

- Colour: Exterior: pale brown; exterior margin: orange; core: black; interior: pale brown and dark brown.
- **Context**: area C (1970, unlocated, ? = 'Complex').
- Two conjoining body sherds of a large, straight-sided vessel with finger-smearing either up or down the vessel's body (the vessel may be the other way up to that illustrated). The smearing was clearly executed when the clay was still very plastic, and is so marked that it must have been an intentional effect. Close parallels are difficult to identify for this vessel, although a Middle or Late Bronze Age date seems most likely. Fingersmearing is occasionally a feature of Middle Bronze Age urns in Norfolk, such as on the Biconical, Bucket and Cordoned Urns illustrated by Lawson (Lawson 1980, 273, figs 3 and 4)) and it is possible that P44 is part of such a vessel (Lawson pers. comm.), but the smearing on P46 appears slightly more pronounced than on these, and an alternative interpretation is that it is of latest Bronze Age/Early Iron Age date.

In fabric the sherds are closest, indeed almost identical, to some of the probable Beaker sherds (P32 and P34), but it is very difficult to envisage P46 as belonging to that tradition as the smearing would be extremely anomalous.

Fabric: FS:2

Condition: very worn on the interior, fair on the exterior

P46

Colour: Exterior: orange; core and interior: obscured Context: pit 292, layer (1).

P47

P48

P49

One base-angle sherd in a shell-tempered fabric which is harder and finer than most of the Grooved Ware. It may be of Later Neolithic date, as there is no other shelltempered pottery certainly datable to any other period from the site, but there is pottery with shell temper from the nearby Iron Age site (Wymer 1986), and P47 does lie within the range of fabrics found there (Wymer pers. comm.).

Fabric: Sh:2

Condition: fair

Colour: Exterior: pale brown; core: dark grey; interior: pale brown

post-hole 229 of main enclosure, layer (1). Context: One rim sherd in a hard fabric with sparse flint and some sand. Below the rim a perforation through the body wall, 8mm in diameter, seems to have been partially plugged with plastic clay before firing so that the perforation survives mainly as a deep impression on the exterior, although a hole of very narrow (approx. 1mm) diameter does remain. The clay plug forms a bulge on the interior. The date of this vessel is difficult to establish, as the fabric and form are not parallelled in the assemblage. The sherd has been treated with PVA so that its degree of hardness is difficult to establish, but it appears to be harder than most of the Neolithic and Bronze Age pottery from the site. There seems, however, to be a considerable degree of similarity between this rim and the pottery excavated from Iron Age contexts to the west in 1976-7, particularly the vessels with slightly everted rims (Wymer 1986, fig. 4:1, 3, 4, 5 and 6; Lawson pers. comm.). In fabric also there is considerable similarity (Lawson and Wymer pers. comm.). However, the possibility of an earlier prehistoric date for this vessel cannot be dismissed, as there are similarities of form and fabric between P48 and earlier ceramic styles, in particular the Ebbsfleet sub-style of Peterborough Ware. Fabric and form can also be matched among the larger vessels in decorated Bowl assemblages, some of which have rows of perforations below the rim. Examples occur in Mildenhall Ware assemblages from Hurst Fen, Mildenhall, Suffolk (Longworth 1960: P23-P26) and Spong Hill, North Elmham (Site 1012; Healy 1988: P5, P69, P155). This attribution is less likely in view of the absence from the site of diagnostic Earlier Neolithic material.

Fabric: FS:3

Condition: obscured by the PVA

Colour: Exterior: dark grey; core: black; interior: obscured

**Context:** post-hole 306 of main enclosure, layer (1) One small unillustrated rim sherd, in fabric FS:3 and dark grey throughout, may also belong to this vessel, although there are no joins.

**Context:** post-hole slot *304* of main enclosure and structure E, layer (5).

Three rim sherds (conjoining), five decorated body sherds (two conjoining), and two plain body sherds, belonging to one vessel with a slightly expanded rim and very slight horizontal ridges on the body exterior. Again, this vessel is difficult to date, and does not fall readily into any of the ceramic styles already represented. In fabric the vessel is very similar to that of P48, although slightly softer, but the form shows no similarity. One possibility is that the vessel is of Neolithic or Later Neolithic date, but its appearance is not entirely consistent with that interpretation. In fabric and form it could be accommodated within the Iron Age assemblage from the other side of the road (Wymer pers. comm.).

Fabric: FS:3 Condition: fair

Colour: Exterior: pale orange; core: dark grey; interior: pale orange

Context: post-hole 432, layer (1).

Unillustrated: One very small rim with very faint fingernail impressions. The impressions are very unclear, and may be accidental. The fabric is sandy, but neither this nor the form of the rim is sufficient to enable an identification to be made, except that it is prehistoric. Fabric: S:4

Condition: worn

Colour: Exterior: grey-brown; core: black; interior: grey-brown

**Context:** pit *184*, layer (5)

One very abraded base-angle sherd in a coarse fabric with some sand. The sherd may belong to a Bronze Age urn of some form, although the fabric, lacking grog, is different to the other likely urn sherds; however, it is difficult to examine the fabric as the sherd has been treated with PVA.

Fabric: indeterminate, with some sand

Condition: very worn

Colour: Exterior and underside of base: orange; core: black; interior: abraded.

**Context:** post-hole 407 of main enclosure, layer (1)

One small, very abraded sherd with slight curvature on the exterior. There appear to be small rounded impressions on the interior, and the sherd may in fact be a very abraded rim. The sherd is prehistoric but of unknown date.

Fabric: obscured

**Condition:** very worn **Colour:** core: black; surfaces pale bi

**Colour:** core: black; surfaces pale brown **Context:** post-pit *420* of main enclosure, layer (1).

## Unidentified Object (P50)

This object was found in pit 34, the feature containing the Collared Urn sherds discussed above; however, the circumstances of excavation of this feature are unclear and the object had been placed in a bag with two abraded sandy sherds which are unlikely to be of prehistoric date (one at least seems likely to be Romano-British): this might be taken as an indication that P50 was from a disturbed context within the feature and associated with these later sherds, but this is of course uncertain. In fabric, P50 bears no resemblance to the certainly prehistoric material in pit 34, as it is fairly hard and slightly sandy, although the sand inclusions are very fine: no similar fabric occurs in any identifiable pottery from the site.

Superficially the object resembles a handle to a spoon or scoop, but on further consideration this seems less likely: the wider end of the object is not worn or broken, but was intentionally finished at that point, so the object lacks a bowl of even the crudest sort; in addition the double 'lip' to the wider end also seems to be inconsistent with a 'spoon' interpretation. Spoons do occur in Bronze Age contexts, such as a barrow in Mintlyn Wood, Bawsey (Site *16286*; Wymer in prep.) but these do not show any marked resemblance to P50.

P50 does, however, bear some similarity to a handle in the process of being 'pulled': in this process the potter anchors a strip of clay, usually already partially formed into the handle shape, to the vessel wall, and then pulls the clay to the required length, fixing the lower end to the wall when finished. P50 could be envisaged as such a length of clay, shaped to fit the rim and partially luted to it, which was then abandoned and detached before completion: handles are usually added when the vessel is firmer than the handle, so that it would be possible to detach a handle at this stage without much damage to the


Figure 45 Redgate Hill, Hunstanton. Collared Urn, indeterminate Bronze Age and later prehistoric pottery, and unidentified object

vessel. This is admittedly a tentative explanation for P50's peculiar form, but no other explanation has occurred to the writer, and no parallels are known for it.

Fabric:S:1Condition:wornColour:Surfaces pale orange-brown; core not visibleContext:pit 34.

#### Discussion

It is unfortunate that there is some doubt about the stylistic affinities of the sherds described above, but as most of them are in fabrics not parallelled within the collection by diagnostic material, the doubt is unavoidable: even in the cases of the sherds for which there are some parallels outside the site there must be some element of uncertainty in view of the fact that all are in fabrics containing common inclusions which occur in pottery of widely different dates in the region. However, as there is a site of Iron Age date in close proximity, it would seem likely that there is a small Iron Age element in the collection.

#### **Post-Prehistoric Pottery**

Only thirty sherds, weighing 197g, are probably not of prehistoric date, and the majority of these are likely to be Romano-British. Sherd count and weights are given in Table 26 (microfiche), in which sherd totals are marked with asterisks. This total also includes one pantile fragment, possibly burnt, from Area C (1970). The majority of sherds are plain body sherds or basal fragments, but there is one Romano-British rim in a grey fabric with black slipped surfaces (unillustrated; unstratified).

#### **Fired Clay**

(Appendix I and Table 33 (microfiche))

#### Summary

There are at least thirty-four sizeable fragments, and a number of small crumbs and fragments which were not counted, weighing a total of 392g. The majority came from pits 33 (21 fragments/224g) and 34 (9 fragments/92g). Small, featureless fragments came from post-holes of the east ?entrance, structure E and structure F, as well as from unattributed post-hole 433. Almost all are in a hard, slightly sandy fabric with fine sand and rare other inclusions, and are orange or orange-red in colour. A few retain convex surfaces and three fragments from pit 33 bear what appear to be stick impressions. The fired clay from this feature is comparable with the much larger assemblage of 'brick' associated with Middle style Beaker at Weasenham Lyngs (Site 3660; Petersen and Healy 1986, 97-99).

## **III.** Worked Bone and Antler

by Frances Healy and Gillian G. Jones

#### Description

The three bone objects illustrated in Figure 46 are all from pits containing Grooved Ware. B1, from pit 20, is of unidentified bone and is almost certainly the tip of an awl or pin. B2, from pit 21, is a pig fibula one end of which is worked into a point. B3, from pit 22, is a length of cattle mandible squared at both ends and smoothed on the edges of its split, inner face, in the centre of which the remains of tooth sockets are visible. The outer face is unmodified.

An unillustrated red deer antler fragment from Early Bronze Age pit 34 has one cut and one smoothed edge.

#### Discussion

Simple bone pins or awls retaining one articular end, such as B2, have been found in contexts ranging from the early third millennium cal. BC primary silts of the Windmill Hill causewayed enclosure, Wiltshire (Smith 1965, 129) to the late second millenium cal. BC debris of post-mining occupation at Grime's Graves (Site 5640; Mercer 1981, fig. 42). Grooved Ware associations are listed by Wainwright and Longworth (1971, 263).

B3 is difficult to parallel. While it may be a functional implement, its resemblance to the more quadrangular forms of edge-polished discoidal flint knife (*e.g.* Clark 1929, fig. 7; Manby 1974, fig. 34:13, 14) may be a skeuomorphic one.



Figure 46 Redgate Hill, Hunstanton. Worked bone

# Chapter 4. Chemical, Zoological, and Botanical Evidence

# I. The British Museum Phosphate Survey, 1974

by David Gurney

#### Introduction

The phosphate survey was carried out and the samples were analysed by Dr M. Cowell of the British Museum Research Laboratory in 1974. The area of the survey (Fig. 47) has maximum dimensions of 200m north-west to south-east by 60m north-east to south-west. The eastern third of the survey area bordering the road was sampled on a 5m grid, and the rest of the area was sampled at 10m intervals. Up to three samples were taken from each sampling point, at depths of 0–20cm, 20–40cm and 40–60cm.

The survey area coincides in part with the 1976 geophysical survey, the 1976 trial excavations and the 1977 excavations (Wymer 1986, fig. 2), and includes an area where in 1976–7, a number of Iron Age pits were excavated (Fig. 47: inset B; after Wymer 1986, fig. 3).

The method of analysis was developed by the British Museum Research Laboratory, and is based on the molybdenum blue method of Murphy and Riley (1962). For details see Craddock *et al.*, 1985, 363–4. Results are expressed in milligrams of phosphorous per 100 grams of soil (hereafter mg P/100g).

#### Results

The results of the phosphate survey are illustrated in Figure 47, and summarised in Table 34. The full results are included in the site archive.

In Figure 47, the results from each sampling depth are illustrated separately. Values below the mean are indicated by an open circle, while values above the mean are indicated by blacked circles of three gradations. These represent values from the mean to the maximum value at intervals of two standard deviations.

			mg P/100g	
Sampling depth	No. samples	Range	Mean	St. Dev.
0–20cm	205	40-190	73	19
20-40cm	193	25-162	68	22
40-60cm	67	36-144	68	23

Table 34Summary of the Phosphate Survey Results

#### Conclusions

The results from the three sampling depths are broadly comparable, with similar distributions of higher phosphate values. The area of the Iron Age pits excavated in 1976–7 has a few higher values (Fig. 47 and inset B), but these do not appear to coincide with or relate to the underlying features.

To the south-east of the area excavated in 1976–7, and at the southern end of the survey area, phosphate values are consistently above the mean at all three sampling depths. Of 110 samples taken from the southernmost 25m of the survey area, eighty-four

provided a value above the mean, in contrast with the rest of the survey area where higher and lower values are more evenly distributed. This then suggests a possible area of enhancement at the southern end of the survey area. This area has not been excavated, but the results of the phosphate survey do suggest that further evidence of either early prehistoric or Iron Age settlement on Redgate Hill might be found there.

## **II.** The Animal Bones

by Gillian G. Jones

Animal bones of Later Neolithic and Early Bronze Age date were recovered, mostly from the 1970 excavations. Later Neolithic bones were of domestic pigs and cattle, with goat and perhaps sheep also present. Remains of wild animals were confined to red deer (mostly antler), roe deer, and cat, dolphin and mouse (*cf. Apodemus*). Most of the bones from the single Early Bronze Age pit (*34*) were from goat or sheep. The assemblage is typical in the dominance of pig in the Later Neolithic, with some evidence that caprines were more numerous than pig by the Early Bronze Age. The material is summarised in Table 35.

The material was very fragmented, only 29% being identified. Fragments less than 1cm long were not counted. The surface of the bones was eroded, often with none of the original surface surviving. Few butchery marks were preserved. Of the unidentified bones, two-thirds were of pig(sheep)-size and one third of cattle-size, which is similar to the identified portion. Ribs and fragmentary vertebrae are included in the unidentified. Some of the bones in pit *12* were burnt (three of pig, nine unidentified). One other fragment was burnt, from pit *32*.

The minimum number of individuals was calculated for each pit. The method was appropriate for this site: there was evidence from the likely relationship of bones, *e.g.* several pits where loose teeth appeared to belong together, long bones were likely pairs, and upper and lower jaws probably matched, that the minimum number figure may be close to the actual number of animals whose remains have been found.

A few bones of uncertain date are also shown in Table 35. They were from pits 23/24, the 'dwelling area', the 'complex' and area A. Four bones of vole (*cf. Clethrionomys/Microtus*) labelled 'small mammal remains from Neolithic Rubbish pits at H.1970', are likely to have come from pits containing Grooved Ware.

#### Cattle

The few measurements are shown in Table 37 (microfiche). Later Neolithic cattle are known to have been larger than more recent domestic cattle (Grigson 1984; Legge 1981b) and the measurements from Hunstanton agree in this. For example, an astragalus is at



Figure 47 Redgate Hill, Hunstanton. The British Museum phosphate survey 1974

the upper end or just beyond the range usual at Iron Age and Romano-British sites in England (*e.g.* Maltby 1981). It is much smaller than wild aurochs (Grigson 1983, fig. 16).

The teeth were recorded and studied in an attempt to assess ages at slaughter, particularly in view of the suggestion that Neolithic cattle husbandry was primarily a dairy system, most adults being female, with most males being killed at young ages (Grigson 1983, Legge 1981b). Assuming each pit to hold the remains of distinct animals, the teeth were at the following stages:

	Catt BN	le (MN)	Goat/Sheep BN (MN)	Goat BN (MN)	Pig BN (1	g MN)	Deer		Other	Total Ident.	% Ident.
Later Neolithic	77		15	1	182		red 6	+13a	cat 2	305	29%
Total	25%		5%		60%		roe 5		dolphin 1 mouse 3		
Pit 1	_		_		3	(1)				3	
Pit 12	35	(2)	—		59	(3)	red 2 (1) roe 5 (1)		cat 2 (1) dolphin 1	104	
P10 (prob. = pit 12)	_		_		1		1000 (1)		uorprini i	1	
Pit 20	20	(2)	5(1)		15	(3)	cf. red la			41	
Pit 21	5	(1)	_		49	(2)	red la		mouse 1	56	
Pit 22	17	(2)	8(1)	1(1)	52	(5)	red 3 (1) +1a		mouse 1	83	
Pit 32	_		2(1)		3	(1)	red 1+9a			15	
Pit 260	_		_				red la s		mouse 1 s	2 s	
Early Bronze Age											
Pit 34	2	(2)	23 (1)	?2 (1)	3+1 sk	(2)	red 2 (1) +2a			35	26%
Structural Contexts Main enclosure &/or structure E											
Post-hole 309 Structure F	1 s									1 s	
Post-hole 302 Post-hole 303				1 s 1 s						1 s 1 s	
Later bit cutting main	enclosure										
305	1 s				1 s					2 s	
Misc. (see text)	4		3		1				vole 4(1)	12	

Notes: BN = number of bones; MN = minimum number of individuals; Sk = partial skeleton; a = antler; s = sieved, 1971 contexts; all other bone is hand-collected from the 1970 excavations.

Table 35Summary of Animal Bone

 $calf l (dp_4 enamel wear only)$ 

young or sub adult 3 ( $M^1$  or  $M^2$  at Grant stage g and still high-crowned, two  $M_3$ 's in wear, posterior cusp unworn)

 sub adult or adult 2 (P<sub>4</sub>'s at Grant stages f and g) adult 1 (M<sup>3</sup> worn, cf. Grant stage j) (Grant 1982)

(None of the long bones were from calves).

Interpretation of such a small sample is unwise, though it can be noted that most of these individuals were more than one year old, but only one was certainly adult.

#### Goat and Sheep

There was direct evidence, unusual on a British archaeological site, for the presence of goat in the Later Neolithic and probably also in the Early Bronze Age, with no certain evidence for sheep. A mandible from Pit 22 was identified as from a young goat on the basis of six of Payne's distinctions and the measurements of dp<sub>4</sub> (mature-wear stage, height 7.3, depth 6.8 index 1.07) (Payne 1985). The first molar is at Grant (1982) wear stage e;  $M_2$  is unworn, that is, *c*. 8–12 months old (Deniz and Payne 1982).

From Early Bronze Age Pit 34, a fragmentary loose  $dp_4$  shows the distal enamel margin and basal swelling characteristic of goat, and a first molar, probably from the same individual, has an interlobar pillar 7.5mm long, also suggestive of goat. (M<sub>2</sub> is also present, with two cusps only in wear, *i.e.* c. 11–15 months).

The remains may therefore be of goat or of goat and sheep. Goats, being browsing animals, would have been better suited than sheep to a woodland environment.

The sample suggests that caprines were of minor importance in the Later Neolithic. They formed only 5% of the bone, and were present in only three of the eight pits.

Evidence from other sites suggests that by the Bronze Age this position would have changed, with sheep the commonest domesticate and the implication of widespread land clearance, as, for example, at Grime's Graves (Legge 1981a). Goat/sheep bones are much more numerous than pig or cattle in Early Bronze Age pit 34 (although the minimum number of individuals is two for all three species); of the 100 unidentified fragments, three were cattle-size and of the rest, most had more the appearance of sheep than of pig.

#### Pig

All methods of calculation show the importance of pig in the assemblage. Pig bones were more numerous than cattle in all the pits except pit 20 (and in this pit the minimum number is higher). Proportions based on jaws plus loose teeth gives: (N90) cattle 19%, caprine 2% and pig 79%; and based on more-complete bones (the 'zone' list, employed for material from Late Saxon Thetford (Jones forthcoming) gives: (N187) cattle 24%, caprine 3% and pig 73%.

Ageing data for pigs is shown on Table 36 (microfiche). Presence of two piglet bones suggests that pit 20 was open during the early summer, if a late spring (March/April) birth is assumed (Grigson 1982). The general age structure is comparable with late Iron Age Bierton (Jones, 1986) in the low proportion of young ( $M_1$  unworn) and adults ( $M_3$  in wear on all cusps). Both are presumed to be self-sufficient subsistence economies.

Canine teeth were from two sows and two males. The lower first permanent premolar was present in one mandible.

Measurements were taken on all pig molar teeth, and the lower posterior deciduous premolar, following the work of Payne and Bull (1988), producing a useful



Figure 48 The size of Hunstanton pigs in relation to modern Turkish wild boar, Mesolithic wild boar from Star Carr, Seamer, Yorkshire, Romano-British pigs from Prestatyn, Clwyd, and recent wild boar from France and from Whipsnade, Bedfordshire

number of results (forty-nine) for a bone sample of this size (from at last ten pigs, assuming each pit to have contained different individuals, six taking the bones as one group). The results are presented in Figure 48 in relation to the estimated size of an average adult wild boar from Kizilcahaman, Turkey. Individual measurements are expressed as a log ratio of the Turkish standard. For example, the M<sup>1</sup> length 18.0/standard 20.3mm gives the ratio 0.887 and the log -1.052, plotted at -0.05 (Payne and Bull in press; Simpson, Roe and Lewontin 1960, 340–342, 356–358). Both humerus and ulna are incomplete and may be from immature pigs. None of the measurements are from pigs of known sex.

The Hunstanton pigs are smaller than the standard by very similar proportions, which suggests that they are from a single population. It is suggested that they are domestic pigs, of a size intermediate between wild pigs and the small Romano-British domestic pig, exemplified by those from Prestatyn, Clwyd (Jones 1989). The three Early Bronze Age measurements from Hunstanton are no smaller than the Later Neolithic ones.

Measurements for the upper teeth are closer to the standard than those for the lower teeth and there is less overlap with the Prestatyn data, but the sample size is very small.

Most of the measurements from Mesolithic Star Carr, Yorkshire (Payne pers. comm.) are towards the upper range of the Hunstanton ones, but there is no clear separation on the dental measurements. None of the three Hunstanton long bones were definitely mature, so that the separation apparent for the humerus and ulna may or may not be meaningful.

The wild sows from Whipsnade appear to be of similar size to the Hunstanton pigs.

#### **Other Species**

Bone and/or antler of red deer were present in all the Later Neolithic pits and in the Early Bronze Age pit, and the species was probably no less important than goat or sheep. The antler remains included some large pieces, *e.g.* tines 20 and 24cm long.

No bones from either horse or dog were found, though possible gnawmarks on a cattle tibia may be from a dog.

Pit 12 contained the largest quantity of bone and the greatest range of species which included roe deer, cat and dolphin. The roe deer was a young animal less than a year old (deciduous premolars still present). It is presumed that the cat is a wild cat; measurements are larger than late medieval domestic cats from, for example, Aylesbury (Jones 1983). The dolphin bone, kindly identified by M.C. Sheldrick (British Museum, Natural History) is a mature, thoracic vertebra. Its size is comparable with a Bottle-nosed or Risso's dolphin (*Turslops truncatus, Grampus griseus*). The site at Hunstanton is lkm from the sea, and may have been closer to it in the Later Neolithic (Ch. 5).

Single bones from mouse, *cf. Apodemus* (a broken incisor and two tibiae) came from three pits.

# III. Mollusca and Plant Macrofossils

by Peter Murphy

#### Introduction

The excavation provided the only opportunity, during recent years, for extensive retrieval of biological remains from a Late Neolithic or Bronze Age domestic site in Norfolk. The site is thus of considerable regional significance. Unfortunately there are problems of chronology, in that many features produced no dateable artefacts, and of contamination, since the features were usually shallow and unsealed, directly underlying the modern ploughsoil. Consequently intrusive modern biological material had been introduced, presumably via soil cracks, worm and other animal burrows, and root channels. The effects of these problems are discussed in more detail below. Clearly they limit the value of the material recovered, but in view of the dearth of palaeoecological and palaeoeconomic information for this period of prehistory in Norfolk it was thought necessary to salvage the maximum possible information from the samples, rather than just dismissing them as contaminated and therefore unreliable.

#### Methods

During the 1970 excavations sampling was not possible, but bone and marine molluscs were collected by hand. Dr Kinnes undertook a large-scale sampling programme during 1971. All the fill excavated was wet-sieved manually on site. The mesh size used was not recorded, but was clearly adequate for retention of small apical fragments of land snails: it must have been approximately 0.5mm. The sieved fraction was dried and sorted, extracting mollusc shells, charcoal, carbonised cereals and seeds.

The material received by the writer consisted of macrofossils extracted from the sieved fractions of these samples. Due to a misunderstanding a small proportion of this material was discarded. The remaining samples were examined under a binocular microscope at low power, extracting, for identification and counting, all carbonised cereal grains and seeds, and all remains of marine invertebrates, and noting those samples which contained land mollusc assemblages sufficiently large to be worth more detailed study. Subsequently some of the largest snail assemblages were re-examined. The presence of any contaminants was also noted.

#### Mollusca

#### Marine invertebrates

Remains of marine molluscs and barnacles are common in the sieved samples, though intact shells are less frequent: most of the material consists of quite small fragments. Unlike the land mollusc assemblages, there is no reason to suppose that any contamination by recent marine mollusc shell has occurred. Lack of dating evidence for most contexts is, however, a problem and all the remains of marine invertebrates from the site are therefore considered here as a single aggregate. Full lists of identifications are given in Tables 41 and 42 (microfiche), and the results are summarised in Table 38. Here the frequencies of taxa are presented in terms of the numbers of contexts or layers in which each taxon was identified, since quantification in terms of counts of apices or hinges is impossible for most samples. Some of the more unusual or interesting taxa are illustrated in Plate IV.

#### Discussion.

By far the commonest marine mollusc in these samples is the mussel, *Mytilus edulis*. Mussel shell fragments occurred in the majority of contexts sampled, and several larger assemblages of mussel shell, comprising up to 152 valves, were retrieved. The shell surfaces are often quite weathered or obscured by secondary calcite growth, and they show no obvious signs of encrusting or boring organisms. A few valves show discolouration from the effects of burning notably in layer (1) of post-hole *186*. From the entire site only sixty intact valves were recovered, ranging from 33–50mm in length (mean 41.4mm). The relatively small size of these valves suggests that they came from a fairly high intertidal

	Frequency
Mytilus edulis L.	266
Ostrea edulis L.	54
<i>Cerastoderma</i> $sp(p)$	84
Macoma balthica (L)	2
Scrobicularia plana (da	3
Costa)	
Spisula sp.	1
Indeterminate bivalve	1
(abraded hinge)	
Indeterminate bivalve	26
(non-hinge frags) (a)	
cf. Gibbula sp.	1
Littorina littorea (L)	3
Littorina sp.	3
cf. Littorina sp. (small	6
whorl frags)	
Hydrobia ulvae	1
(Pennant)	
Nucella lapillus (L)	4
Buccinum undatum L.	3
Nassarius sp.	1
Phytia myosotis	1
(Draparnaud)	
Indeterminate	29
gastropod (whorl/	
columella frags) (b)	
Sepia sp.	1

Notes: (a) = Small non-hinge fragments, usually only a few mm in size, with no distinctive sculpturing. (b) = Similar small fragments of whorl with traces of ridges/ribs, or fragments of columella.

Table 38 Marine Mollusca (summary of identifications). The figures given for frequency refer to the numbers of contexts/layers in which each taxon was identified.

population (cf. Tebble 1976, 41). A likely source for these mussels is the intertidal outcrop of Carstone at the base of the cliffs at Hunstanton, which would have provided a suitably firm substrate for attachment. A few shells of gastropod species common on rocky shores were also retrieved (*Littorina littorea, Gibbula* sp, *Nucella lapillus, Nassarius* sp.), and it seems possible that these were accidentally collected with mussels.

Shells and fragments of oysters (*Ostrea edulis*) are roughly one fifth as frequent as those of mussels. Intact valves are rare, and of these some are from juveniles, too small to have been collected for food. The valves show borings of a variety of organisms, including *Polydora* sp. Suitable habitats would have occurred on the Carstone outcrop from below about low water.

Several species of infaunal bivalves characteristic of sandy and muddy substrates have been identified, but of these only cockles (Cerastoderma spp.) appear to have been collected as food. Valves are almost one third as frequent as mussel valves, although mussel valves are numerically far more abundant. The species of Cerastoderma sp. present is uncertain because no intact adult valves were present. Other infaunal bivalves include Spisula sp, Macoma balthica and Scrobicularia plana. The latter two species are frequent in muddy estuarine habitats, where salinity is lowered (Yonge 1949, 247-254). A shell of the estuarine mudflat snail Hydrobia ulvae was identified, as well as one of Phytia myosotis, a characteristic snail of salt marshes. These few remains of estuarine molluscs imply that food collection was not confined to the nearby rocky shore at Hunstanton, but that areas of the Wash were also exploited.



Plate IV Redgate Hill, Hunstanton. Marine invertebrate remains

The distribution of barnacle fragments seems generally to be correlated with the density of mussel valves: for example in pit 260 and post-hole 186 remains of both taxa were common, implying that the barnacles originally encrusted the mussel valves and were incidentally collected with them. In one other case (posthole 185 of structure I) barnacle fragments were fairly common but mollusc shell rare. This, together with the occurrence of certain non-edible marine mollusc shells noted above, could perhaps be related to the collection of sea-weed and associated strand-line debris for use as animal fodder or manure (cf. Bell 1981 a). The fragments of cuttle-fish shell (Sepia sp.) from pit 20 could well have reached the site accidentally with such collected material: alternatively the cuttle-fish shell may just have been an attractive object picked up during a food-gathering foray.

Pottery from the site includes crushed marine mollusc shell as temper. Shell fragments of comparable size, belonging to the common species, from the soil samples are usually identifiable from characteristics of colour, thickness, surface texture and fracture (*e.g.* the fibrous fracture of *Mytilus* or the flaky fracture of *Ostrea*). However firing the pottery has caused alterations in some of these features, often making identification difficult. Nevertheless the shell in a sample of Grooved Ware is apparently of *Ostrea* and *Mytilus* with no other species, apart from very occasional fragments of fossil *Inoceramus* shell from the chalk.

#### Land molluscs

Land mollusc shells are present in almost all the samples. However most of the assemblages are very small and include a mixture of ecotypes: palaeoecological interpretation is therefore difficult. A more serious problem is that there is clear evidence for contamination of the deposits by recent molluscs: shells of the alien snails Helix aspersa and Candidula spp. (including C. gigaxii) are present sporadically, and shells of some other species include a proportion of specimens with a very fresh, unweathered, appearance. Clearly any of the samples could include some intrusive molluscs and these might be difficult to detect. In these circumstances it seems doubtful whether full quantitative analysis is appropriate, for the species counts obtained could be misleading. However it is possible to salvage some information: there seems no reason to doubt that in their gross composition the assemblages are reliable for palaeoecological reconstruction, at least in general terms. Consequently the approach adopted has been to examine in outline selected large shell assemblages, in which the effects of any contaminants are less likely to be statistically significant, in order to gain a general idea of their composition. All the molluscs have been retained for possible further study in more detail, should this be thought worthwhile.

The species composition of some of the large assemblages is summarised in Table 39.

#### Discussion

The assemblages summarised in Table 39 came from contexts thought to be related to three main phases of activity at the site: pits and pit groups of probable or possible Later Neolithic date; a post-hole of the main enclosure; and a pit which cut two enclosure post-holes.

Feature number	239	250	283-5	301	379	430	447	259	305
Layer	(1)	(1)	(2)	(5)	(1)	(7)	(1)	(3)	(2)
Pomatias elegans (Müller)	++	++	++	. +	+	+	+	_	+
Carychium tridentatum (Risso)	+++	++	+++	++	++	+++	+++	++	++
Cochlicopa spp.	+	+	+	_	-	+	+		+
Truncatellina cylindrica (Férussac)	+	+		. –		_		+	_
Vertigo pusilla Müller	+	—	++	+	+	-	+	+	_
Vertigo substriata (Jeffreys)	-	_		_		_	_	+	_
Vertigo pygmaea (Draparnaud)	-	_	+	_	_	_		_	
Vertigo spp. [apices only]	—		+		_	+	+	+	_
Pupilla muscorum (Linné)	+++	++	++	++	+	++	+	+++	+
Lauria cylindracea (da Costa)	_		+	_	_	-			-
Vallonia costata (Müller)	++	+	++	+	+	++	++	++	+
Vallonia excentrica Sterki	++	+	+	+	_	+	_	++	+
Acanthinula aculeata (Müller)	+	+	+	_	+	_	+	_	+
Ena obscura (Müller)	+		+		—	-			_
Punctum pygmaeum (Draparnaud)	+	+	+	+	_	+	-	+	+
Discus rotundatus (Müller)	+++	+++	++	++	+++	++	++	+	++
Vitrina pellucida (Müller)		-		—	+	-		_	
Vitrea crystallina (Müller)		_	_	_	_	_	+		5 <u></u> 0
Vitrea contracta (Westerlund)	+	+	+	+	+	+	+	+	+
Nesovitrea hammonis (Ström)		—		—	—	-	—	+	
Aegopinella spp.	+	+	+	+	+	+	+		+
Oxychilus spp.	++	+	+	+	++	+	+		+
Limacidae		+	.+	_	+	—	-		—
Euconulus fulvus (Müller)	_	+	_	_	+			_	
Cecilioides acicula (Müller)	+++	+++	+++	+++	+++	+	++	++	+++
Cochlodina laminata (Montagu)	+	+	+	—	+		+	+	+
Clausilia bidentata (Ström)	+	+	+	+	+	+	+		+
Candidula spp.	+	+	+	+	-	+	—	_	+
Helicella itala (Linné)	++	+	+	+	+	+	+	+	+
Trichia spp.	++	+	+	_	++	+	-	_	+
Helicigona lapicida (Linné)		.—.	+			+	+		-
Arianta/Cepaea spp.	+	+	+	+	+	+	++		+
Cepaea nemoralis (Linné)	+		_		+		—	_	_
Cepaea hortensis (Müller)	+	-		10000	+	-	-	-	-
+ = present; + + = common; + + +	- = abund	ant.							

In most cases shell assemblages had also been retrieved from other layers within these features but these assemblages are almost all very small and are not listed here.

 Table 39
 Land molluscs from selected contexts: summary of relative abundance

a) Pits and pit groups. Mollusca from seven pits and pit groups will be considered here (features 239, 250, 283-5, 301, 379, 429-30 and 447). Artefactual evidence for the date of these features is sparse, though 429-30 produced sherds of Peterborough Ware (P29-P30). The excavator recorded all these features as pits, and there is no doubt that some of them were artificially dug. Others, however, were rather irregular in shape, wide and shallow, and the section drawings show some irregular layers set at very high angles (e.g. Figs 21 and 23: 377-380). It is possible that these features were of the type described by Evans (1972, 219) as 'subsoil hollows'. They are likely to have been hollows left by tree root systems, following collapse and/or decay. However, there seem to be no very marked differences between the mollusc assemblages from features interpretable with confidence as artificial pits (e.g. Figs 16-17: 429-30) and less well-defined features (e.g. Figs 18 and 20: 300-1): in all the large assemblages from these features woodland molluscs predominate. Carychium tridentatum and Discus rotundatus are the two most abundant woodland species, followed by the Zonitidae with other woodland species occurring generally at lower frequencies. The high frequency of Vertigo pusilla in 283-5 is unusual. Pomatias elegans is consistently present, and in 239, 250 and 283-5 is one of the most common taxa. This is likely to indicate disturbance of the soil surface (Evans 1972, 134). Molluscs characteristic of open conditions are also present, and Pupilla muscorum is frequently quite common. It is associated (in overall order of abundance) with *Vallonia costata, V. excentrica, Helicella itala* and *Truncatellina cylindrica*. Shells of intrusive *Candidula* spp. (including *C. gigaxii*) are present fairly consistently, but at low frequencies. In view of this any detailed quantitative account of assemblage composition would be invalid, but, overall, the assemblages can be interpreted with reasonable confidence as representing a habitat of open woodland, disturbed by human activity.

b) Post-holes of the main enclosure. Only one post-hole (Figs 18–19: 259) produced a large assemblage of mollusca. In layer (3) of this feature *Pupilla muscorum* is by far the most abundant snail, and other open-country taxa are also present. Shade-requiring taxa, notably *Carychium tridentatum* and *Discus rotundatus*, are present but are comparatively rare. Layers (1) and (2) of this posthole contained sparse assemblages dominated by *Pupilla* and *Helicella itala*.

Layer (1) of post-hole 229 (Figs 14–15) produced a similar but much sparser assemblage, again dominated by these two species. From this evidence it would appear that the enclosure was constructed in a open habitat. The abundance of *Pupilla* and apparent absence of *Vertigo pygmaea* seem to suggest that the soil surface was disturbed and vegetation cover was sparse: conditions which would be expected in and around a stock enclosure or, for that matter, a settlement.



Figure 49 Redgate Hill, Hunstanton. Carbonized cereals

c) Post-enclosure pit. Pit 305, which cut two post-holes of the enclosure (Figs. 18, 20), contained a large assemblage of molluscs in layer (2). This is composed predominantly of woodland taxa, with lower frequencies of opencountry snails, and it seems possible that this layer formed during a phase of secondary woodland or scrub development.

#### Conclusions.

The contamination of these deposits by recent molluscs is regrettable. Nevertheless it has been possible to salvage some palaeoecological information by concentrating attention on the gross composition of assemblages rather than producing species counts of dubious value. On this basis it is suggested that, during the Later Neolithic, local vegetation consisted of open woodland, already disturbed by human activity, but that fully open-country conditions had been established by the time the enclosure was constructed. There are indications of a phase of secondary woodland or scrub development after the enclosure went out of use. Detailed quantitative studies of mollusca from well-sealed deposits on the chalk of west Norfolk are still clearly required. The problem of contamination is likely to apply to all deposits at open sites of this type. The most potentially informative deep deposits are likely to be colluvial sediments filling dry valleys (cf. Bell 1981b).

#### **Carbonised Plant Remains**

The sieved samples received for examination contain fibrous roots with modern uncarbonised intrusive seeds of *Stellaria media*, *Silene alba*, *Atriplex* sp, *Chenopodium album*, *Malus sylvestris*, *Aethusa cynapium*, *Euphorbia helioscopia*, *Polygonum aviculare*, *Polygonum convolvulus*, *Urtica dioica* and Gramineae, and some uncharred cereal remains. This type of recent contamination is very common in poorly-sealed archaeological deposits beneath agricultural soils. There is, however, no reason to think that any recent carbonised plant material has contaminated the deposits: the carbonised cereal remains and seeds recovered are almost all badly abraded and encrusted with soil concretions, and the taxa identified are consistent with identifications from Later Neolithic sites elsewhere.

Carbonised plant remains occur at very low densities in a range of contexts (Table 40 microfiche) but never in any marked concentrations. Charcoal fragments occur fairly consistently, but most of these are very small, and hence have not been identified.

#### *Identifications*

No cereal spikelet or rachis fragments have been recovered. Most of the cereal grains are in an extremely poor state of preservation: the majority are fragmentary, and the intact grains are mostly puffed, deformed, abraded and/or encrusted with soil concretions, with little or no trace of their original surfaces. Three cereal taxa are identifiable, however: short grains of bread or club wheat (Triticum aestivum/compactum-type), an elongate grain of emmer (Triticum dicoccum-type) and grains of barley, including naked barley (Hordeum sp. var. nudum). Illustrations of a few intact or near-intact grains are given in Figure 49. Dorsal views of the emmer grain and three bread/club wheat grains are shown in Figure 49 a-d. Figure 49e illustrates dorsal, ventral and lateral views, and a cross-section of the naked barley grain from layer (1)of post-hole 381 in row C. The rounded cross-section and shallow median groove above the embryo are clearly visible on this grain.

Leguminous seeds and isolated cotyledons occur in four samples. None of these shows any trace of the hilum. On a size basis most of these specimens could be of *Vicia*/ *Lathyrus* sp. – wild vetches or tares – though there is one large but fragmentary cotyledon which before fracturing would have been more than 4mm in length.

Nutshell fragments of hazel (*Corylus avellana*) came from four contexts, but in each case no more than a single nut is represented.

#### Discussion

Sparse assemblages of cereal grains with hazel nutshells and rosaceous fruit stones have previously been reported from several Later Neolithic sites (Jones 1980; Van der Veen 1985). The main cereal species identified from these sites are emmer, bread/club wheat and naked barley. These cereals, with the addition of hulled barley, are also known from Beaker sites (Helbaek 1952, 204). The results from Redgate Hill are completely consistent with those from previously-investigated sites, establishing that here, as elsewhere in the country, there was some arable farming during the Later Neolithic/Early Bronze Age. Nutshells are comparatively less common at Redgate Hill than at some other sites, although hazel nutshells from four contexts suggest some exploitation of woodland food resources.

# Chapter 5. Synthesis and Discussion by Frances Healy, Rosamund M.J. Cleal and Ian Kinnes

The excavations revealed a spread of features comprising pits, some clearly datable to the Neolithic or Bronze Age, and a series of post-built structures, including an enclosure. Although there is some overlap in the distribution of these two types of feature, they cannot be directly related, neither can all the structures be shown to form part of a single complex. The first section of this chapter summarises the evidence for individual phases, then reviews the evidence for the interrelation, function, construction and date of the buildings, enclosure and alignments. The second section places the site within a wider regional context.

## I. The Evidence from Redgate Hill

The excavated area yielded little evidence of habitation, except for slight concentrations of artefacts, fired clay (?daub) and food remains in structures E and F (Figs 28–30). Phosphate enhancement downslope to the south (Fig. 47, Ch. 4.I) may reflect occupation, of unknown date or dates, in a more sheltered location, as may flint collections made over the same area and beyond it (Ch. 3.I).

#### **Chronological Overview**

#### Mesolithic

Some artefacts in surface collections made to the west and south-west of the excavated area are of Mesolithic date (Ch. 3.I). Contemporary artefacts cannot be identified among the excavated material.

#### Later Neolithic

This period is most substantially represented by pits containing Grooved Ware. Most were excavated in salvage conditions and minimally recorded. Where a slightly fuller record was made, however, deposition often seems to have been structured and formal. The fill of pit 22 was divided vertically into a chalk-filled half which contained animal bone and a dark, soil-filled half which contained over a hundred sherds of Grooved Ware, while a slab of rock weighing over 5kg and topped with a much smaller one had been placed in the bottom of the pit. Pit 32 contained sherds of a single pot (P22), a pair of red deer antlers and a concentration of mussel shells. All finds were concentrated in one side of pit 260, excavated in 1971 (Fig. 19).

Even where there is no record, the contents alone sometimes suggest that deposition was not casual. The large size and sound condition of most Grooved Ware sherds indicate that they had not been discarded and left on the surface of a settlement before being buried (Ch. 3.II). The incidence in the pits of Grooved Ware and worked flint and stone is uneven. Pit *12* is the only one to have contained large quantities of both. Otherwise the two pits with the most Grooved Ware, *22* and *32*, contained very little lithic material and pits *20* and *21*,

	sherds	worked flint and stone
pit 12	92	215
pit 20	15	326
pit 21	46	208
pit 22	134	49
pit 32	169	5

Table 43Balance between ceramics and lithics in themore prolific Grooved Ware pits

which, with pit *12*, yielded the most lithic material, had very little Grooved Ware (Table 43).

Concentrations of unworked pebbles and fragments in some pits, notably 12 and 20, seem to reflect deliberate selection and collection of erratics in preference to the more abundant local Carstone. The deposition of a slab of igneous rock weighing nearly 6kg in the base of pit 25, from which it was the only find, recalls that of a similarlysize slab in the base of pit 22, beneath deposits of Grooved Ware and animal bone.

The contents of the pits reflect the use of coastal resources. Shellfish, mainly mussel and oyster, were collected. Peter Murphy suggests (Ch. 4.III) that these may have come from the local intertidal outcrop of Carstone. Flint and erratic pebbles were also collected from the beaches. There is a dolphin vertebra from pit 12 (Ch. 4.II). The extent to which fishing was practised is impossible to judge. Fish bone was not recovered, although deliberately sought in sieving. The eroded condition of the mammal bone from the pits, however, makes it unlikely that such fragile osseous material would have survived had it been present (Gillian Jones pers. comm.). The small assemblage of terrestrial mammal bone includes a few fragments from wild species, in the form of cat, roe deer and red deer, the latter represented mainly by antler, but also by six bone fragments. Mouse and vole are best seen as natural intrusions. It is dominated, however, by pig, with some cattle. Goat (and possibly sheep) were of minor importance (Table 35). There is a single unidentified cereal grain from pit 260, the fill of which was sieved during the 1971 excavation (Table 40 (microfiche)).

Other Later Neolithic pottery styles were rarer than Grooved Ware, and occurred in separate features none of which showed equal formality of deposition. Peterborough Ware sherds (P29, P30) in intersecting pits 429 and 430 were associated with a few mussel and other shells. The primary silt of 430 (layer (7)) contained a land mollusc fauna representing a landscape of open woodland disturbed by human activity (Ch. 4.III). Sherds of Late Beaker (P33) in pit 335 were associated with a few mussel and other shells, a wheat grain (*Triticum aestivum*-type) and fragments of hazel shell. A sherd probably of Rusticated Beaker (P31) was found in unattributed posthole 257, with a few fragments of mussel shell.

The mollusca from pit 430 suggest that the immediate area was predominantly wooded. Swine may have been kept and nuts collected within this woodland, cattle and caprines may have used both woodland and cleared areas, cereals would have been cultivated in (fenced?) clearings, and various coastal resources collected from the nearby beach. The contemporary shoreline may have been closer than the present one, which lies 1km to the west. Hunstanton's position on the north-easternmost edge of the Wash (Fig. 1) relates it to the complex history of marine transgression in the Fenland basin. There is a growing body of evidence for the onset of marine conditions in the Fens to the west and south of the Wash at various dates in the period 3020-2120 cal. BC (Waller 1988). These rises in sea level must have affected the Wash coast itself. The relatively recent marine alluvium which borders the coast in the area of the site (Fig. 3) and the peat which underlies it may obscure evidence of earlier transgressions. If so, then the Later Neolithic occupants may have been 500m rather than 1km from the sea.

The general chronology of the pottery styles concerned remains imprecise. Developed Peterborough Wares seem likely to have emerged in the early third millennium cal. BC and remained current into the late third (Smith 1974a, 111-113). Radiocarbon determinations relating to the southern sub-styles of Grooved Ware, of which the Clacton sub-style is one, lie in the period 3300-1700 cal. BC. Two of the earliest are from eastern England, and relate to Grooved Ware settlement at Barholm, Lincolnshire: 4305 ± 130 BP (UB-457; 3365-2520 cal. BC) and 4255  $\pm$  135 BP (UB-458; 3344-2560 cal. BC; Simpson forthcoming). Most, however, fall within the period 2500-1800 cal. BC (Healy 1984a, 112). The two substantial series of determinations for East Anglian sites conform to this narrower span: six determinations from Storey's Bar road, Fengate, Cambridgeshire (Pryor 1978, 226-227) range from 3980  $\pm$  100 BP (HAR–397; 2810–2049 cal. BC) to 3810  $\pm$  150 BP (HAR-409; 2840-1740 cal. BC), while flint-mining at Grime's Graves, Weeting-with-Broomhill (Site 5640), conducted mainly by users of Grooved Ware, is dated by nearly a hundred determinations (Burleigh et al. 1979, 46) to the period 2600-2010 cal. BC. In these circumstances, the Grooved Ware presence on the site is almost certainly dated by OxA-2310 and -2311 rather than by BM-704 (Table 46).

Beaker pottery seems to have been introduced into Britain by 2400 cal. BC (Gibson 1982, figs 1 and 2). It is thus possible, though by no means certain, that the Peterborough Ware, Grooved Ware and Beaker from the site may be ranked in a chronological sequence, successive *floruits* for Grooved Ware and Beaker being particularly likely in East Anglia in view of their coincident distributions (Cleal 1984, 152–157).

#### Early Bronze Age

Pit 34 was distinguished from the nearby Grooved Ware pits by its Collared Urn pottery in grogged, as distinct from shell-tempered, fabrics, by the presence of fragments of fired clay, by the technology of its struck flint, and by its predominantly caprovine fauna. The contents are comparable with those of the Grooved Ware pits in that they include substantial, well-preserved fragments of pottery and a concentration of erratic pebbles and fragments. The small quantity of struck flint from pit 33, unlocated but possibly close to pit 34 (Table 3 (microfiche)), which also contained fired clay and erratic pebbles and fragments, is of similar aspect to that from pit 34 and may be contemporary. Sherds of a large, coarse vessel (P45), in the same grogged fabric as the Collared Urn fragments from pit 34, were recovered from the 'complex' and area C.

In the east of the excavated area, structure I (Fig. 25), is almost certainly dated to the same period by the presence in the replacement material of its post-holes of body sherds, one of them large and well-preserved, in the same fabric as the Collared Urn sherds from pit 34, as well as by a small collar or cordon fragment (P43). The size and preservation of these friable sherds, which have a mean weight of 43g, indicates that they cannot have lain on the surface for long before the decay of the post-holes, while the small size of P35, a more robust sand-tempered sherd, possibly of Rusticated Beaker, from 191, suggests that it may have been residual. Concentration of sherds in what would have been the porch area (Fig. 29) supports the interpretation of the structure as a round hut with a south-facing entrance.

Small quantities of grogged pottery were also found in unattributed post-hole 186, north-west of structure I, and with flint-tempered sherds in pit 424 in the south of the excavated area.

Coastal resources continued to be utilized. Most of the artefactual flint was derived from beach pebbles. The collection of shellfish is represented by a large concentration of mussel shells in *186*, a slighter one in post-hole *206* of structure I, and smaller quantities in other post-holes of the structure as well as in pit *34*, pit *424*, and post-hole 426. Peter Murphy suggests (Ch. 4.III) that barnacle shells, found in post-hole *185* of structure I with disproportionately few of the larger shells onto which they elsewhere seem to have been encrusted, may represent the collection of seaweed and other strandline debris for use as fodder or manure.

This phase of activity may have pre-dated the construction and use of a round barrow 400m to the north-east, from which cremation burials contained in Collared Urns were recovered (Fig. 4: Site *1263*; Lawson 1986, 108–110). The vessels represented in pit *34* lie early in the Collared Urn tradition, probably dating from the second quarter of the second millennium bc, while the two urns from the barrow (Lawson 1986, fig. 95:1, 3) are stylistically later (Ch. 3.II), and of different fabric, one being tempered with flint, and the other with flint and ?grog). The sample on which BM–704 was made (Table 46) may well have come from pit *34* rather than from any of the pits containing Grooved Ware.

#### Middle Bronze Age

Unattributed post-hole 435 in the south of the 1971 area (Fig. 6) contained a rim sherd in fabric GS:2 (P44) and a thick, coarse base sherd without visible inclusions. The rim is parallelled among Middle Bronze Age material from the post-mining occupation of Grime's Graves, Weeting-with-Broomhill (Site 5640), which seems to have begun c. 1150 cal. BC (Burleigh et al. 1979, 46). A similar date is likely for pit 292, just outside the north side of the main enclosure (Figs 18, 19), which contained finger-smeared sherds of a straight-sided vessel in fabric FS:2 (P46).

		Irreg.				Serrated	Misc.	?Mace-			
Structure	Cores	waste	Flakes	Blades	Scrapers	piece	retouched	head	Stone disc	Totals	Drawings
Row B			1							1	
Row D			1							1	
Row C			1							1	
Main enclosure	2		20	1	2	1	1			27	L36, L37
Main enclosure &/or E			5							5	
E		1	6				1	1		8	L38
F	1	1	11	1						14	
G			4						1	5	L39
Н			1							1	
I			1							1	
Totals	3	1	50	3	2	1	2	1	1	64	
Drawings	L36				L37			L38	L39		

Table 44 Lithic material from post-holes and slots of structures

#### Iron Age

Subsequent occupation was best represented by features excavated to the west in 1976–77. These contained the debris of a settlement sited in a grassland environment whose occupants kept cattle, sheep and/or goats, horse and pig; cultivated cereals; fished; and collected shellfish (Wymer 1986; Murphy 1986). A small quantity of the pottery recovered in 1971 may be of Iron Age date, including P47, P48, and P49. The last of these was found in 432, one of a pair of closely-spaced post-holes with almost identical burnt, clayey fills incorporating burnt flint and stone.

#### Structures

#### General considerations

The common alignment of rows B and C, the main enclosure and structures G and H (Fig. 9) may be an reflection of topography rather than of contemporaneity, since all five follow the contours, lying parallel to the stream which flows to the south of the hill (Fig. 3), as do recent local field boundaries.

Evidence for date and function may have been lost from the upper parts of the features during their erosion by cultivation (Ch. 2.II). It may also have been removed by topsoil-stripping, since objects discarded during the use of a post-built structure are at least as likely to survive at the base of the soil within or around its former area as to become incorporated in replacement material when its uprights eventually decay.

Interpretation of the Hunstanton evidence hinges on three considerations: (1) that particular importance attaches to the few artefacts found in basal fills and in packing, (2) that the significance of finds from replacement material depends on the length of time likely to have elapsed between the erection and decay of the structures, and (3) that evaluation of both must be tempered by the consideration that shallow, eroded features on a multi-period site may contain both residual and intrusive material.

There are so few instances of post-replacement that the life of the structures can be taken as the life of the posts. Some inkling of this can be obtained from a

formula derived from investigations by the Forest Products Research Laboratory and used by Wainwright and Longworth (1971, 224-225) to estimate the life of the Southern Circle at Durrington Walls, Wiltshire, This posits an approximate life of fifteen years for each lin. (2.54cm) radius of heartwood for a substantial oak post set in chalk. The Hunstanton posts were similarly set in chalk. There is no indication of the tree species from which they were cut, although the high frequency of oak in prehistoric structures (Coles, Heal and Orme 1978, table 2), a reflection of its strength and durability, makes it the most likely timber. The formula is likely to provide a maximum life for the Hunstanton posts for three reasons: (1) the circular plans of the post-pipes indicate that they were whole trunks which would have included sapwood as well as heartwood; (2) they were generally smaller than those of the Durrington Walls Southern Circle (compare Fig. 27 with Wainwright and Longworth 1971, table XXIV); and (3) most of them were unprotected from rain or extremes of temperature by incorporation in roofed buildings, standing instead on an exposed hillside close to the sea. If a diameter of 25cm is taken as representative of the posts (Fig. 27), then their maximum life would have been in the region of seventyfive years, their actual life probably less.

Such a short span finds some corroboration in Barker's (1986, 21–23) documentation of the decay and collapse of massive softwood totem poles in British Columbia less than 150 years after their erection. It is thus probable that replacement material was silting into the Hunstanton post-holes within a century of their original excavation.

The slight collection of artefacts from structural contexts is summarized in Tables 44 and 45, and radiocarbon determinations are listed in Table 46. If the material from probably Early Bronze Age structure I is excluded, the totals from structures are reduced to sixty-three pieces of worked flint and stone and ninety-six sherds, both mainly from replacement material. Lithic material consists almost entirely of single, unretouched flakes (Tables 18–19 (microfiche)), less undistinctive material being confined to a 'thumbnail' scraper (L37) from post-hole 293 of the main enclosure, a possible

	U:1, U:-	S:1, S:3, S:-	FS:1–2, FS:4, FS:–, F:–	FS:3	G:1–2, GS: 1– 2, G:–, GS:–	Sh: 1–2, Sh:–	SSh:1, ?FeSSh:1	Totals
	no./wt. (g)	no./wt. (g)	no./wt. (g)	no./wt. (g)	no./wt. (g)	no./wt. (g)	no./wt. (g)	no./wt. (g)
Enclosure	2/9	2/34 (P36, Beaker)	1/7 (P34, ?Beaker)	1/29 (P48, Indet.)	2/4	2/22 (P47, Indet.)	2/9	13/119
Enclosure &/or E		1/2	7/21	2/23		6/53 (P25, ?Grooved Ware)	9/35	25/134
Ε		4/10	16/85 (P32, ?Beake	er)		8/19 (P24, ?Grooved Ware)	5/27	33/141
F	10/21					8/18	2/18	20/57
G		1/4	1/4		1/8		3/4	6/20
Ι		1/1 (P35, ?Beake	r)		5/214 (P43, ?Collared Ur	n)		6/215
Totals Mean wt. (g)	12/30 2.5	9/51 5.6	25/117 4.7	3/52 17.3	8/226 28.3	24/112 4.7	21/93 4.4	102/681

Table 45Pottery from post-holes and slots of structures excluding 1 small (5g.), apparently intrusive, Romano-British sherd from post-hole 227 of main enclosure. Fabrics are defined in Table 29

macehead (L38) of Totternhoe stone from post-hole 302 of structure E, and a fragmentary sandstone disc (L39) from post-hole 172 of structure G. The sherds, excluding those from structure I, have a mean weight of only 5g.

In the rare cases where stylistic attributions can be made they are to the Grooved Ware (P24-P25) and Beaker (P32, P34, P36) traditions. Except in the case of P36, even these are tentative. The possible Grooved Ware from structural contexts presents particular problems: fabric Sh:1, that of P24-P25 and several plain body sherds, is similar to but distinct from fabric SSh:1, that of the distinctive, elaborately-decorated Grooved Ware from the site; it was, furthermore, absent from all the pits which contained distinctive Grooved Ware (Table 27). With the exception of P25, sherds in both fabrics from structural contexts are of such small size and weathered condition that they may have been residual (Ch. 3.II, Table 30). Two fabrics present in structural contexts, Sh:2 and FS:3, can be matched among the Iron Age pottery excavated to the west in 1976-7. Sh:2 is represented by only one sherd, P47, from post-hole 229 of the east ?entrance (Fig. 14). The sherd may have been intrusive: it is small; it was found in replacement material; and later material was found in two adjacent post-holes (a Romano-British sherd in 227 and fragments of coal or coke in 244). FS:3, the fabric of P48 and P49, is represented by 15 sherds concentrated in the north-west corner of the main enclosure (Fig. 29), three of them, including P48, in structural contexts.

The equivalents of both these fabrics among the Iron Age material (Wymer's fabrics 2 and 4) form, however, only a minority (18%) of that collection (Wymer 1986, 292). The suite of fabrics from structural contexts excavated in 1971 is distinct from that of the pottery from Iron Age features. When the two collections are examined together, the 1976–7 material proves to be generally harder, sandier and denser than the 1971 material. The most frequent temper is a combination of flint, sand, shell and grog (Wymer's fabric 1) which does not occur at all among the 1971 material.

Assessment of fabrics is complicated by proximity to the coast: while shell temper is common in Grooved Ware, regardless of location, it may here, because of its ready availability, have been used in pots of other styles which would have been tempered with grog, flint or sand if made inland. Even the similarity of FS:3 and Wymer's fabric 4 may be fortuitous, given the widespread use of flint and sand temper in East Anglia in many periods.

#### Structures G and H

The relatively massive posts of both and, particularly, the subsidiary struts of structure G (Fig. 24) indicate that they supported heavy superstructures, perhaps in the form of raised floors or platforms as well as roofs. The post-holes of structure G contained four flint flakes, a fragmentary stone disc (L39) and six small body sherds in four different fabrics, (S:3, FS:4, GS:2 and SSh:1), the first that of Beaker and the fourth that of Grooved Ware from the site. It is impossible to tell whether this minute collection of material indicates a Neolithic or Bronze Age date or was residual.

The post-holes of structure H were sterile but for one flint flake. Its juxtaposition to probably Early Bronze Age circular structure I (Fig. 25) might at first sight suggest contemporaneity. It must be remembered, however, that many circular huts of similar plan to structure I had walls outside their inner post-rings which left only shallow grooves or stake-holes in the subsoil (Guilbert 1981). If such an outer wall, its traces destroyed by solution and cultivation, originally formed part of structure I, then its probable line would have been through *190* and *191*, the apparent porch post-holes, approximately Im beyond the surviving post-ring. In this case, structures H and I would have impinged on each other and must have been successive.

Context	Lab No.	BP	Cal BC 10	Cal BC 2σ
Pit 22, 1970, containing Grooved Ware, inc. P16-P21, 49 pieces struck flint, inc. L16, L24– L26, and 1 piece worked bone, B3. Animal bone.	OxA-2311	4170 ± 90	2895–2615	3020-2500
Pit 12, 1970, containing Grooved Ware, inc. P1, P4–P7, and 215 pieces of worked flint and stone, inc. L6, L13, L19, and L20. Animal bone.	OxA-2310	$4005\pm90$	2865–2405	2875–2300
Post-hole slot 303, layer (2), structure E (Figs 18, 20), 1971, containing eight sherds in fabrics SH:-, S:-, F:-, and one flint flake. Animal bone.	OxA-2309	3810 ± 80	2455–2140	2490–2035
Unidentified pit, 1970, described as containing Grooved Ware. Animal bone.	BM-704	$3685 \pm 65$	2192-1979	2290-1900
Double post-hole 309, layer (4), main enclosure and/or structure E (Figs 18, 20), 1971. Animal bone.	OxA-2308	3370 ± 70	1750-1530	1880–1515
Double post-hole <i>302</i> , layer (1), N end of post- hole slot <i>303</i> , structure E (Figs 18, 20), 1971, containing 16 sherds in fabrics Sh:1, FS:2, SSh:1, FS:1, Sh:-, inc. P24, P32, 3 pieces of worked flint and stone inc. L38. Animal bone.	OxA-2307	2720 ± 80	985-810	1100–780
Note: The provenance given above for OxA-2309 is	correct. That publish	ed by Hedges et al. (1991,	, 126) is erroneous.	

Table 46Radiocarbon determinations

#### The main enclosure and related structures

Interrelation. Structure F may be seen either as an entrance to the enclosure or as a free-standing roofed building which, together with a row of posts extending east from its north-east corner, preceded the enclosure which was built around it with a corresponding change of alignment. (Ch. 2.III, Fig. 21, Pls II-III). The second possibility is enhanced by the sherds from its post-holes, which comprise a narrower range of fabrics than the sherds from the post-holes of the enclosure and of structure E (Fig. 29, Table 45). Shell-tempered fabrics, especially SSh:1, may relate the structure to the Grooved Ware pits, as may proximity to large concentrations of mussel shell (Fig. 30), two of them contemporary with or pre-dating the erection of a post of structure F and another of the main enclosure (Ch. 3.II). If structure F and its related post row were indeed already standing when the enclosure was built, the considerations outlined above indicate that the interval between them would have been one of decades at most.

Structure E may similarly have been either an entrance to the enclosure or a pre-existing roofed building incorporated in it, with the replacement of some of the posts in its north side (Ch. 2.III). The second interpretation raises the question of why one pre-existing structure (F) should have been avoided by the north side of the main enclosure and another built into it. Structure F may have been decayed and structure E recently built and still usable. Effective contemporaneity of structure E and the enclosure is confirmed by the correspondence between the range of pottery fabrics from both (Fig. 29, Table 45).

*Setting.* Peter Murphy's molluscan analysis (Ch. 3.III) indicates that the enclosure was built and decayed in an open environment, and that woodland regenerated on the hillside after the enclosure had gone out of use. The environment of the enclosure was thus distinct from the wooded setting in which the primary silt of pit 430, which

contained Peterborough Ware, accumulated. It is tempting to relate the numerous probable tree hollows within the excavated area to the clearance of the hillside and the felling of timber for the construction of the enclosure. There is, however, no direct evidence for this. The hollows of 264 within structure E (Figs 18–19) had silted-up by the time pits containing artefacts comparable with those from the surrounding post-holes (Tables 14 and 26 (microfiche)) were cut into them.

*Construction.* The excavated post-holes of the main enclosure and its integral structure E would have held at least ninety-nine uprights, most of them between 20 and 30cm in diameter (Fig. 27). Irregular spacing and the possibility of further entrances or integral structures make it difficult to estimate the number of posts in the destroyed south-western part of the enclosure. The mean spacing of the excavated post-holes of the enclosure (1.40m) suggests that a minimum of fifty-five would have completed it, making a total of 140 posts in the enclosure or 154 in the enclosure with structure E. The uprights seem likely, from their diameters, to have been trunks rather than branches. The spacing indicates that the gaps between the posts of the enclosure were bridged, probably by rails or hurdles.

*Function.* The size of the main enclosure and the incorporation in it of elaborate entrances suggest that it was built and used for the management and control of stock, although there is no direct evidence for this. Cereal grains in some post-holes of the main enclosure and, especially, of row C (Fig. 30) indicate cultivation (Ch. 3.III).

*Date*. The three radiocarbon determinations, all from the area of Figure 18, range from the Early to the Late Bronze Age (Table 46). The latest of them, OxA–2307, was made on a sample from replacement material and may relate to the silting-up of the post-holes or to the introduction into

the fill of small bone fragments from later occupation. The remaining two, OxA-2308 and -2309, are, with the reservations expressed above, more likely to relate to the construction or use of the enclosure.

The very small amount of pottery from basal fills and packing material, similarly all from the area of Figure 18, is confined to fabrics SSh:1, Sh:1 and FS:3, the first that of Grooved Ware from the site, the second possibly of Grooved Ware, the third of uncertain affinities. In replacement material, these fabrics occured alongside other flint-and sand-tempered wares, rare grogged sherds, and one sherd (P47) in fabric Sh:2. Among the flint-and sand-tempered wares, one sherd (P36) is certainly and others (P32, P34) possibly of Beaker. A 'thumbnail' scraper (L37) from replacement material in post-hole 293 of the main enclosure is likely to relate to the Beaker sherds. P48 from 306 may be of Neolithic or of Iron Age date. A smaller rim fragment in the same fabric (FS:3) from the packing of 304 may come from the same vessel. A fragment from 407 may be of Bronze Age date. P47, from 229, is of uncertain, possibly Iron Age date.

Possible dates for the construction of the enclosure and its related structures are:

1. Later Neolithic. In this case, the enclosure would have been at least broadly contemporary with the Grooved Ware pits, but built after the clearance of the woodland which had covered the hillside during the silting of pit 430, which contained Peterborough Ware. The sockets of its decayed posts would have silted-up after Beaker had come into local use and would have continued silting into the Middle Bronze Age. The interpretation depends on the identification of P48 and a sherd probably of the same vessel from the packing of 304 as Neolithic and of sherds in fabric Sh:1 as plain or, in the case of P25, lightly decorated Grooved Ware. The stylistic affinities of P48 remain, however, nebulous (Ch. 3.II). Plain and lightlydecorated vessels undoubtedly occur in Grooved Ware assemblages, for example at Durrington Walls, Wiltshire (Longworth 1971: P27, P536-P567), Mount Pleasant, Dorset (Longworth 1979: P112-P113), Storey's Bar Road, Fengate, Cambridgeshire (Pryor 1978, fig. 37:10, 35; fig. 39:14), Tye Field, Lawford, Essex (Smith 1985: P66, P67, P79, P86) and Grime's Graves, Weeting-with-Broomhill (Site 5640; Longworth, Ellison and Rigby 1988, figs 4-6). Their identification in structural contexts at Hunstanton, however, involves two related assumptions: (1) that elaborately decorated and other Grooved Ware were consistently made in slightly different fabrics (SSh:1 and Sh:1 respectively) and (2) that only vessels in fabric SSh:1 were deposited in pits, while sherds in both fabrics became incorporated in the fills of post-holes and slots.

There is, furthermore, no obvious spatial relationship between the enclosure and the Grooved Ware pits: pits 1, 2, 6, 260 and 400 would have lain within the complete enclosure; the majority, including the most prolific, would have lain outside it (Fig. 6). There is a discrepancy between the pig-dominated fauna of the pits and an enclosure putatively laid out for the management of cattle. These considerations do not rule out a Later Neolithic date. It is argued below that the high frequency of pig bones in many Grooved Ware contexts may be unrepresentative of the contemporary domestic fauna. Segregation of formal deposits and the debris of other (more mundane?) activities is also a possibility.

2. Beaker/Early Bronze Age. In this case OxA-2309 would date the construction of the enclosure, which would have been built during the mid to late third millennium cal. BC, after the Grooved Ware pits were filled and perhaps after structure F had been standing for some decades. If sherds in fabric Sh:1 are indeed of Grooved Ware they would be residual in structural contexts, except, perhaps, for the post-holes of structure F. They may alternatively be seen as a variant of the plain wares found in many Early Bronze Age assemblages, exceptionally made in a shell-tempered fabric because of proximity to the coast. P48 and its related sherd would similarly be residual. Beaker and possibly Beaker sherds from replacement material would derive from the use of the enclosure. The fairly high frequency of fabrics tempered with flint, sand, and flint and sand among sherds from the enclosure and structure E (Fig. 29, Table 45) would correspond to their frequency in local Beaker pottery, seen in the assemblage from Weasenham Lyngs (Site 3660; Healy 1986, fig. 82) and among the material from Spong Hill, North Elmham (Site 1012, Healy 1988, fig. 78).

**3.** Middle Bronze Age. In this case, the enclosure would be broadly contemporary with pits 292 and 435, its construction dated by OxA–2308. Many of the artefacts from it would be residual, while P32 and P34, tentatively identified as rusticated Beaker, could equally represent the rusticated vessels occasionally found in assemblages such as those from Mildenhall Fen, Suffolk (Clark 1936, fig. 6:2) or from the post-mining occupation of Grime's Graves, Weeting-with-Broomhill (Site 5640; Longworth 1981, fig. 29: P161–P167).

4. Iron Age. In this case the enclosure would be broadly contemporary with the features excavated to the west in 1976-7. The main arguments for such a date are a demonstrated Iron Age presence in the immediate area and Iron Age parallels, discussed below, for nine-post structure G and six-post structure H. Similarity of fabrics FS:3 and Sh:2 to a minority of the 1976-7 pottery might place P47, P48 and a few related sherds in this period. The strongest arguments against an Iron Age date are (1) the absence of unambiguously Iron Age material from structural contexts, (2) disparity between the suites of fabrics represented among sherds from these contexts and among the pottery from the Iron Age features to the west, and (3) overall scarcity of artefacts relative to this and other local Iron Age sites. It is furthermore difficult to envisage a use of the enclosure and its related structures which would result in the silting of exclusively or almost exclusively residual artefacts into the post-holes, especially when those artefacts appear to relate to that use by virtue of being concentrated in the areas of possible entrances and roofed buildings (Figs 28-30).

For these reasons the enclosure and its related structures seem likely to have been built between the mid third and the late second millennium cal. BC, with an Early Bronze Age date for structure I and perhaps an Iron Age date for structures G and H. This is, however, a matter of probability rather than of certainty.

## **II.** The Wider Context

#### Later Neolithic Pits

The segregation on Redgate Hill of Peterborough Ware, Grooved Ware, Beaker and Collared Urn, all found in separate pits, is a recurrent phenomenon, only partly explicable in chronological terms (Cleal 1984, 136–138). The particularly rich assemblage of Grooved Ware from Hunstanton is very much an outlier from the two regional *foci* of the style, in the Breckland of north-west Suffolk and south-west Norfolk and the Sandlings of south-east Suffolk and north-east Essex (Fig. 2; Cleal 1984, fig. 9.4).

The formal, deliberate deposition of artefacts, food remains and unworked stone in some pits is similarly part of a widespread pattern. As more Grooved Ware sites are excavated, and more attention is paid to the contexts in which Grooved Ware occurs, it seems increasingly apparent that it was a ceramic used in ways which cannot be entirely explained by utilitarian processes. Formal patterns of Grooved Ware deposition have already been identified at the Durrington Walls henge monument in Wiltshire (Richards and Thomas 1984), and at Down Farm, in Cranborne Chase, Dorset (Barrett, Bradley and Green 1991), but it is equally likely that deposition in a formal manner may have taken place in situations that are less easily identifiable. Henge monuments are a likely context in which to look for highly formal and structured activities, but if the pottery itself was intrinsically important in a symbolic sense then it is equally likely that it may have been accorded some special treatment wherever it was used. It is perfectly possible, for instance, that Grooved Ware vessels were used for everyday, 'domestic' purposes, but because of their intrinsic value were eventually disposed of in a formal manner after a life which in some cases, as in that of P22 from Hunstanton, was artificially extended. Vessels with mending holes are in fact slightly more common in the Grooved Ware tradition than in other contemporary or nearcontemporary styles. This may be connected to the quite obvious fact that Grooved Ware is the first major ceramic style, in southern Britain at least, to carry complex decoration, in contrast to the simple decorative schemes of Mortlake and Ebbsfleet Wares, which are extensions of the limited repertoire of the Bowl tradition. Such complexity of decoration seems to imply a high degree of symbolic content, and although its exact meaning will almost certainly remain obscure, it is at least important to realise its presence, and that it may be an indication that other forms of complex behaviour were associated with the pottery.

Other apparently formal deposits in East Anglia, most of them including Grooved Ware, but at least one including Beaker, are listed by Cleal (1984, 148–149). Beyond the region, examples range geographically from the long-known pits at Woodlands, Amesbury, Wiltshire (Stone and Young 1948; Stone 1949), to a pit at Yeavering, Northumbria, where large, well-preserved sherds, some joining, of at least four Grooved Ware vessels were concentrated in upper and lower layers containing charcoal and cremated bone, while the intervening fill of topsoil and natural subsoil contained none (Hope-Taylor 1977, 348–351).

The pairing of pits 21 with 22, 23 with 24, and 25 with 26 at Hunstanton (Fig. 6) is echoed on the Yorkshire Wolds, at both North Carnaby Temple, Boynton (Manby 1974, 42, figs 15–16) and Heslerton (Powlesland 1986, 68, fig. 10), the North Carnaby Temple pits containing Grooved Ware, the Heslerton ones Peterborough Ware.

The predominance of pig bone in pits with Grooved Ware on Redgate Hill is matched in Grooved Ware

associations, most of them pits or henge monuments, from Wessex to Yorkshire. To the instances listed by Grigson (1981, 226–227) may be added the enigmatic site of Tye Field, Lawford, Essex, where an irregular ringditch with two opposed causeways enclosed a formerly mounded central area containing large quantities of elaborately-decorated Grooved Ware and apparently domestic debris, the small animal bone collection from which was dominated by pig (Shennan 1985).

These deposits may reflect the contemporary economic importance of the species. They may also, however, be unrepresentative: communal monuments can scarcely be taken as equivalent to settlements, while most of the pits concerned appear to have contained formal deposits like those discussed above rather than unselected domestic debris. Bradley (1984, 64) interprets the animal bone from both as the remains of feasting, pig being essentially a meat animal which provides few other products. He emphasises the significance in this connection of the Storey's Bar Road subsite, Fengate, Cambridgeshire, where the only concentration of pig bone in the cattle-dominated fauna of a system of ditched paddocks came from a single pit, and even there was less frequent than cattle. The pit, which contained over half the identifiable animal bone from the site and the highest proportion of bones representing edible meat (Pryor 1984, 208-209), was interpreted as containing the remains of a meal eaten by an exceptionally large group, and buried with butchering tools and hearth sweepings (Prvor 1978, 154-155, table 61). Pig seems, in other words, to have been consumed during a single event by people whose livestock consisted mainly of cattle.

The contrast on Redgate Hill between the pigdominated fauna of pits containing Grooved Ware and the caprine-dominated fauna of pit *34* which contained Collared Urn is again a recurrent one, matched, for example, in the animal bone from Later Neolithic and Bronze Age pits at Ground Farm, Lechlade, Gloucestershire (Jones forthcoming b). It may perhaps reflect increased use of textiles in the Bronze Age (Grigson 1981, 225–229).

#### Structures

#### Structures G and H

Nine-post structure G and six-post structure H were of forms generally seen as forming a single functional class with the more common four-posters, and interpreted as raised storage units, often granaries (Gent 1983, 245-250). Most are of Late Bronze/Early Iron Age or full Iron Age date (Gent 1983, fig. 1); nine-, six-, and four-post structures all occurred, for example, within the hillfort of Danebury, Hampshire, (Poole 1984, fig. 4.36). Nineposters and six-posters are relatively rare, and pre-Iron Age examples are elusive. Occasional four-posters date from as early as c. 1150 cal. BC (Burgess 1980, 200, 217). One example was tentatively identified among a larger group of post-holes in the corner of a ditched enclosure of the Early to Middle Bronze Age at Fengate, Cambridgeshire (Pryor 1980, 33-34, fig. 22). Bradley (1975, 164-165) sees a still earlier origin in a four-post structure embedded in the bank of a Later Neolithic earthwork on Broome Heath, Ditchingham (Site 10602; Wainwright 1972, fig. 6) and in what may have been a quadrangular post-built structure of Earlier Neolithic

date on Eaton Heath, Norwich (Site 9544; Wainwright 1973, fig. 4).

#### Structure I

Round, post-supported buildings such as structure I had a long currency, although the majority are again of Late Bronze/Early Iron Age or full Iron Age date. Deverel-Rimbury examples are well-known (Burgess 1980, 199– 209); earlier ones rarer. Bronze Age instances from East Anglia include porched circular buildings in West Row Fen, Mildenhall, Suffolk (Martin and Murphy 1988, fig. 1) and another within the ditched enclosures of Fengate, Cambridgeshire (Pryor 1980, 53–61, figs 35–39). Gibson (1981) draws attention to the possibly domestic origin of post-and stake-rings beneath Early Bronze Age barrows.

#### The enclosure and its related structures

Free-standing palisaded enclosures seem to have been built from the Later Neolithic onwards. To the Neolithic and Bronze Age examples listed by Bradley (1975, 160– 162) and Burgess (1980, 195–196) may be added a double palisade containing sherds of Collared and Biconical Urn at Sutton Hoo, Suffolk (Ellison 1986, 39).

Palisades were often a component, sometimes an early stage, of the banked and ditched enclosures surrounding Deverel-Rimbury farmsteads (Burgess 1980, 199-208). These have several points in common with the Redgate Hill enclosure: they enclosed areas of comparable size, within which were a variety of structures, and were often integral to larger systems of droveways and fields. Palisaded settlements of similar size continued to be built well into the Iron Age (Cunliffe 1974, 155-156, 203-204, 206-210). Classic examples are Little Woodbury, Wiltshire (Bersu 1940) and Staple Howe, Yorkshire (Brewster 1963). The Hunstanton enclosure differs from all of these, however, in its trapezoid plan and in its lack of bank or ditch. Whilst a scraped-up bank might have left no trace on such an eroded surface, the absence of a ditch is surprising. It may well be that spaced-post enclosures, designed for shortterm use, frequently relocated, and not equipped with a more enduring continuous palisade slot or bank and ditch, were relatively frequent but are seen only as unexplained post-hole alignments in small-scale excavations.

The construction of palisaded enclosures and alignments from the Later Neolithic onwards is an aspect of a contemporary upsurge in archaeologically-detectable land division, both large and small, reviewed by Fowler (1981). Form varies with local resources and topography, as function undoubtedly did. Overall, the nationwide proliferation of physically-defined land boundaries may mirror both increasing competition for land and increasing reliance on livestock with a concomitant need for control of herds and protection of arable.

In East Anglia, these developments are vividly exemplified in the ditched enclosure systems of Fengate, Cambridgeshire, established in the mid third millennium cal. BC, used throughout the second, and representing the organized use of fen pasture. Here, phosphate analysis has confirmed that droveways and entrances sited at enclosure corners were adjuncts to stock management (Pryor 1980, 178-181). These same features have been recorded in a field system on the now-drained floor of the Stour valley at Lawford, Essex, undated, but laid out around barrows now represented by ring-ditches (Fowler 1981, 22-28). They recur in a field system at Mucking on the Essex upland, where charcoal from the ditch-fills was dated to the mid second millennium cal. BC (Jones and Bond 1980, 471-472). Air photographs show a similar upland system at Sutton Hoo, Suffolk, where it seems to align with an excavated length of prehistoric ditch (Martin Carver pers. comm.).

Cattle seem to have been important in the East Anglian economy throughout the Bronze Age, although it must be remembered that evidence for this so far derives from only two areas: the fen edge, where there is historical and topographical probability of use as pasture (Darby 1940) and the Breckland, the hydrology of which is unlikely ever to have favoured arable cultivation (Healy 1984a, 126–127). Cattle seem to have been as frequent in the faunas of Beaker and Bronze Age sites on the southeastern Fen edge as at Fengate to the west (Clark 1933, 269; Jackson 1936; Calvocoressi 1967; Bamford 1982, 29-30). There too they seem to represent the exploitation of fen pasture, accompanied in this case by arable cultivation. On the upland to the east, the Middle Bronze Age occupants of Grime's Graves, Weeting-with Broomhill practised a cattle-based mixed farming economy (Site 5640; Legge 1981a).

These developments surely provide the broad context of the more extensive system of which the Redgate Hill enclosure and its parallel alignments must have formed a part. Despite the problems of interpreting such slender data, the Hunstanton excavations have demonstrated the existence of a rare and unsuspected group of structures and alignments. In so doing, they have shed light on prehistoric organisation and use of the local landscape and have highlighted problems which may be addressed by future research. The Excavation of a Neolithic Settlement at Tattershall Thorpe, Lincolnshire by Peter Chowne, Frances Healy and Rosemary Bradley



Figure 50 Tattershall Thorpe Neolithic site location map

# Chapter 1. The Site by Peter Chowne

# I. Introduction

During the Bain Valley Survey (Chowne, forthcoming) an extensive flint scatter was located adjacent to the River Bain in Tattershall Thorpe just south of the parish boundary with Kirkby on Bain (Fig. 50). As this field was due to be quarried an excavation was mounted in the spring of 1981. A second investigation took place in the winter of the same year. In 1984 a pit was excavated during quarrying and several evaluation trenches dug in a field on the eastern side of the river. The fieldwork was financed by the Department of the Environment and the post-excavation by the Historic Buildings and Monuments Commission. Finds and features from the first excavation are coded TT81 and those from the second TT81B. The archive, which includes site plans, drawings, context and object records, section photographs and artefacts is held by the Trust for Lincolnshire Archaeology, Sleaford, Lincs., pending publication of the Saxon grave referred to below.

The site lies on glaciofluvial drift sands and gravels (Straw, 1966) immediately north-west of the River Bain. At this point the Horncastle Canal acts as the main channel although flash floods occur occasionally, as in 1953 when water backed up to Horncastle causing severe flooding. Prior to the construction of the canal the Bain was a major watercourse meandering through the valley depositing alluvium over the valley floor.

## **II. Excavation Methods**

In the first excavation an area of 400m<sup>2</sup> was stripped of topsoil by hand and all features excavated. This was very much a trial excavation to see if any structures could be located and test the degree of preservation of Neolithic features prior to their destruction. Pits and post-holes were found and this led to the stripping of an area extending to 4725m<sup>2</sup> of which 1800m<sup>2</sup> were fully excavated. Severe weather conditions prevented the full investigation of the remaining area but, with hindsight, it can be seen that the nature of the Neolithic features was such that they would have been apparent immediately after machining and that many of what were originally interpreted as pits were in fact periglacial features (Chowne and Healy 1985). Whilst the main excavation was frozen a series of trenches were cut adjacent to the river with the objective of extracting material suitable for environmental analysis (Pl. V).

All features were excavated by hand and the spoil wet sieved through a lmm mesh. Although time consuming this was found to be the most suitable way of recovering small flint flakes and chips not recognised during excavation. All flints from features were packed unwashed in individual polythene bags so as to preserve any microwear traces that might be present.

All excavated features, natural and man-made, are shown on Figure 51. TT81 is presented as Figure 52. As



Plate V Tattershall Thorpe, environmental trench, eastern section, 1984, note that the site had been completely quarried away (N. Hawley)

TT	81 H	Rating: A-definite	B-probable	C-possible		TT	' <b>81</b> Ra	ting: A-c	lefinite	B-probable	C-possible	
No	Type	Date	Period	Associations	Rating	No	Type		Date	Period	Associations	Rating
1	layer	_	modern		A	33	pit		_	Neolithic		С
2	layer	—	pre-Med.	_	A	34	pit			Neolithic	—	С
3	layer	-	natural		A	35	posthole		-	Neolithic	_	C
4	pit		Neolithic	pottery	A	30 27	glacial					A
5	pit	014	neonunc	pottery, mit	B	38	giaciai		_	Neolithic		A
7	pit	_	Neolithic	pottery	A	39	glacial		_	INCOLUTE	_	C
8	pit	_	Neolithic	pottery	A	A	Braciai					
9	pit	_	natural	_	A	40	glacial		_			А
10	postho	le —	_	_	С	41	hearth		_	Neolithic	_	A
11	postho	le —	_	—	С	42	glacial					A
12	postho	le —		-	С	43	glacial					Α
13	postho	le —	Neolithic	_	Α	44	glacial					A
14	natural	1	_		A	45	glacial					A
15	pit	-	Roman	-	A	46	glacial			• /		A
16	trench	_	Neolithic	_	C	4/	layer		_	natural (score	hed)	A
17	trench	-	Koman	_	A	48	pit		_	Neolithic	-	C
18	trench	C14	Neonunc		A A	50	posthole		_	Meglithia	pottery	A
20	grave	_	natural		A	51	posthole		_	Neolithic	_	A
20	pit	_	glacial	_	A	52	position			Neolithic	_	R
22	nit	-	Roman	_	A	53	not used			rteonune		D
23	postho	le —	Neolithic	_	A	54	pit		_	Neolithic	_	В
24	postho	le C14	Neolithic	_	Α	55	posthole		_	Neolithic	_	Ā
25	pit	_	natural	_	Α	56	posthole		_	Neolithic	_	A
26	pit	_	glacial	_	Α	57	glacial					Α
27	postho	le —	Neolithic	—	Α	58	glacial					Α
28	pit	-	Roman	_	A	59	pit		_	Bronze Age	pottery	В
						60	glacial					A
TT	81B					61	glacial					A
1	topsoil	_	modern	_	A	62	glacial					A
2	layer		pre-med	_	A	64	glacial					A
4	laver		Medieval	_	А	65	glacial					A
5	ditch	_	Medieval		A	66	glacial					A
6	laver	_	pre-Med	-	A	67	glacial					A
7	layer	_	pre-Med	_	A	68	not used					
8	layer	_	_	_	Α	69	not used					
9	layer	—	pre-Med	-	A	70	glacial					Α
10	layer	C14		-	A	71	glacial					A
11	layer	-	pre-Med	_	A	72	glacial					A
12	layer	-	pre-Med	_	A	73	glacial			Maalithia		A
13	natural	1			Δ	74	pit		_	Neolithic	_	Б
15	olacial	1			A	76	posthole		_	Neolithic	_	B
16	postho	le —	Neolithic	_	A	77	glacial			ricontine		A
17	glacial				A	78	posthole		_	Neolithic	—	ĉ
18	pit	-	Neolithic	_	С	79	posthole		_	Neolithic	_	С
19	pit	—	Neolithic	—	С	80	posthole		—	natural (scorch	ned)	С
20	pit	—	Neolithic	-	С	81	layer		—	natural (scorch	ned)	Α
21	pit	-	Neolithic	-	C	82	pit .		—	Neolithic	_	С
22	pit	-	Neolithic	pottery flint	A	83	natural					A
23	layer	-	natural	_	A	84	pit		_	Neolithic	pottery	A
24	postho	le —	Neolithic	_	P	85	hearth		mag	Neolithic	_	C
25	postho	le —	Neolithic	_	D	87	glacial		mag	Neonunc	_	
20	postho	le —	Neolithic	_	B	88	glacial					A
28	plough	furrow —	Medieval	_	A	89	glacial					A
29	pit		Neolithic		В	90	glacial					A
30	postho	le —	Neolithic	_	C	91	glacial					A
31	natura	1			Α	92	glacial					A
32	postho	le —	Neolithic	-	С	93	glacial					A
-												

Table 47 Tattershall Thorpe Context Guide

the area of TT81B was so large, details of features are shown individually in Figures 53 and 54. These plans should be used in conjunction with Figures 50 and 51.

As it was often impossible to distinguish between man-made and natural features, a guide to the reliability of the excavator's interpretations is presented as Table 47. Table 48 lists the detailed soil descriptions. Several episodes of human activity were recognised during the excavations. The primary occupation dates to the Early Neolithic. This was followed by Late Neolithic/ Early Bronze Age and then Late Bronze Age activity. An important Saxon metalworker's grave was also discovered but this will be published in detail elsewhere. During the Medieval period the field was ploughed.



Figure 51 Tattershall Thorpe Neolithic site overall plan

625

+

+



Figure 52 Tattershall Thorpe Neolithic site plan of TT81



Figure 53 Tattershall Thorpe Neolithic site plan of features TT81B

58



Figure 54 Tattershall Thorpe Neolithic site plan of features TT81B

98

Unfortunately the ridge and furrow that runs east – west across the site has probably destroyed some features thus making the definite identification of building plans impossible. The Medieval plough furrows cut through a layer of windblown sand, that in part, masked the earlier features.

## **III. The Excavated Features**

#### **Neolithic Features**

The Tattershall Thorpe site suffered from a considerable amount of subsoil disturbance in addition to the postprehistoric activity described above. Periglacial features were widespread and rabbits seemed to favour the sandy parts of the site for their burrows. Despite these problems three classes of Neolithic feature were identified; pits, post-holes and hearths.

#### Pits

These were cylindrical in form approximately 40cm in diameter and up to 60cm deep. In common with all features discovered during the excavations these have been truncated as a result of ploughing by an unknown amount. Generally the pits were isolated although one group (4, 5, 7 and 8) was found in TT81 (Fig. 52). Early Neolithic pottery from a minimum of seven vessels and over 100 flints were found in pit (5) together with charcoal and carbonised hazel nut shells (Fig. 64; P4–P13). A radiocarbon date of 4800 ± 70 BP HAR–4638 (3776–3390 cal. BC) was obtained from this burnt material. One of these pits contained a partially completed leaf-shaped arrowhead. A core and flake from different pits were found to conjoin suggesting that all four features were open at the same time. One isolated pit in TT81B (84)



Plate VI Tattershall Thorpe, Early Neolithic pits (4, 5, 7, 8), Medieval plough furrow in foreground (N. Hawley)



Plate VII Tattershall Thorpe, possible Early Neolithic structure (18) cut by later grave (19) (N. Hawley)

contained sherds of Grooved Ware pottery (Fig. 64; P20, P21).

#### Post-holes

Post-holes appeared to be randomly scattered over the excavated area. Post-Neolithic destruction through wind erosion and ploughing has prevented the positive identification of buildings. However, one alignment of post-holes was located in the north-west corner of TT81 (Fig. 52). Here a series of at least five posts were found set into a foundation trench (18). The trench continued as a soilmark and then as a shallow depression (16). The feature was cut by a Saxon grave (19). One post in (18) had been burnt *in situ* and provided a radiocarbon date of 5820



Plate VIII Tattershall Thorpe, continuation (16) of possible structure (18) (N. Hawley)

 $\pm$  60 BP HAR-4639 (4893-4530 cal. BC). This foundation trench may represent the corner of an Early Neolithic structure. Unfortunately a Medieval plough furrow passed through the site immediately south of (*16*) effectively removing any Neolithic features that may have existed in this area. To the north-west some post-holes were found in TT81B (76, 78 and 79). These may be part of the same structure although there was no stratigraphical link between them.

#### Hearths

Two types of hearth were identified; two clay built structures (85B, 86B) and a circular depression packed with fire-cracked flint and river pebbles (41B) (Fig. 51). The clay hearths are undated but were certainly pre-Medieval. Archaeomagnetic dating was attempted but it was not possible to obtain a result (A.J. Clark, pers. comm.). Hearth (41B) was structurally similar to, though much smaller than, an example recently excavated at Low Toynton associated with Neolithic Bowl pottery (Chowne, 1988).

#### **Bronze Age Features**

Evidence for Bronze Age activity was confined to two pits and a general scatter of abraded pottery. Pit (59) in TT81B contained the base of a flat-bottomed jar (Fig. 64; P36) which probably dates to the Later Bronze Age and is contemporary with pottery found in a pit during quarrying in 1984 at the northern end of the field (Pl. IX). P46 is a residual Early Neolithic Bowl sherd. Also in this pit was a complete, though very friable, pyramidal loom weight typical of the Later Bronze Age (Elsdon, 1979).



Plate IX Tattershall Thorpe 1984, Bronze Age pit. Note pyramidal loom weight fragment. (P. Chowne)





#### **Other Features**

The majority of features discovered at Tattershall Thorpe were periglacial in origin (pers. comm. T. Wilkinson)*e.g.* (*15B, 17B, 36B, 49B*, Figs 53–54 and 72B and 89B, Fig. 55; Pl. X). These would fall into the categories of borrow trenches, arc-shaped drainage gullies and banana-shaped pits as described by Green and Sofranoff (1985) from excavations at Stacey Bushes, Milton Keynes. However, some of the natural features excavated at Tattershall Thorpe could be tree-root disturbances although there was no trace of burning that might indicate deliberate clearance. Another possible interpretation for some of the irregular pits is that they were small quarries for the extraction of flint. This seems unlikely as flint nodules naturally erode out of the river bank and terrace edge but the possibility cannot be discounted.

#### **Environmental Trenches**

Whilst the main excavation area was frozen a number trenches were cut adjacent to the river to obtain samples for environmental analysis (Fig. 56; Pls XI, XII). It was hoped that waterlogged deposits would be found and that faunal material would be preserved in the less acid alluviated layers. Unfortunately the layers were oxidised



Figure 56 Tattershall Thorpe Neolithic site environmental trench section

68

and only the layer below the current water table contained waterlogged wood. A sample of elm from this deposit yielded a radiocarbon date of  $4450 \pm 80$  BP HAR-5220 (3370-2910 cal. BC). Sherds of Neolithic and Bronze Age pottery (Fig. 64; P31-P34) and flints were found in a buried soil above this layer. Across the river another trench was cut and the buried soil, containing charcoal and a fragment of animal bone, was again encountered (Pl. XIII). A second trench was excavated on the east side of the river approximately 150m north of this trench. The strata in this trench were similar to those encountered to the south.

#### Site Sequence

Using the information from the environmental trenches and the main excavation area a general sequence for the development of the site can be suggested:

I. clearance early in the early fifth millennium; radiocarbon date of  $5820 \pm 60$  BP HAR-4639 (4893-4530 cal. BC) from context (18). There is also a date of  $5200 \pm 110$  BP HAR-4313 (4322-3780 cal. BC) from the upper levels of an Iron Age ditch 1km to the south-west of the site (Chowne *et al.*, 1986);

- II. early Neolithic activity; pits and hearths, pottery and struck flint deposited; radiocarbon date of  $4800 \pm 70$  BP HAR-4638 (3776-3390 cal. BC) from a pit with pottery and flint associations;
- III. later Neolithic/Early Bronze Age activity; pit containing Grooved Ware, general scatter of struck flint with some possible Beaker pottery sherds. Radiocarbon date of  $4450 \pm 80$  BP HAR-5220 (3370-2910 cal. BC) for wood from edge of river. Dry period with soil formation on valley floor;
- IV. extensive erosion, deposits of windblown sand;
- V. later Bronze Age pottery and loom weight deposited in pit;
- VI. extensive erosion, deposits of windblown sand;
- VII. scatter of Romano-British pottery, manuring?
- VIII. Saxon burial, early seventh century?
- IX. Medieval ridge and furrow, earthworks from Fulsby mill in adjacent pasture field (plan in archive) leet visible in section drawing Fig. 56.
- X. site totally destroyed 1983–86.



Plate X Tattershall Thorpe, periglacial feature (17B). Note the damage to the site from modern and Medieval ploughing (N. Hawley)



Plate XI Tattershall Thorpe, environmental trench, western section (Fig. 7, A–B) (N. Hawley)



Plate XII Tattershall Thorpe, environmental trench, centre section (Fig. 7, B–C) (N. Hawley)



Plate XIII Tattershall Thorpe, environmental trench, eastern section, 1984, the buried soil can be seen at the division on the scale (N. Hawley)

																		CC	NTE	XТ																		
	0	1	1B	2	2B	4	5	7	8	17	18	21	23	25	28	5B	6B	7B	9B	11B	15B	17B	20B	22B	24B	25B	29B	33B	36B	39B	46B	48B	49B	54B	83B	84B	91B	Totals
Cores Flakes Irreg. waste Microliths Leaf shaped	165 571 23 1	25 128 5	85 387 9 1	11 66	19 111 1	5 59 2	7 126 2 2	2 18	32	1	6	1 3	1	1 7	1	2	5 2	6 31 1	2	2 22	7	1 4	4	30 3	1	1 3	1	1	1	1	1	1	1 1		1	1	1	335 1634 48 2 4
arrowheads Chisel		1																																				1
arrowhead Oblique			1	1																																		2
End scrapers Double end	10 2	3	7	4	2	1	1											1						1											1			31 2
scrapers Side-end scrapers	8	1	6	2	2																																	19
Horseshoe	6		1	1																																1		9
Disc scrapers Side scrapers Scrapers on	1 7 8	2 2	9		1 1																																	1 10 20
Other scrapers Borers Discoidal knife	9 24	23 ?1	4 45	8	1									1	1			1		1													1					13 106 21
Notches Denticulates Saws		1 1	4 2 ?2	1 1	1								1	1						1																		7 4 5
Serrated pieces Burins Misc. retouched	58	21	2 ?7 52	15	2 17	1	2 1 4	2							1			1				2			?1				1					1				9 9 174
Fabricators' <b>Totals</b>	3 897	214	1 625	110	158	69	145	22	32	1	6	4	2	10	3	2	7	41	2	26	9	5	4	34	2	4	1	1	2	1	1	1	3	1	2	2	1	4 2450
Pot boilers Flint hammerstones	2 4		4 3	1	1																																	7 8
Sandstone			1			1			1			1																										4
Quartzite			1															1																				2

Table 49. Composition and incidence of worked and modified lithic material. Descriptive categories for retouched pieces are defined in Table 55.

# Chapter 2. The Struck Flint by Frances Healy

# I. Introduction

This report supersedes an earlier account (Healy 1984c) which was based on a preliminary assessment of the material made in 1982. The composition and incidence of worked and modified lithic material are set out in Table 49. Although Earlier Neolithic, Later Neolithic/Early Bronze Age and Late Bronze/Early Iron Age pottery was found (see below), the only substantial body of wellstratified lithic material is from Earlier Neolithic pits and consists of 268 pieces from a group of four pits (4, 5, 7, 8)excavated in the first season and 34 pieces from an isolated pit (22B) 25m to the north excavated in the second season. These two groups together form the material from 'Earlier Neolithic pits' already presented (Healy 1984a). There, are by contrast, only six pieces of struck flint from Later Neolithic/Early Bronze Age features (20B and 84B) and none from Late Bronze/Early Iron Age features (59B, the 1984 pit, and possibly 18B). The overwhelming majority of the struck flint is from superficial deposits (Table 49).

In these circumstances, the large groups of unstratified or semi-stratified material are examined in some detail, in an attempt to evaluate their relationship to the stratified material, to each other, and to the various phases of prehistoric activity on the site.

The material is presented in four main groups:

1. A cluster of pits (4, 5, 7, 8) excavated in the first season which contained Earlier Neolithic pottery (including P3–P14). A radiocarbon determination of  $4800 \pm 70$  BP HAR-4638 (3776–3390 cal. BC), has been obtained from charcoal found in pit 5. These pits were adjacent to a contemporary or earlier possible structure (Fig. 52).

2. Context 2, a thin layer of wind-blown sand, lying between the base of the ploughsoil and the top of the natural subsoil in both main excavated areas, and cut by Medieval plough furrows. Excavated over approximately 2200m<sup>2</sup>.

**3.** Context 1, the topsoil and surface of the area stripped for excavation. Approximately  $5125m^2$ .

**4.** Context  $\theta$ , the surface collection originally made over the whole area to be quarried. Approximately 7.5ha.

Drawing numbers with the prefix 'F' refer to the illustrations in this report. Those with the prefix 'M' refer to the illustrations in the microwear report.

## **II.** Description

#### **Raw Material**

All lithic artefacts were of flint, except for one flake of chert from the topsoil. Like the flint, this was almost certainly collected from the gravels of the River Bain on which the site stands, as were the small quantities of sandstone and quartzite present (Table 49). The gravels consist of pebbles of variegated colours which are generally small, rolled and battered, constituting an inexhaustible raw material supply of small size and low quality. Weathered thermally fractured surfaces are so frequent (e.g. F10, F19, F39) that they have been taken as equivalent to cortex in the classification of flakes as primary, secondary or tertiary. Fresher thermally fractured surfaces occur where flakes have run out along fractures latent in the cores from which they were struck (e.g. F15, F53, F56), or where cores have split along latent fractures whilst being worked (e.g. F18, F20).

#### Condition

Flint excavated from the Earlier Neolithic pits is fresh and matt, and that from the successive alluvial deposits *11B*, *9B*, *7B* and *6B* is only slightly less so. Most material from superficial deposits, however, is abraded and shiny, with the wind gloss described by Rosemary Bradley (microwear report). This is the most frequent surface alteration, macroscopically visible cortication being rare. Edge-damage, presumably the result of ploughing, is common among flint from superficial contexts.

#### Composition

The composition of the four main flint groups may be summarised as follows:

context(s)	cores	irregular waste	flakes	retouched pieces	totals
4,5,7,8	14	4	235	15	268
a) all material	5.2%	1.5%	87.7%	5.6%	100%
b) excluding	13	4	146	15	178
wet-sieved material	7.3%	2.2%	82%	8.5%	100%
2	30	1	177	60	268
	11.2%	0.4%	66%	22.4%	100%
1	110	14	515	200	839
	13.1%	1.7%	61.4%	23.8%	100%
0	165	23	571	138	897
	18.4%	2.6%	63.7%	15.3%	100%

Table 50. Composition of main flint groups

context	Class A1	A2	B1	B2	B3	С	D	Е	uncl./ frag.	total	mn.weight cores(g)	no. with blade scars	illustra- tions
4,5,7,81	1 7.1	Ŧ	*	1	1 7.1	4 28.6	1 7.1	3 21.5	4 28.6	14 100	38.9	4 28.6	F1-F6
2 %	-	1 3.3	-	2 6.6	2 6.6	10 33.4	1 3.3	10 33.4	4 13.4	30 100	23.7	7 23.3	F16-F20
1 %		13 11.8	13 11.8	6 5.5	13 11.8	29 26.3	9 8.2	20 18.2	7 6.4	110 100	26.8	34 30.9	F29-F32
0 %	3 1.8	8 4.8	5 3	9 5.5	7 4.2	32 19.4	25 15.2	62 37.6	14 8.5	165 100	25.7	25 15.2	F49-F50
illustra- tions	F1	F16 F29	F17	F2 F3 F18 F30	F4 F19 F31 F49	F5 F6 F20 F32 F50							

Table 51. Cores in main flint groups

#### Cores

The characteristics of the cores from the main groups are summarised in Table 51 above. Single-platform (A1 and A2) cores are rare throughout. Core classes after Clark and Higgs (1960, 216).

#### Flakes

The dimensions and proportions of complete unretouched flakes from pits 4, 5, 7 and 8, together with the proportions of complete unretouched flakes from superficial deposits, are presented as Figure 57. Length was measured as the maximum dimension along the bulbar axis at right-angles to the striking platform and breadth as the maximum distance between any two points on opposite lateral edges taken at right-angles to the length measurement (Saville 1981b, 146). The flakes from pits 4, 5, 7 and 8 are most frequently between 10mm and 20mm long; those of the superficial groups are all most frequently between 20mm and 30mm long. Wetsieving produced over 75 very small chips and flakes, including complete flakes with maximum dimensions of as little as 5mm, from contexts 4, 5 and 8 (the fill of pit 7 was not sieved), and a further eight from pit 22B. These do not, however, account for the generally smaller size of flakes from pits 4, 5, 7 and 8, since sieved material was excluded from the totals shown in Figure 57 to make the results for the pits comparable with those for the superficial deposits.

Faceted butts, in the broad sense of striking platforms bearing more than one negative flake scar (Saville 1981a, 6) occur on a minority of flakes and are slightly more frequent (20% to 25%) among the flakes of the superficial groups than among the flakes from pits 4, 5, 7 and 8 (17%). It is doubtful whether they are a reliable index of deliberate core preparation, because the prevalence of multi-platform and keeled cores (Table 51) would lead to flakes being struck from platforms bearing the scars of previous removals.

#### **Retouched** Pieces

The composition of the retouched pieces from each context is set out in Table 49, and the composition of those in the four main groups is summarised in Figure 58. There is a far greater variety of retouched forms in the superficial groups, which are mainly distinguished by the presence of different forms of arrowhead, of a wider range of scrapers, and of relatively high proportions of

borers. Scrapers from these deposits include nine small, 'thumbnail' forms (e.g. F37, F55) which are more frequent in the topsoil and windblown sand than in the surface material. Scrapers from the field surface include nine steep-profiled forms made on thick flakes (e.g. F52-F54, F56). Borers from the superficial deposits consist primarily of unifacially retouched forms (e.g. F24, F38), including spurred pieces with slight projections from scraper-like edges (e.g. F25, F39). Burins (e.g. F13, F42) are identified only tentatively, especially among the superficial groups, because burin-like forms may easily be produced by accidental breakage. The miscellaneous category consists mainly of irregular, nondescript pieces like F46. It also, however, includes a minimally retouched blade used for cutting dry cereals (M288), four truncated pieces (e.g. F43), and five fragmentary thin, flat bifaces (F14, F27-8, F44-5).

# Struck Flint from Contexts other than Main Flint Groups

#### The Possible Structure

#### (Fig. 3; 16, 18, 23, 24, 78B, 79B, 80B)

A radiocarbon determination of  $5820 \pm 60$  BP HAR– 4639 (4893–4530 cal. BC) is at variance with the presence of two sherds of Later Neolithic/Early Bronze Age pottery (P22, P23) in *18* and perhaps of a third in *80B* and of three Romano-British sherds in 23. All the sherds are, however, small and abraded and could well have been intrusive in the features in which they were found, as could the eight pieces of struck flint from *18* and *23*, which include a coarse-toothed saw (F63) of a form also found in the superficial groups (Fig. 58).

# Periglacial Features (21, 25, 15B, 17B, 36B, 39B, 46B, 83B, 91B)

Only a minority of the periglacial features, those listed above, contained any lithic material. A total of 38 pieces were thinly distributed among them, the largest number from any one feature being 10 pieces from 25. Retouched pieces comprise a scraper (M315) from 83B, a borer and a saw from 25, and a borer and a microlith (F64) from 49B.

#### Alluvial Deposits (6B, 7B, 9B, 11B)

This sequence of deposits post-dated a peat layer (10B) dated to  $4450 \pm 80$  BP HAR–5220 (3370 to 2910 cal. BC) and contained both Earlier Neolithic and Late Bronze/



Figure 57 Tattershall Thorpe Neolithic. Dimensions and proportions of complete, unretouched flakes from contexts 4, 5, 7 and 8, excluding flakes less than 10mm long and all materials recovered by sieving. Proportions of complete, unretouched flakes from superficial contexts, again excluding flakes less than 10mm long, shown as graphs

Early Iron Age pottery (including P15 and P27–35). It also contained 76 pieces of struck flint, comprising eight cores, 60 flakes of comparably broad proportions to those of the superficial groups, two pieces of irregular waste,

and six retouched pieces which include forms matched in the superficial groups, such as a leaf-shaped arrowhead (F65), two borers (*e.g.* F66), and a denticulate (F67).
## **Spatial Distribution**

That part of the windblown sand (2) which covered the main area excavated in the second season is the only deposit of any extent within which artefacts were plotted (co-ordinates in archive). Given its Medieval and later disturbance, and the multi-period composition of the pottery and struck flint recovered from it (pottery report Table 64; this report below), the chances of its preserving significant distributions are low, even if artefacts present in or on a pre-existing land surface suffered little horizontal displacement after its deposition. Little pattern is observable, apart from greater density in the south-east half of the area, close to Earlier Neolithic pit 22B. There is no concentration over or around 18B, 20B, 59B or 84B, features which contained Later Neolithic/ Early Bronze Age or Late Bronze/Early Iron Age pottery but were poor or lacking in lithic material.

## **III.** Discussion

## **Flint-working**

The dimensions and proportions of the flakes from pits 4, 5, 7 and 8 (Fig. 57) show the results of flaking originally small raw material: secondary flakes are larger and proportionately narrower than tertiary ones, and larger, especially longer, flakes were selected for retouch. Knapping took place in the immediate area of these pits, since pieces from them can be refitted. There are two pairs of successive flakes, one from pit 5 (excavation nos 170 and 522), the other from pits 4 and 5 (excavation nos 40 and 126). A core from pit 5 has been refitted with a fragment of irregular waste from the same pit and a cortical flake from pit 4. Refits between pieces from the two pits indicate that they and, probably, the other pits in the group, were open at the same time.

Knapping over or in the immediate area of the pits is confirmed by small flakes and chips recovered by wetsieving of the material from pits 4, 5, 8 and 22B. Examples from pits 4 and 5 have been examined by Dr Mark Newcomer who considers that most are knapping debris but that they include a possibly retouch chip from the edge of a bifacially flaked implement (excavation no. 534) and a possible soft hammer flake (excavation no. 524). Arrowheads were among the implements made. F7 and F8 from pit 5 seem to be unfinished examples broken during manufacture. F14 from the same pit may, less certainly, have been a third unsuccessful arrowhead. Two similar pieces (F27, F28) were found close to each other in layer 2, some 7m north of pit 22B, and two further examples (F44, F45) were recovered from the topsoil. F40, also from the topsoil and tentatively classified as a discoidal knife, may also be an unfinished arrowhead. The outlines and the all-over retouch of these pieces suggest that, if they are indeed failed arrowheads, they were intended to be either leaf-shaped or barbed and tanged forms, or larger all-over-flaked projectile heads, such as 'laurel-leaves'. Since there is evidence for the manufacture of leaf-shaped arrowheads in the form of F7, F8 and perhaps F14 from the late fourth/early third millennium fill of pit 5, the other pieces may also represent the manufacture of leaf-shaped arrowheads during the Earlier Neolithic occupation of the site.

F14 is not only broken but cracked and discoloured by heat. If this occurred before breakage and discard, which seems likely because heat-cracking does not extend over the break, it would be consistent with the unsuccessful practice of heat pre-treatment, which is discussed by Rosemary Bradley (microwear report). The possibility is heightened by the fact that F14 is a thin, flat bifacially flaked form, the manufacture of which would have been facilitated by successful heat pre-treatment.

## **Other Activities**

Fire-making is attested not only by burnt flint but by sandstone fragments from 4, 8 and 21 (the last a periglacial feature), all of which are burnt, conforming to the traditional interpretation of such fragments as hearthstones. Rosemary Bradley's microwear analysis of material from the second season presents evidence for the cutting and working of wood, bone or antler, hide or meat, wet vegetation and cereals. Unfortunately, few of the pieces used came from datable contexts, the exceptions being three from Earlier Neolithic pit 22B, which were used respectively for cutting meat, cutting and scraping dry hide with lubricants, and whittling and cutting seasoned wood. The remainder are, like the rest of the struck flint from the second season, concentrated in the south-east half of the main excavated area, with no focus for any one activity. 120m to the east, however, in the alluvial deposits of contexts 6B, 7B, 9B and 11B, nine of the ten pieces on which microwear polishes could be identified had been used for wood-working, which may suggest that this activity was concentrated in the area from which the deposits were derived.

## Relationship of the Results of Microwear Analysis to Traditional Assessment of the Lithic Material

The selection of longer pieces for use among the material from the second season (microwear report Table 59) is matched by the selection of longer pieces for retouch among the flakes from pits 4, 5, 7 and 8 (Fig. 57). Both presumably reflect the greater ease of manipulation and length of usable edge of these pieces, especially given the generally small size of the raw material.

Hafting traces on a scraper (M351) correspond to the flaking-down of its bulb, apparently to reduce the thickness of the butt end. The edge gloss on M253, M288 and M417 is macroscopically indistinguishable, although they were used respectively on wet vegetable matter, cereals and fresh wood. M253 and M417 are serrated pieces, like F11, F12 and a third unillustrated example from pits 4 and 5, all of which show macroscopically similar edge gloss. This has been observed on the teeth of serrated pieces from many Neolithic sites in southern and eastern England, including Bishopstone, Sussex (Bell 1977, 26), Windmill Hill, Wilts. (Smith 1965, 91), Hurst Fen, Suffolk (Clark and Higgs 1960, 217), Lion Point, Essex (Wainwright 1971, 120) and Carn Brea, Cornwall (Saville 1981b, 140), and has sometimes led to their interpretation as sickle flints. The interpretation is supported by their having proved experimentally effective when mounted in sickles and by their frequently blade-like form, which would be compatible with serial hafting. Rosemary Bradley's results are, however, a reminder that, if some serrated pieces were sickle flints, they may have been used to cut many other substances than cereals (cf. Saville 1981b, 132). The regular, blunting wear of M262 and M342 equates them with class A utilised flakes as defined by Smith (1965, 92) and with bevelled flakes as defined by Whittle (1977, 71). The





identification of bone polish on M262 and of polish from wet vegetable matter on M253, a serrated blade, may be compared with Keeley's identification of bone polish on a bevelled flake and of plant polish on serrated flakes from the Abingdon causewayed enclosure (Whittle 1982, 38). Traces of microwear were identified on only three of the 33 scrapers from the second season. All three (M96, M315, M351) were used for various forms of hideworking, although the small size of the sample makes it debatable whether the same group of functions can be inferred for the rest of the implement class over the full span of prehistoric activity on the site.

## **Mesolithic Activity**

Unequivocal evidence for sporadic Mesolithic activity is provided by two fragmentary microliths (F33, F64). To these may less confidently be added four truncated pieces (*e.g.* F43) and five particularly small and regular blade cores (*e.g.* F17).

## The Main Flint Groups

The surface material differs from that of the more restricted superficial groups, most markedly in core typology (Table 51), but also in flake proportions (Fig. 57) and in details of scraper morphology. These combine to suggest that there was a spatial variation within the surface scatter which was not completely sampled by the excavated areas.

The greatest discrepancies, however, are between the superficial groups as a whole and pits 4, 5, 7 and 8. Higher percentages of flakes and lower percentages of cores and retouched pieces in the pits may be attributed to (i) more complete recovery of inconspicuous pieces such as small, unretouched flakes from features than from superficial deposits or the surface – this may also explain the generally smaller size of flakes from the pits (ii) the presence of knapping debris in the pits and (iii) the artificial enlargement of the totals of retouched pieces in the superficial groups by the inclusion of ploughdamaged pieces, although every effort was made to avoid this.

None of these factors, however, would account for the more blade-like flake proportions or the more restricted range of retouched forms which distinguish the material from pits 4, 5, 7 and 8. These are not accidents of small sample size but are matched in other Earlier Neolithic industries from southern and eastern England. The flakes of these industries are consistently blade-like (Pitts 1978), and the majority of the retouched pieces in them are confined to a narrow range including leafshaped arrowheads, scrapers and serrated pieces. This holds true both within eastern England, as at Briar Hill, Northampton (Bamford 1985, fig. 35, table 11), Fengate, Cambridgeshire (Pryor 1974, 10-14), Broome Heath, Norfolk (Wainwright, 1972, 52-57), Hurst Fen, Suffolk (Clark and Higgs 1960, 214) and in four small Grimston Ware associated assemblages from the Yorkshire Wolds (Manby 1975, 26-31), and beyond, as in the primary levels of Windmill Hill, Wilts. (Smith 1965, 91) and at Abingdon, Oxon. (Whittle 1982, 36-38).

While there is an Earlier Neolithic component in the superficial groups, the material which constitutes their bulk and determines their overall character cannot have been derived from industries like that of pits 4, 5, 7 and 8 and must have another source or sources. Flake

proportions for the superficial groups (Fig. 57) are those of Later Neolithic and subsequent industries (Pitts 1978). Similarly, the retouched forms which occur in them but not in pits 4, 5, 7 and 8 (Fig. 58) may be matched in Later Neolithic and Early Bronze Age industries such as those of feature divisions 1-9, Storey's Bar Road, Fengate, Cambridgeshire (Prvor 1978, 104-150) of other East Anglian sites with Grooved Ware pottery (Healy 1985, 192–196), of others again with Beaker pottery (Petersen and Healy 1986, 84-89), and of Yorkshire sites with Grooved Ware and Peterborough Ware pottery (Manby 1974, fig. 33; 1975, 33-47). They also occur in broadly contemporary industries farther afield, like those of Walls, Wiltshire Durrington (Wainwright and Longworth 1971, 156-181) or Arreton Down, Isle of Wight (Ozanne and Ozanne 1960, 290-293). A few forms in the superficial groups, notably chisel and oblique arrowheads (F21, F34, F35) and small 'thumbnail' scrapers (e.g. F37, F55), may be specifically dated to this period (Green 1980, 111-116; Clark and Higgs 1960, 219).

The overall composition of the superficial groups, however, has one of the characteristics of Bronze Age industries isolated by Saville (1980 20-21; 1981a, 68) and by Ford et al. (1984, 164-167), in the form of high proportions of borers or points. This raises the possibility that a large part of the material in the superficial groups may be of Bronze Age date. This is particularly likely for nine scrapers from the field surface (e.g. F52-54, F56), which are exceptionally thick, steep and coarsely retouched, often by the removal of quite large flakes. These are of a class first distinguished as Later Bronze Age by Stone in his discussion of the industries from Boscombe Down and Thorny Down, Wilts. (1936, 482; 1937, 656), and re-defined by Fasham and Ross in their account of the industries from R4, Hampshire (1978, 59-61). Further examples occur in the industry from the Itford Hill barrow, Sussex, associated with Deverel-Rimbury pottery (Bradley 1972, fig. 5: 1, 4), and in the upper ditch silts of the Hemp Knoll barrow, Wiltshire (Robertson-Mackay 1980, fig. 14: F33, F34, F36).

## The Influence of Raw Material

Other features of the Tattershall Thorpe material are less easily seen in cultural or chronological terms and may more readily be related to functional and geographical considerations, especially to quality and availability of raw material. Table 52 lists industries from eastern England and beyond chosen to cover the timespan of the prehistoric occupation at Tattershall Thorpe and ordered chronologically within broad topographical groupings. Table 53 lists aspects of their technology and composition. Most frequent core types are described in a simplified form of the Hurst Fen classification (Clark and Higgs 1960, 216): A (single platform), B–C (multiplatform) and D–E (keeled).

In topographical terms, there is an uneven but perceptible gradation from large cores and flakes on the chalk to smaller ones in the non-chalk areas of East Anglia and yet smaller ones in the East Midlands. This is an approximate reflection of available raw material size, since the largest and most abundant raw material is generally available on the chalk, while East Anglian gravel deposits tend to consist of larger pebbles and nodules than those of the East Midlands, since the region is rich in *in situ* flint deposits from which at least some of

CHALK SITES Site	County	context(s)	site type	pottery	C14 dates	no. pieces	source
Bury Hill	Sussex	primary levels in ditches	enclosure	Neolithic Bowl	4680 ± 80 BP HAR-3596 4580 ± 80 BP HAR-3595	3717	Drewett 1981
Hemp Knoll	Wilts.	pits below barrow	settlement	Neolithic Bowl		2658	Robertson- Mackay 1980,
Mount Pleasant	Dorset	site IV phase 2	structure within henge	Beaker, some Neolithic Bowl, Grooved Ware, Food Vessel	3550 ± 60 BP BM-668	3017	Wainwright 1979, 139-163
Grime's <sup>1</sup> Graves	Norfolk	1972 shaft	settlement debris in top of silted mine shaft	Middle Bronze Age	3084 ± 44 BP BM-1097	42157	Saville 1981a, 18-25
Black Patch	Sussex	hut platform 4	settlement	Middle Bronze Age	4 dates from 3020 ± 70 BP HAR-2940 to 2780 ± 80 BP HAR-2939	2739	Drewett 1982, 371-375
NON-CHALK S	ITES						
(1) East Anglia Broome Heath	Norfolk	pits and postholes	settlement	Neolithic Bowl	4579 ± 65 BP BM-757 4523 ± 67 BP BM 756	4387	Wainwright 1972, 46–68
Hurst Fen <sup>2</sup>	Suffolk	'occupation layer', pits other features	settlement	Neolithic Bowl	BM-750	16398 (1st season)	Clark & Higgs 1960, 214-226
Lion Point	Essex	'cooking holes'	settlement	Grooved Ware		514	Wainwright
Lawford	Essex	area within irregular ring ditch	settlement?	Grooved Ware, some Neolithic Bowl and Beaker		1794	Healy 1985
Weasenham Lyngs	Norfolk	'occupation scatters', site 3660	debris beneath barrow	Step 2-3 Beaker		196	Petersen and Healy 1986, 80-89
(2) East Midlands Fengate	Cambs	Area XIII Padholme Rd.	settlement (house)	Neolithic Bowl	$4960 \pm 64 \text{ BP}$ Gak-4196 $4395 \pm 50 \text{ BP}$ Gak-4197	276	Pryor 1974, 10-13; 1978, 7-10
Briar Hill	Northants	phase II-V ditch silts	causewayed enclosure	Neolithic Bowl	$4780 \pm 120 \text{ BP}$ HAR-5271 (phase III or IV)	789	Bamford 1985, 62-72
Ecton	Northants	various features and surrounding area	settlement	Peterborough Ware, Beaker	(prime in or it)	809	Moore and Williams 1975, 19-26
Fengate	Cambs	Storey's Bar Road feature divisions 1-9	ditched enclosure system, settlement	Grooved Ware	5 dates from 3980 ± 100 BP HAR-397 to 3010 ± 150 BP HAR-409	3073	Pryor 1978, 104-150
Fengate	Cambs	Newark Road subsite	ditched enclosure system, settlement	Food Vessel Collard Urn other Bronze Age styles	16 dates from 3980 ± 100 BP HAR-774 to 2890 ± 60 BP HAR-785	1681	Pryor 1980, 106-130

1. 'Flaked lumps' from the 1972 shaft at Grime's Graves (Saville 1981a, 7, 19) are counted as irregular waste; the percentage of retouched pieces is slightly exaggerated because two of the implement categories of the original report ('cutting flakes' and 'utilised blades') include both retouched and utilised pieces (Saville 1981a, 10).

2. Only figures for the first season at Hurst Fen are used in most of Table 53, because totals of serrated flakes are not published with those of other retouched forms from subsequent seasons.

Table 52. Industries compared in Table 53

its gravels are derived, while most East Midland gravels are derived from more distant sources.

All main groups from Tattershall Thorpe conform to an East Midland pattern of relatively small core and flake size. The three superficial groups, however, stand out by their high percentages of cores and retouched pieces, the more so that at Lion Point, the only other site in Table 53 with comparable percentages of both, cores and retouched pieces were thought to have been deliberately selected for deposition in 'cooking holes'

Site	% cores	% irregular waste	% flakes	% retouched pieces	mean core weight (g)	most frequent core type	most frequent flake length (mm.)	scrapers as % of retouched pieces
Bury Hill	1	3.3	94.8	0.9	-	Α	40-50	57.1
Hemp Knoll	4.1	-	88.3	7.6	41.1	A	20-30	20.9
Mount								
Pleasant	0.3	~	96.4	3.4	-	A	30-40	87.3
Grime's Graves	1.2	0.1	93.6	5.1	305.5	A	÷.	10.71
Black Patch	1.5	1	94.4	3.1	-	A	×.	58.3
Broome Heath	1.6	-	95.3	3.1	-	А	30-40	46.4
Hurst Fen	3.5	-	91.7	4.8	-	A	-	45.2
Lion Point	13.4	-	71	15.6	-	A	-	68.8
Lawford	2.8	6.6	74.2	16.4	47	B-C	20-30	41.8
Weasenham	0.5	1.5	86.2	11.7	35	Α	20-30	43.5
Padholme Rd								
Fengate	-	14.1	80.8	5.1	-	-	20-30	42.9
0					28 (all			
Briar Hill	5.2	4.1	75.2	15.4	contexts)	B-C	20-30	24.2
Ecton	2.7	-	93.2	4.1	20.9	B-C	10-20	47.8
Storey's Bar								
Fengate	1.3	11.4	81.8	5.5	25.6	A, B - C	-	76.2
Newark Rd	3.3	19.3	69.3	8.1	20.5	B-C	10-20	47.8
Fengate								
Tattershall								
Thorpe								
contexts	7.3	2.2	82	8.5	38.9	B-C	10-20	17.6
4, 5, 7, 8 (exc.								
seived material)								
context 2	11.2	0.4	66	22.4	23.7	B-C	20-30	21.3
context 1	13.1	1.7	61.4	23.8	26.8	B-C	20-30	15.7
context 0	18.4	2.6	63.7	15.3	25.7	D-E	20-30	36.4

Table 53. Composition and selected features of the industries listed in Table 52 and the main groups from Tattershall Thorpe. Hammerstones are excluded from the totals of artefacts and utilized pieces are counted as unretouched flakes.

(Wainwright 1971, 117). Reasons for high or apparently high percentages of retouched pieces in the superficial groups are suggested above in 'The Main Flint Groups', but none of these would account for the high percentages of cores in the same groups.

High core percentages at Tattershall Thorpe do not seem to be a simple reflection of raw material size, since the other East Midlands industries in Table 53, made on comparably small raw material, have core percentages as low as industries from other regions. The poor quality of the Bain gravels may have led to the frequent abandonment of cores with latent thermal fractures after only a few removals had been made from them (e.g. F2, F4, F16). Core type as distinct from core frequency seems more regularly related to raw material size. Single platform (A) cores are the most frequent in almost all post-glacial British industries, irrespective of date or location. This holds true not only for the industries in Table 53 but for others listed by Fasham and Ross (1978, 65) and Saville (1981a, 48). Divergence from this pattern seems most frequent in the East Midlands (Table 53), which suggests that multi-platform and alternate flaking may there have been means of maximising the number of flakes produced from each core of small, low quality gravel flint. Saville has already suggested (1980, 20) that there is likely to be a trend towards multi-platform flaking in assemblages off the chalk, increasing in proportion to smallness and scarcity of raw material.

## **IV.** Conclusions

Some features of the struck flint from Tattershall Thorpe, notably high frequencies of multi-platform and keeled cores, can be related to local raw material quality and regional flint-working practice. Others, such as differing flake proportions and differing retouched forms between main flint groups, form part of wider, even national, cultural and chronological trends.

The main point to emerge from examination of the struck flint is that the large collections from superficial contexts differ substantially from the material excavated from underlying Earlier Neolithic pits, which between them account for 98% of the stratified struck flint, and that the bulk of the material in the superficial groups is of Later Neolithic and Bronze Age date, although subsoil features of these periods are few and poor in flint. Contemporary pottery is correspondingly less infrequent in superficial deposits than in subsoil features (pottery report, Table 64).

It has already been argued (Healy 1984c; 1987; 1988, 109) that this is a recurring situation, attributable to changes in mode of settlement in lowland England, which resulted in the less regular cutting of subsoil features on Later Neolithic and Bronze Age occupation sites than on Earlier Neolithic ones. As a result, many contemporary settlements will have survived as rubbish deposits when protected, for example by superimposed earthworks or by deposition in pre-existing hollows, or as flint scatters when unprotected. Material from such settlements, most of it never incorporated into the fills of subsoil features, is more likely to become incorporated into ploughsoil and other superficial deposits than is material protected by burial in pits and ditches. In such circumstances, evidence for Later Neolithic and Bronze Age settlement may lie almost entirely in superficial deposits and may mask the presence of Earlier Neolithic material in subsoil features, as it did at Tattershall Thorpe.

FI   5   189   Class A core     124   4,57 or 8   Class C core on a hermally fractured pebble     124   4,57 or 8   Class E core, apparently on false numming through thermal fracture     125   5   113   Class E core, apparently on false numming through thermal fracture     126   5   111   Fragmentary ideat-shaped arrowhead     127   5   112   Rough, fragmentary ideat-shaped arrowhead     128   4   4   114   Fragmentary ideat-shaped arrowhead     129   4   4   120   Diberalt barra of a false.     121   5   120   Diberalt barra of a false.     121   7   3   Glass R2 core     123   120   Diberalt barra of a false.     124   28   23   Class R2 core     127   28   28   Class C core     128   28   Class C core   121     129   28   Class C core   122     129   28   Class C core   122     121   2   28   Class C core     121   2   28   Class C core     121   2   28   Class C core     121   2   24   Borrar spincore formo	drawing no.	context no.	excavation no.	Description and comments
12   4   5.7   Case     13   Case   Case Norm     15   Case Society   Case Society     15   113   Case Society     15   113   Case Society     15   113   Case Society     16   111   Fragmentry lef-shaped arrowhead     17   5   112   Rough, fragmentry lef-shaped arrowhead     17   10   17   East core     17   10   17   East core     17   10   17   East core     171   15   10   Divident burn and at a heaped arrowhead of gloss on both faces of serancel and unserrated lateral edges     173   5   10   Divident burn and at a heaped arrowhead of alloss on both faces of serancel adge     174   5   10   Divident burn and at an the bubbre end of allos arrow baind of gloss on both faces of serancel adge     174   2   2   0   Miscellaneous recouched piece: fake fragment with all-ower bifficial resouch, cracked and slightly discences     174   2   17   Class & Core     174   2   2   Class & Core     175   2   20   Obligue arrowhead of Clark's (1924) form H or I     172   2   20   Class & Core     17	F1	5	189	Class A1 core
Find   38   Class D core     Fis   13   Class E core, appenntly on flake running through thermal fracture     Fis   5   111   Fragmently leaf shaped arrowhead, perhaps broken during manufacture     Fis   5   111   Regregative strategies and the strategies on both faces of serated and unserated lateral edges     Fit   5   120   Dibledral back with narrow band of gloss on both faces of serated edge     Fit   5   120   Dibledral back with narrow band of gloss on both faces of serated edge     Fit   5   120   Dibledral back with narrow band of gloss on both faces of serated edge     Fit   5   120   Dibledral back with arrow band of gloss on both faces of serated edge     Fit   5   120   Dibledral back with arrow band of gloss on both faces of serated edge     Fit   28   120   Dibledral back with arrow with all-over fibrical records, encked and slightly discover the set of serated edge     Fit   28   120   Class B2 core     Fit   28   14   Secore     Fit   28   14   Secore     Fit   28   14 <t< td=""><td>F2 F2</td><td>4</td><td>28</td><td>Class C core on a mermally fractured peoble</td></t<>	F2 F2	4	28	Class C core on a mermally fractured peoble
pis   115   Class E.core     P6   5   113   Class E.core, apparently leaf-shaped arrowhead     P7   5   111   Fragmentary leaf-shaped arrowhead     P8   5   112   Rough, fragmentary leaf-shaped arrowhead     P9   4   47   End scripter     P1   5   191   End scripter     P1   5   192   Serrated lake with narrow band of gloss on both faces of serrated edge     P13   5   100   Dieded built onir mode at the builty end of all hale     P14   5   20   Dieded built onir mode at the builty end of all hale     P14   5   101   Class E.core     P14   5   102   Dieded built onir mode at the builty end of all hale     P14   5   103   Miscellancous reouched piece: abkr forgment with all-over built onit at the built end of all hale     P14   20   21   Class C.core     P14   20   22   Class C.core     P14   21   24   Borer: piecre finder forgmentary built on the or 1     P22   23   24   Borer: piecre finder forgmentary builty on the or 1     P23   21   24   Borer: piecre finder forgmentary builty builty forgmentary builty builty forgmentary builty builty builty builty builty builty builty builty	F5 F4	4,5,7 01 8	38	Class D core
Product   5   113   Class E core, apparently on lake running through thermal fracture     PF   5   112   Rough, fragmentry leaf-shaped arrowhead, perhaps broken during manufacture     P8   4   47   End scripter     P10   5   191   End scripter     P11   5   27   Serrated bale with narrow band of gloss on both faces of serrated and uscernated lateral edges     P13   5   120   Ditectal barin made at the balbar end of a false     P14   5   120   Ditectal barin made at the balbar end of a false     P17   2   30   Miscellances recouched piece: false fragment with all-were bifacial records, neacled and slightly discolatered by hear about of a size of a si	F5	5	115	Class E core
F7   5   111   Fragmentary lack-shaped arrowhead     F8   5   112   Rough, fragmentary lack-shaped arrowhead, perhaps broken during manufacture     F9   4   47   End scraper     F11   5   191   End scraper     F11   5   27   Serrated blade with narrow blad gold of abla     F14   4   30   Serrated blade with narrow blad gold of abla     F14   5   30   Miscellaneous retouched piece: fake fragment with allower bindial eromeha, enclosed and slightly discoloureed by heat on one face only 7Lifnished arrowhead     F15   5   195   Miscellaneous retouched piece: aburptly retouched fake running through thermal fracture     F16   28   171   Class A2 core     F17   2   3   Class D core     F23   28   44   Secore hand of Clark's (1934) form H or I     F23   28   44   Secore hand of Clark's (1934) form H or I     F24   2   240   Borer: purrel piecew inhar fragmentary bala. Sele-faked scraper like edge     F25   2   249   Borer: purrel piecew inhar formed to partly scale-faked scraper like edge     F26   2   28   Noch   Class A2 core     F27   28   56   A F27     F28   18   Class A2	F6	5	113	Class E core, apparently on flake running through thermal fracture
F8   5   112   Rough, fragmenny led-shaped arrowhead, perhaps broken during manufacture     F9   4   47   End scraper     F10   5   191   End scraper     F11   5   27   Serrated like win narrow band of gloss on both faces of serrated and unserrated latenal edges     F12   4   39   Serrated like win narrow band of gloss on both faces of serrated edge     F14   5   10   Discribution made at on both face of serrated edge     F15   5   195   Miscellanceus reouched piece: abruptly retouched like running through thermal fracture     F16   28   171   Class A2 core     F17   2   20   Class C core     F20   28   175   Class E core     F21   2   20   Class A2 core     F22   2   30   A4   State-orapic expanse     F21   2   20   Class A2 core   F22     F23   34   State-orapic expanse   F24     F24   2   23   Noch     F27   28   51   Miscellaneous reouched piece: rough, fragmentary blace. /Unfinished arrowhead     F24   2   23   Noch   F25     F25   2   240   Noch	F7	5	111	Fragmentary leaf-shaped arrowhead
P9   4   47   End scraper     P10   5   191   End scraper     P11   5   27   Serrated black with narrow band of gloss on both faces of serrated and unserrated lateral edges     P11   5   27   Serrated black with narrow band of gloss on both faces of serrated and unserrated lateral edges     P11   5   30   Miscellancous retouched piece: the bulbur end of a flake     P15   5   195   Miscellancous retouched piece: abruptly retouched flake running through thermal fracture     P16   28   171   Class A2 core     P17   2   3   Class B2 core     P18   28   225   Class C     P29   2   28   Gloss Core     P21   2   28   Class C     P22   2   28   Gloss Core     P23   28   Gloss Core     P24   2   242   Boere: piercer formed by unilateral abrupt retouch     P25   2   249   Boere: spured piece with spur formed on party scale-flaked scraper like edge     P26   2   283   Notch   Class A2 core     P27   28   51   Mascellancous retouched piece: rough, fragmentury blace, :Punfinished arrowhead     P28   18   Class A2 core <t< td=""><td>F8</td><td>5</td><td>112</td><td>Rough, fragmentary leaf-shaped arrowhead, perhaps broken during manufacture</td></t<>	F8	5	112	Rough, fragmentary leaf-shaped arrowhead, perhaps broken during manufacture
F10   5   191   End scraper     F11   5   25   Serrated black with narrow band of gloss on both faces of serrated and unserrated lateral edges     F13   4   30   Serrated black with narrow band of gloss on both faces of serrated edge     F14   5   10   Miscellancous recounded piece: faber fagment with all over table fagment facure     F16   2.8   171   Class B2 core     F17   2   2.0   Class B2 core     F20   2.8   175   Class B2 core     F21   2   2.0   Class E core     F22   2   2.0   2.0     F23   2   2.0   Notch     F24   2   2.0   Notch     F27   2.8   5.1   Miscellancous recouched piece: rough, fagmentary biface. ?Unfinished arrowhead     F24   2   2.0   Notch     F27   2.8   5.1   Miscellancous recouched piece: rough, fagmentary biface. ?Unfinished arrowhead     F28   1.8   <	F9	4	47	End scraper
F11   5   27   Serrate in and evin markow band of goos on both news or servate and unservate andervate andervate and unservate and unservate and unservate and uns	F10	5	191	End scraper
12   - </td <td>FII FI2</td> <td>5</td> <td>27</td> <td>Serrated blade with narrow band of gloss on both faces of cerrated and unserrated lateral edges</td>	FII FI2	5	27	Serrated blade with narrow band of gloss on both faces of cerrated and unserrated lateral edges
P14     5     30     Miscellancous retouched piece: false fragment with all-over bindar locuch, cracked and slightly disculated by a locured by hear on one face only 70 functional arrowhead       P15     5     195     Miscellancous retouched piece: abruptly retouched flake running through thermal fracture       P17     2     3     Class R2 core       P17     2     30     Class C       P17     2     28     Class C       P20     28     175     Class C       P21     2     200     Oblique arrowhead of Clark's (1934) form H or I       P22     367     End scraper     P23       P23     24     Boren piercer formed by unilateral abrupt retouch       P24     2     240     Boren piercer formed by unilateral abrupt retouch       P25     2     241     Boren piercer formed by unilateral abrupt retouch       P26     2     243     Boren piercer formed by unilateral abrupt retouch       P26     2     244     Boren piercer formed by unilateral abrupt retouch       P27     28     56     As P27       P38     Boren class Core     Class A 2 core       P31     Berent stretouched piecer with spur formed on scraper-lik	F12 F13	+ 5	120	Dihedral burin made at the bulbar end of a flake
Figisdiscolanced by heat on one face only ?Unfinished arrowheadFig28171Class A2 coreFig28171Class A2 coreFig28225Class CFig228Class D coreFig2295Class D coreFig2295Class D coreFig2205Obligue arrowhead of Clark's (1934) form H or IFig2206Obligue arrowhead of Clark's (1934) form H or IFig2206Obligue arrowhead of Clark's (1934) form H or IFig2207Obligue arrowhead of Clark's (1934) form H or IFig2242Borer: piercer formed by unilateral abrupt retouchFig2249Borer: sparred piece with spur formed on party scale-flaked scraper like edgeFig18Class A2 coreFig18Class A2 coreFig18Class A2 coreFig18Class A2 coreFig18Class CoreFig18Class CoreFig18Side-end scraperFig18Side-end	F14	5	30	Miscellaneous retouched piece: flake fragment with all-over bifacial retouch, cracked and slightly
F155195Miscellaneous retouched piece: abruptly retouched flake running through thermal fractureF162B21Class A2 coreF1723Class B2 coreF182B225Class CF202B175Class B2 coreF21236Class D coreF222367Class coreF232B44Side-end scraperF242242Borer: spurred piece with spur formed to a partly scale-flaked scraper like edgeF252249Borer: spurred piece with spur formed on partly scale-flaked scraper like edgeF26228NotchF272B51Miscellaneous retouched piece: rough, fragmentary biface. 7Unfinished arrowheadF26228NotchF272B51Miscellaneous retouched piece: rough, fragmentary biface. 7Unfinished arrowheadF2818Class A2 coreF3918Class CoreF3118Class CoreF3318Class CoreF3418Singentary obligue arrowheadF351End scraperF3818Borer: long-pointed piecerF3918Borer: long-pointed piecerF3918Singentary obligue arrowheadF401NotchF41NotchF44Miscellaneous retouched piece: with spur formed on scraper-like edge, made on a thermally fracturedF441NotchF44Singentary		-		discoloured by heat on one face only ?Unfinished arrowhead
F16   2B   171   Class A2 core     F17   2   3   Class B2 core     F18   2B   225   Class C     F19   2   298   Class D core     F20   2B   175   Class E core     F21   2   200   Oblique arrowhead of Clark's (1934) form H or I     F22   2   367   End scraper     F23   2B   44   Side-end scraper     F24   2   248   Borer: piercer formed by unilateral abrupt retouch     F24   2   249   Borer: piercer formed on partly scale-flaked scraper like edge     F26   2   249   Borer: piercer formed by unilateral abrupt retouch     F27   2B   51   Miscellaneous retouched piece: rough, fragmentary biface. Punfinished arrowhead     F27   2B   51   Miscellaneous retouched piece: rough, fragmentary biface. Punfinished arrowhead     F28   1B   Class D core     F21   1B   Class D core     F23   1B   Class C core     F34   1   Class C core     F35   1   Fragmentary oblique arrowhead     F36   1B   Side-end scraper     F37   1B   Side-end scraper     F38   1B <td>F15</td> <td>5</td> <td>195</td> <td>Miscellaneous retouched piece: abruptly retouched flake running through thermal fracture</td>	F15	5	195	Miscellaneous retouched piece: abruptly retouched flake running through thermal fracture
F17   2   3   Class B2 core     F18   2B   22S   Class C     F19   2   28   175   Class Core     F20   2B   175   Class Core     F21   2   367   Ends carper     F22   2   367   Ends carper     F23   2B   44   Side-end scraper     F24   2   242   Borer: spurred piece with spur formed on partly scale-flaked scraper like edge     F25   2   283   Noch     F26   2   233   Noch     F27   2B   51   Miscellaneous retouched piece: rough, fragmentary biface. 7Unfinished arrowhead     F26   2   233   Noch   Class Core     F27   2B   51   Miscellaneous retouched piece: rough, fragmentary biface. 7Unfinished arrowhead     F26   2   233   Noch   Class Core     F31   1B   Class Core   Class Core     F32   1B   Class Core   Class Core     F33   1B   Fragmentary microlith, perhaps an obliquely blanted point. Slightly patinated     F34   1   Fragmentary microlith, perhaps an obliquely romatice point. Slightly patinated     F34   1   Frad scraper   Frad scraper <td>F16</td> <td>2B</td> <td>171</td> <td>Class A2 core</td>	F16	2B	171	Class A2 core
P18     2.8     2.23     Class D core       P20     2.8     175     Class D core       P21     2     2.50     Oblique arrowhead of Clark's (1934) form H or I       P22     2     367     End scraper       P23     2.8     44     Side-end scraper       P24     2     2.42     Borer: spurced pice with spur formed on partly scale-flaked scraper like edge       P25     2     2.49     Borer: spurced pice with spur formed on partly scale-flaked scraper like edge       P26     2     2.83     Noch     Class C. ore       P28     1.8     Class C. ore     Class C. ore       P31     1.8     Class C. ore     Class C. ore       P33     1.8     Class C. ore     Class C. ore       P34     1     Class E. core     Class E. core       P34     1     Class E. core     Class E. core       P34     1     End scraper     Particlass E. core       P34     1     Flagmenary oblique arrowhead     Class E. core       P34     1     Flagmenary oblique arrowhead     Sclase Harrowhead       P34     1     Flad scraper	F17	2	3	Class B2 core
P19   2   295   Class E core     P20   28   175   Class E core     P21   2   200   Oblique arrowhead of Clark's (1934) form H or I     P21   2   207   End scraper     P23   28   44   Side-end scraper     P24   2   242   Borer: pierce formed by unilateral abrupt retouch     P25   2   249   Borer: pierce formed by unilateral abrupt retouch     P26   2   285   As P27     P38   56   As F27     P39   18   Class A2 core     P31   18   Class Core     P32   18   Class Core     P33   18   Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated     P34   Class L core   Fragmentary oblique arrowhead     P35   1   Fragmentary oblique arrowhead     P36   1   Fragmentary oblique arrowhead     P37   18   Side-end scraper     P38   18   Borer: sparcer formed of a flake by a blow struck parallel to the axis of percussion and at a slightly acute and of a flake by a blow struck parallel to the axis of percussion and at a slightly acute and prominent bub flake, fragmentary blicke, 2 unfinished arrowhead     F44   1   Notch     F45   18 <td>F18</td> <td>2B</td> <td>225</td> <td>Class C</td>	F18	2B	225	Class C
121250Cobing a anywhead of Clark's (1934) form H or I1222367Child gue anywhead of Clark's (1934) form H or I1232364Side emprice12422367End security1252249Borer: picce rorBorer: formed on partly scale-flaked scraper like edge1262249Borer: picce with spur formed on partly scale-flaked scraper like edge1272236Noicellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowhead12822856Sile12918Class A 2 coreClass A 2 core12118Class D coreClass D core12318Class D coreClass C core1241Class D coreClass C core1251Fragmentary wolfique arrowheadFragmentary oblique arrowhead1261Fragmentary wolfique arrowhead1261Fragmentary wolfique arrowhead1261Fragmentary oblique arrowhead1261Fragmentary oblique arrowhead12718Side-end scraper12818Borer: spurced piece with spur formed on scraper-like edge, made on a thermally fractured12918Side-end scraper12918Notch1241Notch1241Notch1241Notch1241Notch1241Notch1241Notch <t< td=""><td>F19 F20</td><td>2</td><td>298</td><td>Class D core</td></t<>	F19 F20	2	298	Class D core
123     2     467     End scraper       123     28     44     Side-end scraper       124     2     42     Borer: spirred piece with spur formed on partly scale-flaked scraper like edge       125     2     249     Borer: spirred piece with spur formed on partly scale-flaked scraper like edge       126     2     283     Notch       127     28     51     Ais E27       128     13     Class 2 Core       129     18     Class 2 Core       131     18     Class 2 Core       132     18     Class 2 Core       133     18     Class 2 Core       143     1     Class 1 Core       153     18     Class 1 Core       154     1     Class 1 Core       153     18     Fragmentary oblique arrowhead       154     1     Class 1 Scraper       157     18     Side-end scraper       158     18     Borer: spurred piece with spur formed on scraper-like edge, made on a thermally fractured       154     1     Notch     Patina formed at the bulbar ned of a flake by a blow struck parallel to the axis of percusion and at a sighty acut and	F21	20	250	Oblique arrowhead of Clark's (1934) form H or I
P732B44Side-end scraperP742242Borer: piecer formed by unilateral abrupt retouchP752249Borer: piecer formed by unilateral abrupt retouchP76228NotchP772B51Miscellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowheadP782B56As P77P791BClass A2 coreP731BClass C coreP731BClass C coreP731BClass C coreP731BClass C coreP741Class I coreP751Fragmentary biface. ?U/94) form CP751Fragmentary biface arowhead of Clark's (1934) form CP761BSide-end scraperP781BBorer: hours pointed piece with spur formed on scraper-like edge, made on a thermally fracturedP741Fragmentary biface arowheadP741NotchP741NotchP741Miscellaneous retouched piece: obliquely truncated flakeP741Miscellaneous retouched piece: coliquely truncated flakeP741BMiscellaneous retouched piece: coliquely truncated flakeP74 </td <td>F22</td> <td>2</td> <td>367</td> <td>End scraper</td>	F22	2	367	End scraper
F242242Borer: pierce' formed by unilateral abrupt retouchF252283NotchF262283NotchF272851Miscellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowheadF282856As F27F2918Class A coreF3118Class C coreF3218Class D coreF3318Class D coreF341Class C coreF3518Class C coreF3618Class C coreF3718Class C coreF3818Class C coreF3718Side-end scraperF3818Side-end scraperF3718Side-end scraperF3818Borer: long-pointed piercerF3918Borer: spured piece with spur formed on scraper-like edge, made on a thermally fracturedF441Plaked discolidal knifeF441Miscellaneous retouched piece: obliquey truncated flakeF441Miscellaneous retouched piece: rolidy, fragmentary biface, funfinished arrowheadF441Miscellaneous retouched piece: rolidy, fugmentary biface, funfinished arrowheadF441Miscellaneous retouched piece: rolidy, but gare, deep-cuting removals from the wards sufface and prominent bub of percussion, modified by large, deep-cuting removals from the wards sufface and prominent bub of percussion, modified by large, deep-cuting removals from the wards sufface and prominent bub of percussion, modified by large, deep-cuting r	F23	2B	44	Side-end scraper
F252249Borer: spurred piece with spur formed on partly scale-flaked scraper like edgeF262283NotchF272851Miscellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowheadF282850As F27F2918Class A2 coreF3118Class C coreF3318Class D coreF341Class E coreF3518Class E coreF361Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinatedF3718Side-end scraperF3818Fragmentary oblique arrowheadF3918Side-end scraperF3918Side-end scraperF401FragmentF421NotchF441NotchF441NotchF441NotchF441Moscellaneous retouched piece: obliquely truncated flakeF441NotchF4418Miscellaneous retouched piece: obliquely truncated flakeF4418Miscellaneous retouched piece: obliquely truncated flakeF4418Miscellaneous retouched piece: rough, fragmentary biface, funfinished arrowheadF4518As F44F4618Miscellaneous retouched piece: rough, fragmentary biface, funfinished arrowheadF4718Miscellaneous retouched piece: rough, fragmentary biface, funfinished arrowheadF530Class D coreF54<	F24	2	242	Borer: piercer formed by unilateral abrupt retouch
F262283NochF272B51Miscellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowheadF281BClass A2 coreF301BClass A2 coreF311BClass A2 coreF321BClass A2 coreF331BClass D2 coreF341Class D2 coreF351Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinatedF341Chisel arrowhead of Clark's (1934) form CF351Fragmentary oblique arrowheadF361End scraperF371BSide-end scraperF381BBorer: long-pointed piercerF391BBorer: long-pointed piercerF401Thaked discoidal knifeF411NotchF421Aburin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acut reangle to a breakF431BMiscellaneous retouched piece: rough, fragmentary bifface, ?unfinished arrowheadF441Miscellaneous retouched piece: rough, fragmentary bifface, ?unfinished arrowheadF451BMiscellaneous retouched piece: rough, fragmentary bifface, ?unfinished arrowheadF461BMiscellaneous retouched piece: rough, fragmentary bifface, ?unfinished arrowheadF471BMiscellaneous retouched piece: rough, fragmentary bifface by lang, deep-cutting removals from the ventral surface. Another, almost dentical pick port and struck promptiesF471BD	F25	2	249	Borer: spurred piece with spur formed on partly scale-flaked scraper like edge
F2   2B   51   Miscelaneous retouched piece: rough, fragmentary bilace. #Ontimished arrowhead     F28   2B   56   As F27     F29   1B   Class A2 core     F31   1B   Class D core     F32   1B   Class E core     F33   1B   Class E core     F34   1   Chied arrowhead of Clark's (1934) form C     F35   1   Fragmentary oblique arrowhead     F36   1   End scraper     F37   1B   Side-end scraper     F38   1B   Borer: iong-pointed piece with spur formed on scraper-like edge, made on a thermally fractured     Fagment   Talkacd discoidal knife     F41   1   Notch     F42   1   Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead     F43   1B   Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead     F44   1   Notch     F44   1   Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead     F45   1B   As F44     F46   Miscellaneous retouched piece: thick-butted flake     F47   1B   Miscellaneous retouched piece: thick-butted flake with sting patrom at an obuse angle to the wental surface. Another, almost identical piece from the same context <td>F26</td> <td>2</td> <td>283</td> <td>Notch</td>	F26	2	283	Notch
F28   2b   20   AS 12/2     F29   1B   Class A 2 core     F30   1B   Class A 2 core     F31   1B   Class D core     F32   1B   Class D core     F33   1B   Class D core     F34   1   Chied arrowhead of Clark's (1934) form C     F35   1   End scraper     F36   1   End scraper     F37   1B   Soft-end scraper     F38   1B   Borer: spurred piece with spur formed on scraper-like edge, made on a thermally fractured     F41   1   Phorin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at     F44   1   Pourin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at     F43   1B   As F44     F44   1   Miscellaneous retouched piece: rough, fragmentary biface, 2mfnished arrowhead     F45   1B   As F44     F46   B   Bulbar fragment of edge-retouch direct: funct-butted flake with struck parallet to the axis of percussion modified by lange, deep-cutting removals from the ventral sufface. Another, almost identical piece from the same context     F47   1B   As F44     F48   1B   Bulbar fragment of edge-retouched 'fabricator' or rod     F49   0	F27	2B	51	Miscellaneous retouched piece: rough, fragmentary biface. ?Unfinished arrowhead
F20     13     Class I2 core       F31     18     Class D core       F32     18     Class I core       F33     18     Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated       F33     18     Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated       F34     1     Chiss al rowhead of Clark's (1924) form C       F35     1     Fragmentary oblique arrowhead       F36     1     End scraper       F37     18     Borer: long-pointed piecer       F38     18     Borer: long-pointed piecer       F40     1     Allaked discoidal knife       F41     1     Notch       F42     1     Outrin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F44     1     Miscellaneous retouched piece: higuely truncated flake       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F47     18     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F47     18<	F28	2B 1B	20	AS F2/ Class A2 core
F31     IB     Class D ore       F32     IB     Class E core       F33     IB     Class E core       F34     1     Chisel arrowhead of Clark's (1934) form C       F35     1     End scraper       F36     1     End scraper       F37     IB     Side-end scraper       F38     IB     Borer: spurred pice with spur formed on scraper-like edge, made on a thermally fractured fragment       F40     1     Thacked discoidal knife       F41     1     Notch       F42     1     Wortin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F43     IB     Miscellaneous retouched piece: rough, fragment or irregular waste with flat edge retouch       F44     1     Miscellaneous retouched piece: fragment or irregular waste with flat edge retouch       F44     1     Miscellaneous retouched piece: thick-butted flake, with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral	F30	1B 1B		Class C core
F32     1B     Class E core       F33     1B     Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated       F34     1     Chisel arrowhead of Clark's (1934) form C       F35     1     End scraper       F36     1     End scraper       F37     1B     Bore: iong-pointed piercer       F38     1B     Bore: spurred piece with spur formed on scraper-like edge, made on a thermally fractured fragment       F40     1     7blaked discoidal knife       F41     1     Notch       F42     1     Notch       F43     1B     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F44     1     As F44       F45     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F44     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F44     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F45     1B     As F44       F46     Bulbar fragment of edge piece: thick-butted flake with string platform at no btuse angle to the wentral surface and prominent bulb of percursion, modified by large, deep-cutting removals from the wentral surfa	F31	1B		Class D core
F33   1B   Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated     F34   1   Chisel arrowhead of Clark's (1934) form C     F35   1   End scraper     F36   1   End scraper     F37   1B   Side-end scraper     F38   1B   Borer: long-pointed piercer     F39   1B   Borer: spurred piece with spur formed on scraper-like edge, made on a thermally fractured fragment.     F41   1   Notch     F42   1   Notch     F43   1B   Miscellaneous retouched piece: obliquely truncated flake     F44   1   Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead     F45   1B   As F44     F46   1B   Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead     F47   1B   Miscellaneous retouched piece: rough, fragmentary midface, ?unfinished arrowhead     F46   1B   Miscellaneous retouched piece: rough, fragmentary midface, ?unfinished arrowhead     F47   1B   Miscellaneous retouched piece: rough, fragmentary midface, ?unfinished arrowhead     F48   1B   Cass E core     F49   0   Cass E core     F51   0   End scraper     F53   0   Double end scraper	F32	1B		Class E core
F341Chickl arrowhead of Clark's (1934) form CF351End scraperF361End scraperF371BSide-end scraperF381BBorre: inog-pointed piercerF391BBorre: spurred piece with spur formed on scraper-like edge, made on a thermally fractured fragmentF401Plaked discoidal knifeF411NotchF421Plaked discoidal knifeF441Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowheadF441Miscellaneous retouched piece: oliguely truncated flakeF441Miscellaneous retouched piece: ingament of irregular waste with flat edge retouchF451BMiscellaneous retouched piece: indicult piece with synticing platform at an obtuse angle to theF461BMiscellaneous retouched piece: indicult piece from the same contextF471BMiscellaneous retouched piece: fragment of irregular waste with flat edge retouchF471BMiscellaneous retouched piece: indicult piece from the same contextF481BBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF530Double end scraper on flake running through a thermal fractureF540Double end scraper on flake running through a thermal fractureF550Side-end scraperF560Side-end scraperF570Double end scraper on flake running through a thermal fracture <td>F33</td> <td>1B</td> <td></td> <td>Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated</td>	F33	1B		Fragmentary microlith, perhaps an obliquely blunted point. Slightly patinated
F351Fragmentary oblique arrowheadF361End scraperF371BBarer: long-pointed piercerF381BBorer: spurred piece with spur formed on scraper-like edge, made on a thermally fractured fragmentF4017flaked discoidal knifeF411NotchF421NotchF431BMiscellaneous retouched piece: obliquely truncated flakeF441Miscellaneous retouched piece: cough, fragmentary biface, ?unfinished arrowheadF431BAs F44F441Miscellaneous retouched piece: cough, fragmentary biface, ?unfinished arrowheadF451BAs F44F461BMiscellaneous retouched piece: trick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same contextF481BBulbar fragment of edge-retouched 'fabricator' or rodF490Class E coreF510Fragmentary leaf-shaped arrowheadF520Side-end scraperF530Double end and side-scraperF540Double end and side-scraperF550Side-and scraperF560Side-and scraperF570Side-and scraperF580Side-and scraperF590Side-and scraperF510Side-and scraperF550Side-and scraper <t< td=""><td>F34</td><td>1</td><td></td><td>Chisel arrowhead of Clark's (1934) form C</td></t<>	F34	1		Chisel arrowhead of Clark's (1934) form C
F36   1   Ind scraper     F37   1B   Side-end scraper     F38   1B   Borer: long-pointed piercer     F39   1B   Borer: spured piece with spur formed on scraper-like edge, made on a thermally fractured fragment     F40   1   ?flaked discoidal knife     F41   1   Notch     F42   1   ?burin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break     F43   1B   Miscellaneous retouched piece: obliquely truncated flake     F44   1   Miscellaneous retouched piece: in optice, rhundinished arrowhead     F45   1B   As F44     F46   1B   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F47   1B   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F44   1   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F47   1B   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F48   1B   Bulbar fragment of edge-retouched flake with striking platform at an obtuse angle to the wentral surface. An other, almost identical piece from the same context     F51   0   Class D core     F53   0   Double end scraper     F54   0   <	F35	1		Fragmentary oblique arrowhead
F34   1B   Bore: ispured piece     F38   IB   Bore: ispured piece with spur formed on scraper-like edge, made on a thermally fractured fragment     F40   1   Plated discoidal knife     F41   1   Notch     F42   1   Plated discoidal knife     F43   1B   Miscellaneous retouched piece: rough, fragmentary biface, 2unfinished arrowhead     F44   1   Miscellaneous retouched piece: rough, fragmentary biface, 2unfinished arrowhead     F44   1   Miscellaneous retouched piece: ragment of irregular waste with flat edge retouch     F44   1   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F44   1   Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch     F47   1B   Miscellaneous retouched piece: fragment of or rod     F48   1B   Bulbar fragment of edge-retouched 'fabricator' or rod     F49   0   Class E core     F51   0   Class E core     F52   0   Side-end scraper     F53   0   Double end scraper     F54   0   Double end scraper     F55   0   Side-end scraper     F56   0   Side-end scraper     F57   0   Borer: saw     F61   0<	F36	1		End scraper
136     10     Dote: Note pointed piece       F39     18     Bore:: spurted piece with spur formed on scraper-like edge, made on a thermally fractured       F40     1     ?flaked discoidal knife       F41     1     Notch       F42     1     ?burin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F43     18     Miscellaneous retouched piece: obliquely truncated flake       F44     1     Miscellaneous retouched piece: obliquely truncated flake       F44     18     Miscellaneous retouched piece: indich, butted flake with striking platform at an obtus angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cuting removals from the ventral surface and prominent pulb of percussion, modified by large, deep-cuting removals from the ventral surface. Another, almost identical piece from the same context       F48     18     Bulbar fragment of edge-retouched 'fabricator' or rod       F44     0     Class E core <td>F3/ F38</td> <td>1B 1B</td> <td></td> <td>Side-end scraper</td>	F3/ F38	1B 1B		Side-end scraper
F40     1     Fragment       F41     1     Norch       F42     1     Norch       F43     1B     Miscellaneous retouched piece: oblquely truncated flake       F44     1     Miscellaneous retouched piece: oblquely truncated flake       F44     1     Miscellaneous retouched piece: oblquely truncated flake       F44     1     Miscellaneous retouched piece: index with flat edge retouch       F45     1B     Miscellaneous retouched piece: index with striking platform at an obtuse angle to the ventral surface and prominent bub of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bub of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bub of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bub of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bub of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bub of percussion.       F48     1B     Bulbar fragment of edge-retouched 'fabricator' or rod       F49     0     Class E core       F51     0     Fragmentary leaf-shaped arrowhead       F52     0     End scraper       F53     0     Double end and side-scraper       F54     0     Double end scraper	F39	1B 1B		Borer: spurred piece with spur formed on scraper-like edge, made on a thermally fractured
F40     1     Yaked discoidal knife       F41     1     Notch       F42     1     Yourin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F43     1B     Miscellaneous retouched piece: obliquely truncated flake       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, Yunfinished arrowhead       F45     1B     As F44       F46     1B     Miscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface and prominent bulb of percussion and at an obtuse angle to the ventral surface and prominent bulb of percussion and discince from the same context       F48     1B     Bulbar fragment of edge-retouched fabricator' or od       F49     0     Class D core       F51     0     Fragmentary leaf-shaped arrowhead       F52     0     Side-end scraper on flake running through a thermal fracture       F55	1.57	10		fragment
F41     1     Notch       F42     1     Pourin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F43     1B     Miscellaneous retouched piece: olugh, fragmentary biface, ?unfinished arrowhead       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F45     1B     As F44       F46     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F47     1B     Miscellaneous retouched piece: thick-butted flake with striking platform at an obuse angle to the ventral surface. Another, almost identical piece from the same context       F48     1B     Bubar fragmentary leaf-shaped arrowhead       F50     0     Class D core       F51     0     End scraper       F53     0     Double end acraper on flake running through a thermal fracture       F54     0     Double end acraper       F55     0     Side-end scraper       F56     0     Side-end scraper       F57     0     Horeshoe scraper       F58     0     Disc scraper       F59     0     Side-end scraper       F58     0	F40	1		?flaked discoidal knife
F42     1     Pourin formed at the bulbar end of a lake by a blow struck parallel to the axis of percussion and at a slightly acute angle to a break       F43     1B     Miscellaneous retouched piece: obliquely truncated flake       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F45     1B     As F44       F46     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F47     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F47     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F48     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F47     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F48     1B     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F48     1B     Bulbar fragment of edge-retouched flaticator' or rod       F49     0     Class D core       F50     0     Class E core       F51     0     End scraper       F53     0     Double end scraper on flake running through a thermal fracture       F55     0	F41	1		Notch
F43     IB     Miscellaneous retouched piece: obliquely truncated flake       F44     1     Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowhead       F45     IB     As F44       F46     IB     Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch       F47     IB     Miscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same context       F48     IB     Bulbar fragment of edge-retouched 'fabricator' or rod       F49     0     Class D core       F51     0     Class E core       F52     0     End scraper       F53     0     Double end scraper on flake running through a thermal fracture       F54     0     Side-end scraper on flake running through thermal fracture       F55     0     Side-end scraper on flake running through thermal fracture       F58     0     Disc scraper       F59     0     Side scraper       F64     49B     315     Saw       F64     49B     315     Saw       F64     49B     320 <td>F42</td> <td>1</td> <td></td> <td>?burin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at</td>	F42	1		?burin formed at the bulbar end of a flake by a blow struck parallel to the axis of percussion and at
P431.BMiscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowheadF441Miscellaneous retouched piece: rough, fragmentary biface, ?unfinished arrowheadF451BAs F44F461BMiscellaneous retouched piece: fragment of irregular waste with flat edge retouchF471BMiscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same contextF481BBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end scraper on flake running through a thermal fractureF540Side-end scraperF550Side-end scraperF560Side-end scraperF580Double end and side-scraperF590Side scraperF600Borer; awlF610Wiscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6449B312Fragmentary microlithF657B336Borer; piercer made on a fragment of irregular wasteF667B336Borer; piercer made on a flake from polished flint implementF6711B164Denticulate	E42	1D		a slightly acute angle to a break
F45Instrumental information of the section of the sectio	F43 F44	16		Miscellaneous retouched piece: rough fragmentary biface Junfinished arrowhead
F46IBMiscellaneous retouched piece: fragment of irregular waste with flat edge retouchF47IBMiscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same contextF48IBBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end and side-scraperF540Double end and side-scraperF550Side-end scraper on flake running through a thermal fractureF540Double end scraper on flake running through thermal fractureF550Side-end scraperF560Disc scraperF570Bies scraperF580Disc scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6449B312Fragmentary microlithF657B336Borer; piercer made on a fragment of irregular wasteF667B336Borer; piercer made on flake from polished flint implementF6711B164DenticulateF6711B164Denticulate	F45	1B		As F44
F471BMiscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same contextF481BBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520Double end scraperF530Double end scraper on flake running through a thermal fractureF540Double end scraperF550Side-end scraperF560Side-end scraperF570Side-end scraperF580Disc scraperF590Side scraperF600Borre; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF6323315F6449B312F657B332F667B336F6711B164F6884B325F6884BF6684BF6711BF6884BF6711BF6884BF68	F46	1B		Miscellaneous retouched piece: fragment of irregular waste with flat edge retouch
ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from the ventral surface. Another, almost identical piece from the same contextF481BBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class D coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end scraper on flake running through a thermal fractureF540Double end scraperF550Side-end scraperF560Side-end scraperF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF6323315F6449B312F657B332F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F47	1B		Miscellaneous retouched piece: thick-butted flake with striking platform at an obtuse angle to the
He ventral surface. Another, almost identical piece from the same contextF48IBBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end ascraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Side-end scraperF560Side-end scraperF570Disc scraperF580Side scraperF690Side scraperF600Side scraperF610Wiscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF627B315F6449B312F657B336F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement				ventral surface and prominent bulb of percussion, modified by large, deep-cutting removals from
F48IBBulbar fragment of edge-retouched 'fabricator' or rodF490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end scraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraper on flake running through thermal fractureF560Side-end scraper on flake running through thermal fractureF570Side-end scraperF580Side scraperF590Side scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF6323315SawF6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B345Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	7.10	15		the ventral surface. Another, almost identical piece from the same context
F490Class D coreF500Class E coreF510Fragmentary leaf-shaped arrowheadF520End scraperF530Double end scraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraper on flake running through thermal fractureF560Side-end scraper on flake running through thermal fractureF570Side-end scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF6323315F6449B312Fragmentary microlithFragmentary microlithF657B332F667B336F6711B164DenticulateF686884B325F6884BF6884BF6884BF6884BF6884BF6884BF6884BF6884BF6884BF6884BF6884BF67118F6884BF6884BF6884BF67118F6884BF6884BF67158F6884BF6884BF67158F68 <t< td=""><td>F48</td><td>IB</td><td></td><td>Bulbar fragment of edge-retouched 'fabricator' or rod</td></t<>	F48	IB		Bulbar fragment of edge-retouched 'fabricator' or rod
F500Fragmentary leaf-shaped arrowheadF510End scraperF520End scraperF530Double end scraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620Fabricator', made on a flakeF6323315SawF6449B312Fragmentary microlithF657B336Borer; piercer made on a fragment of irregular wasteF667B336Borer; piercer made on a flake from polished flint implementF6884B325Horseshoe scraper made on flake from polished flint implement	F49	0		Class D core
F520End scraperF530Double end scraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312F657B336F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F51	0		Fragmentary leaf-shaped arrowhead
F530Double end scraper on flake running through a thermal fractureF540Double end and side-scraperF550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Kiscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620Fabricator', made on a flakeF6323315F6449B312Fragmentary microlithFragment of irregular wasteF667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F52	0		End scraper
F540Double end and side-scraperF550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Kiscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312Fragmentary microlithFragment of Green's type 4BF667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F53	0		Double end scraper on flake running through a thermal fracture
F550Side-end scraperF560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312Fragmentary microlithFragmentary microlithF657B336F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F54	0		Double end and side-scraper
F560Side-end scraper on flake running through thermal fractureF570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312Fragmentary microlithFragmentary microlithF657B332F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F55	0		Side-end scraper
F570Horseshoe scraperF580Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312F657B332F667B336F6711B164F6884B325Horseshoe scraper made on flake from polished flint implement	F56	0		Side-end scraper on flake running through thermal fracture
F380Disc scraperF590Side scraperF600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315SawF6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F5/	0		Horseshoe scraper
F600Borer; awlF610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315F6449B312F657B332F667B336F6711B164F6884B325Horsehoe scraper made on flake from polished flint implement	F59	0		Side scraper
F610Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flakedF620'Fabricator', made on a flakeF6323315SawF6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F60	0		Borer: awl
F620'Fabricator', made on a flakeF6323315SawF6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F61	0		Miscellaneous retouched piece: bulbar flake or blade fragment, scale-flaked
F6323315SawF6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F62	0		'Fabricator', made on a flake
F6449B312Fragmentary microlithF657B332Leaf-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F63	23	315	Saw
F65/B332Leat-shaped arrowhead of Green's type 4BF667B336Borer; piercer made on a fragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F64	49B	312	Fragmentary microlith
F007.B550Borer; piercer made on a tragment of irregular wasteF6711B164DenticulateF6884B325Horseshoe scraper made on flake from polished flint implement	F65	/B 7P	332	Leaf-shaped arrowhead of Green's type 4B
F6884B325DendenateHorseshoe scraper made on flake from polished flint implement	F00 F67	7.D 11R	164	Denticulate
	F68	84B	325	Horseshoe scraper made on flake from polished flint implement

Table 54. Catalogue of Illustrated Struck Flint



Figure 59 Tattershall Thorpe Neolithic. Selected objects of flint



Figure 60 Tattershall Thorpe Neolithic. Selected objects of flint



Figure 61 Tattershall Thorpe Neolithic. Selected objects of flint

Table 55. Descriptive categories for retouched pieces, listed in the order in which they are used in Table 49 and Figure 58 (Numbers prefixed by M refer to illustrations in the microwear report)

#### Microlith (F33, F64)

A small blade or flake fragment, its bulb normally removed, modified to a regular form by abrupt retouch.

#### Leaf-shaped arrowhead

## (F7-8, F51, F65)

A bifacially flaked point ranging in outline from pointed oval to piriform, and including kite-shaped and ogival forms as defined by Green (1980, 22). Retouch may completely cover both faces, be confined to tips and edges, or occupy any intermediate extent, the bulb almost always being reduced.

#### Chisel arrowhead (F34)

A roughly symmetrical transverse arrowhead of quadrangular or triangular outline, generally formed by bifacial retouch and retaining one unworked primary flake edge. Equivalent to forms B–D of Clark's (1934) petit tranchet derivative arrowhead classification (adapted from Green 1980, 30).

## **Oblique arrowhead** (F21, F35)

An asymmetrical arrowhead of subtriangular outline, formed by bifacial retouch along one long edge and often around an asymmetrically hollowed base, with the remaining primary flake edge generally unworked but sometimes also retouched, especially towards the tip. Equivalent to forms E–I of Clark's (1934) petit tranchet derivative arrowhead classification (adapted from Green 1980, 30).

## Scrapers

Implements part of the edge of which is bevelled by unifacial blunting retouch, forming an angle of approximately  $20^{\circ}$ -90° with the flat underside of the piece; the modified edge being usually convex (Saville 1981a, 8–9).

End scraper (M96, M315, F9-10, F22, F36, F52)

A scraper worked at the distal or bulbar end of a flake.

Double end scraper (F53–54) A scraper worked at both the distal and bulbar ends of a flake.

Side-end scraper (F23, F37, F55-56)

A scraper worked at the distal or bulbar end of a flake and along more than half of one lateral edge.

#### Horseshoe scraper (F57, F68)

A scraper worked at the distal end of a flake and along both lateral edges, or, more rarely, at both distal and bulbar ends and along one lateral edge.

### Disc scraper (F58)

A scraper worked around the entire circumference of a flake.

#### Side scraper (F59)

A scraper worked along one lateral edge of a flake.

#### Scraper on broken flake

Other scraper

A scraper not included in the previous categories, for example one made on a non-flake blank such as a thermally fractured fragment or a piece of irregular waste.

#### Borer or point (F24-25, F38-39, F60, F66)

An implement with a narrow, retouched projection. Includes multifacially retouched awls and unifacially retouched piercers as defined by Clark and Higgs (1960, 223), as well as short-pointed, unifacially retouched spurred pieces as defined by Smith (1965, 105).

### Discoidal knife (?F40)

A sharp-edged implement, generally of sub-circular outline, formed by bifacial retouch expanding all around its edges and sometimes over both surfaces. Often finished by polishing. Triangular, lozenge-shaped and quadrangular forms occur, especially among polished variants (Clark 1929).

## Notch (F26, F41)

A piece in the edge of which one or more indentations have been worked by abrupt or semi-abrupt retouch.

#### Denticulate (F67)

A piece at least one edge of which has coarse teeth formed sometimes by the working of contiguous notches, sometimes by the detachment of single flakes. Includes the more restricted classes of '(keeled) denticulated flakes' (Wainwright and Longworth 1971, 176) and 'denticulate scrapers' (Saville 1981a, 9).

## Saw (F63)

A coarsely serrated piece, its teeth often formed by the removal of two or more small flakes on either side (Smith 1965, 108).

## Serrated piece (M253, M417, F11-12)

A finely serrated piece, generally made on a blade, its teeth formed by the removal of a single chip on either side (Smith 1965, 91). This effect may be obtained by striking downward onto the edge of another flake held at right-angles to it.

### Burin (F13, ?F42)

An implement with a chisel-like edge formed by the intersecting angle between the bulbar end of a negative flake scar (or scars) and its platform (Saville 1981a, 8).

## Miscellaneous retouched piece (M123, M288, F14–15, F27–28, F43–47, F61)

Any retouched piece not included in the previous categories.

#### 'Fabricator' (F48, F62)

A uni- or bi-facially flaked, parallel-sided, generally blunt-ended implement, of plano-convex or biconvex section, sometimes heavily worn at its ends and occasionally along its sides. Includes all but the unilaterally retouched forms among 'rods' as defined by Saville (1981a, 10).

## Chapter 3. The Microwear Analysis by Rosemary Bradley

## I. Summary

The full report is published in Appendix II (microfiche).

All of the struck flint excavated during the second season was examined. Material from the surface and topsoil was so altered as to preclude microwear analysis, the main elements of attrition being wind gloss and solution, which together produced smooth, shiny surfaces and a 'greasy' texture, sometimes with rounded arrises and edges. Eighty-six pieces excavated from the wind-blown sand and from features, however, remained suitable for microwear analysis. These were either dull, matt and grainy, like freshly-fractured flint, or showed very slight traces of incipient glossy patination or white cortication.

Thirty-two of them proved to have wear traces. All are illustrated in Figures 62 and 63 and described briefly in the accompanying catalogue. Most used pieces are characterised by straight or convex edge plans, straight edge profiles, edge-angles in the range of 30°-50°, relatively large size, and thicknesses in the range 5mm-10mm (Tables 57-59 microfiche). Selection for large size, *i.e.* for flakes large enough to hold easily in the hand, corresponds to rare hafting traces and frequent handling traces.

Wood was the most commonly worked material, the others being, in order of frequency, bone or antler, meat or fresh hide, dried hide, cereals and wet vegetable material. Earlier Neolithic pit 22B contained one piece used to whittle and cut seasoned wood (102), one used to cut meat (88) and one used to scrape dry hide (96). There was a slight concentration of wood-working tools in the successive alluvial deposits of layers 6B, 7B, 9B and 11B, eight of the nine used pieces from which had been used for cutting, scraping or whittling wood.

## **II.** Catalogue of Used Pieces (Figs 62 and 63)

Find No	Cont (B)	Surf. Cat.	Edge	Mat. worked	Action	Other
23	2	fresh	Right(23°)	Dry fresh wood	Cutting	?haft
			Distal(49°)	Dry fresh wood	Cutting	
			Left(29°)	Dry fresh wood	Cutting	
38	2	1	Right(84°)	Dry fresh wood Scraping		
64	2	fresh	Left(58°)	Bone	Sawing	
			Right(54°)	Bone	Sawing	
81	2	fresh	Left(55°)	Bone or antler	Scraping	
88	22	fresh	Left(37°)	Meat	Cutting	
96	22	fresh	*Distal(89°)	Dry hide with lubricants	Scraping	handling
			Left(36°)		Cutting & scraping	
			Dorsal Plat(83°)	**	Scraping	
102	22	fresh	Right(55°)	Seasoned	Whittling	handling?

			Left(48°)	Seasoned	Cutting	
			Distal (-)	wood Seasoned	Cutting	
			2.10111 ()	wood	outling	
123	2	fresh	Right	Seasoned	transverse	
			Left upper(64°)	Seasoned	"	
				wood		
			Proximal Plat.	Seasoned	transverse	
			201041 (127)	wood	dansverse	
			*Distal (87°)	Seasoned	transverse	
143	11	1	Left (40°)	wood Fresh wood	Cutting	handling
			Distal (90°)	Fresh wood	Scraping	0
157	6	1	Distal (56°) Left distal(40°)	Fresh wood	Cutting	
161	11	1	Left (43°)	Seasoned	Cutting	
			D: (1(4(9)	wood	0	
			Distal (46°)	wood	Cutting	
163	11	1	Left (46°)	Dry fresh	Cutting	
103	2	freeh	Right (70°)	wood Fresh hide or	Cutting &	handling
175	2	nesn	Right (70)	meat	scraping	nanuning
			Left (70°)	"	Cutting	
202	17	1	Distal (40°) Right (55°)	Fresh hide or	Cutting	
202	17	1	Right (55)	T TESH WOOD	&	
221			Left (50°)	Fresh wood	scraping	
231	(-)	1	Left $(41^\circ)$ Right $(53^\circ)$	Fresh wood	Cutting	handling
253	54	fresh	Left (55°)	Wet veg.	Cutting &	handling
			. ,	matter	Whittling	. 0
258	2	fresh	Right $(35^\circ)$	" Fresh hide/	Cutting	handling
200	2	110511	Lett (44)	meat	Cutting	nanoning
			Right (50°)	Fresh hide/	Cutting	
262	2	frach	*T of (000)	meat	Cutting	handling
279	2	1	Right (48°)	Drv hide &	Cutting	nanding
				lubricants		
286	2	2	*Left (77°)	Bone &	Cutting	
288	2	fresh	Left (52°)	Cereals	Cutting	handling
200	2	2	*Right (30°)	Cereals	Cutting	
299 308	2	2	Left distal( $66^{\circ}$ )	Dry wood Dry hide &	Scraping	handling
	-		Dent(10)	lubricants	?reuse	mununing
315	83	fresh	*Distal (89°)	Fresh hide	Scraping	handling
			Right $(64^{\circ})$	Fresh hide	Cutting	
316	(-)	fresh	Right (43°)	Seasoned	Whittling	handling
331	7	fresh	Left (50°)	wood Dry fresh	Cutting	
551		nesn	Left (50)	wood	Outling	
			Right (40°)	Dry fresh	Cutting	
			Lower	Dry fresh	Scraping	
242	-	<b>c</b> 1	proximal (90°)	wood		
342	1	fresh	Left $(43^\circ)$	Dry fresh wood	Scraping	?handling
			Right (61°)	Dry fresh	Scraping	
251	7	2	*Distal (01%)	wood	Commine	haftad
551	7	2	"Distai (61)	lubricants	Scraping	naned
387	91	1	Distal (48°)	Bone	Cutting	
			Kight upper(88°)	Bone	Scraping/	
413	7	fresh	Left (67°)	Dry fresh	Whittling	handling
			D'-l+ (220)	wood	WT 'I'	0
			Right (33°)	Dry tresh wood	Whittling	
417	7	fresh	Distal (65°)	Dry fresh	Scraping	handling
			T of /160	wood	Devive	
			Lett (40°)	rresh wood	whittling	
S1	46	fresh	Left (37°)	Dry fresh	Cutting	handling
				wood		

Note

Figures in brackets refer to the edge angles of the used edges.

An asterisk (\*) before an edge indicates that it is retouched

'S' before any entry indicates that it comes from the wet sieving



Figure 62 Tattershall Thorpe Neolithic. Selected objects of flint with use-wear polish



Plate XIV Tattershall Thorpe Neolithic. A patch of shiny, smooth, striated natural 'friction gloss' on ventral surface at A of 143 (11). × 50 (R. Bradley)



Plate XV Tattershall Thorpe Neolithic. Edge microflaking caused by modern plough damage has removed shiny, patinated surface on this ventral surface of 314 (83) to reveal matt flint in the microscars. × 50 (R. Bradley)



Plate XVI Tattershall Thorpe Neolithic. Fresh wood polish which is extensive, smooth, bright and sleeked parallel to the edge from whittling, on ventral surface of 417 (7) at A.  $\times$  140 (R. Bradley)



Plate XVII Tattershall Thorpe Neolithic. Dry wood polish with more restricted development and less fluid aspect than Plate 16, here on ventral surface of 23 (2) at A.  $\times$  140 (R. Bradley)



Plate XVIII Tattershall Thorpe Neolithic. Small patch of localised shiny bone polish developed on upstanding area and strongly sleeked parallel to the edge on 262 (2) dorsally at A.  $\times$  140 (R. Bradley)



Plate XIX Tattershall Thorpe Neolithic. Diffuse meat polish which gives the flint surface a softer slightly dissolved aspect on dorsal surface of 258 (2) at A.  $\times$  140 (R. Bradley)



Plate XX Tattershall Thorpe Neolithic. Greasy, diffuse polish on rounded edge of knife 193 (2) from cutting fresh hide ventrally at A. × 140 (R. Bradley)



Plate XXI Tattershall Thorpe Neolithic. Extensive, well developed greasy, rough polish from scraping dry hide with lubricants, attrition has rounded and broadened the edge on 96 (22), dorsally at A. × 140 (R. Bradley)



Plate XXII Tattershall Thorpe Neolithic. Damage on proximal left lower edge of 315 (7) (u) at A from a haft. Considerable microscarring and crushing is visible and strongly sleeked bright, shiny wood polish. × 140 (R. Bradley)



Plate XXIV Tattershall Thorpe Neolithic. Sickle gloss on 288 (2) which has rounded and smoothed the surface and made it extremely reflective and bright, ventrally at  $A. \times 140$  (R. Bradley)



Plate XXIII Tattershall Thorpe Neolithic. Very reflective, smooth, shiny polish surface of 253 (4) produced by working wet vegetable matter which has also rounded the edge by dissolution, ventrally at A.  $\times$  140 (R. Bradley)



Plate XXV Tattershall Thorpe Neolithic. Original dull, matt surface of 221 (11) has been microscarred to reveal that the underlying flint is wet, lustrous and glassy in aspect due to heat treatment. Other evidence of thermal alteration is the heat crack to the right. Ventrally at A.  $\times$  50 (R. Bradley)



Figure 63 Tattershall Thorpe Neolithic. Selected objects of flint with use-wear polish

## Chapter 4. The Prehistoric Pottery by Frances Healy

Five hundred and sixteen sherds of prehistoric pottery, weighing 3.781kg have been examined, together with two pieces of fired clay. Their composition and incidence are summarised in Table 64, and illustrated pieces (Fig. 64) are described in Table 65 (microfiche).

## I. Condition

Most of the Neolithic and Early Bronze Age Pottery is badly preserved. Sherds are extremely friable and prone both to fracture and to crumble. Their surfaces are sometimes almost completely eroded (*e.g.* P16) and, even when they survive, are often pitted where fragments of temper have become detached (*e.g.* P5, P6, P11, P12, P17, P20). Pitting may sometimes mimic deliberate decoration, as where a large angular flint fragment has left a hollow in the neck of P5. Late Bronze Age/Early Iron Age pottery is generally better-preserved. There is a slight ferruginous deposit on many of the sherds from context 7B, due to the waterlogged or semi-waterlogged conditions from which they were excavated.

## **II.** Description

## **Neolithic Bowl**

This is the commonest prehistoric pottery style present, represented by rim sherds of at least 17 pots and other fragments of at least a further two.

## Fabric

On macroscopic examination, most of the bowls (14 of the 19 identified) seem to be tempered with angular flint fragments of varying size with a smaller proportion of sand. A further one (P6) seems to be tempered with flint particles alone. These are occasionally very large, as in P5 and P12, the largest visible flint fragment in P12 having a maximum dimension of 13mm. Most of the flint and sand-tempered pots are coarse-textured, although a minority (*e.g.* P3, P8, P17) are relatively fine and hard. The three remaining bowls (P4, P13, P16) are all of a smooth, dark, relatively soft fabric tempered with sand with a smaller proportion of grog. There are in addition eight body sherds of this fabric, seven from pit 5 and one from pit 4.

Context	Neo.	Bowl	Later N	eo/E.B.A	Late B.	A./E.I.A	Indet.	Prehist.	Fired	Clay	Illus.
	No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.	Pieces	Wt.	
1	1	10	2	10	15	40					P18, P37, P38
2	7	22	2	55	2	11	12	45			P1,P2,P19,P25,P26
4	2	30					11	65	1	8	P3
5	137	1040					10	20	1	5	P4-P13
7							1	5			
8	45	140									P14
17											
1											
5											
18			2	10							P22,P23
21							1	5			
25							1	5			
6B							2	22			
7B	2	10			12	81	32	228			P15,P27-P34
11B					1	5					P35
12B?							1	5			P35
18B					1	5	1	5			
20B			1	5							P24
22B	20	107					1	5			P16
25B							5	5			
48B							1	5			
49B	3	30									
54B							2	5			
59B					1	35	1	5			P36
80B							1	5			
84B			7	160							P20,P21
87B	18	125									P17
(1984)	8	75			143	1335					P39-P46
Totals	242	1579	13	240	162	1482	99	480	2	13	
Illus.	P1-P1	17,P46	P18	-P24	P25	5-P46					

Table 64. Composition and incidence of prehistoric pottery from Tattershall Thorpe. Crumbs excluded. Weights recorded in grammes. Sherds of less than 5g counted as 5g.

### Form

Classified according to the scheme used for Hurst Fen, Suffolk, and other subsequently published assemblages (Longworth 1960, 228), the rim forms are as follows, with P11 counted as an out-turned form.

Rim Form	Number	Examples
Simple	1	P7
Out-turned, including	9	P3, P5, P6, P8, P10, P11,
beaded		P12, P17, P46
Externally enlarged	1	P9
Expanded or reinforced	3	P4,P15,P16
T-shaped	-	
In-turned	1	P1
Fragmentary/unclassifiable	2	P14
Totals	17	

Determinable rim diameters cluster between 18cm and 22cm (P5, P8, P10, P11, P12, P16, P17), with two smaller bowls falling between 12cm and 14cm (P3, P4). This may perhaps reflect a functional division between 'cups' and 'bowls' (cf. Smith 1965, 49), although the number of pots involved is very small. The necks of four pots (P3, P5, P12, P17) are thickened below the rims. Determinable profiles are generally smooth and curvilinear, without carinations. Six pots (P3, P6, P8, P11, P12 and P46 were certainly unshould red, and others were probably so. Even the two shouldered bowls (P16, P17) have very smooth, rounded profiles. Only two pots (P3, P5) are of open form, with the maximum diameter at the rim; six (e.g. P4, P8, P11, P16, P17) are neutral, in Whittle's (1977, 77) sense of being approximately equal diameter below the rim.

## Decoration and Finish

The 184 sherds from the group of pits (4, 5, 7, 8) are undecorated but for a single incised line on a body sherd (P13). At least three bowls among them, however, have a slight external burnish (P4, P10, P17). Linear decoration is more frequent among the bowls from the larger excavated area to the north. The abraded rim of P16, from pit 22B, carries faint channelled or incised oblique lines. Similarly-executed vertical lines are present on what seem to be the straight necks of P2, from layer 2 and P15, from alluvial deposit 7B, although the single line on P15 may just possibly result from later damage. External burnish occurs on P17, from periglacial feature 81B.

## Later Neolithic and Early Bronze Age

Pottery of this period is much less frequent, being certainly represented by sherds of only seven pots (P18–P24).

## Fabric

P18–P24 are all grog-tempered, often in combination with some sand. The Grooved Ware sherds (P18, P20, P21) are dark in colour and not dissimilar in fabric to the sand and grog-tempered Neolithic bowls (P4, P13, P16). P22–P24, which are probably of rusticated Beaker, have oxidised orange surfaces and a more friable texture. P19 also has oxidised surfaces, and is exceptional in containing flint as well as grog.

### Form

P20 conforms to Longworth's Grooved Ware rim form 13a (1971, fig. 20). P23 is a base angle fragment.

## Decoration

Grooving occurs on P18, P20 and P21. P20 also carries applied strips and indeterminate impressions. It is difficult to tell if the rows of short, oblique strokes on P19 are incised or cord-impressed. Finger-pinching occurs on P22 and possibly on P24. The slight pitting of P23 may result from deliberate rustication or from erosion of temper.

## Late Bronze Age/Early Iron Age

Pottery of this period was recovered both from the second area excavated in 1981 and from the pit investigated to the north in 1984. The first group includes sherds of at least 16 vessels, of which 14 (P25–P38) are illustrated (Fig. 64). Most are from alluvial deposit 7*B*, and the small size of the sherds reflects their derived state. Many more sherds from the second 1981 excavation may be contemporary (see 'Indeterminate Prehistoric Pottery' below). The much larger second group consists of more substantial, better-preserved fragments, representing at least seven pots (including P39–P45).

## Fabric

Most of the pots are tempered with varying combinations of sand and angular flint particles. Flint is normally the main temper, but tends to be smaller and to be accompanied by a higher proportion of sand than among the Neolithic Bowl pottery, resulting in a generally harder and finer texture, although the two groups of fabrics are not entirely distinct. This is particularly true of the 1984 material which includes at least three coarse vessels (P42–P44), densely tempered with large fragments of angular flint. Among the 1981 material, colour ranges from black, especially among the hardest and finest sherds (*e.g.* P30, P32) to a dull orange-brown (*e.g.* P26). In the 1984 group, the finer vessels (P39–P41) tend to be orange-brown in colour, the coarse ones grey to black.

### Form

No complete pots can be reconstructed from the 1981 material. Morphological features include three simple rims (P28, P30, P38), five hollow necks (P26, P33, P35, P37, P38), eight shoulders with varying degrees of angularity (*e.g.* P25, P26, P27, P31, P35, P37, P38), and five flat bases (*e.g.* P29, P32, P34, P36). The 1984 group includes two upright necks (P39, P40), a fragmentary squared rim (unillustrated), a flat-based bowl (P41), a large vessel of uncertain profile (P42), a shouldered vessel (P43), and a further simple rim (P44). A flat base fragment (P45) may have formed part of P42, P43 or P44.

## Decoration

Among the 1981 material, finger-tipping occurs on three shoulder fragments (P26, P27, P37). There is impressed decoration on the necks of P33 and P35, and an incised line just above the base of P34. Decoration in the 1984 group consists of burnish on P39 and P41, slip or burnish on P40, and light fingering on P43 and, less certain<sup>1</sup>y, on P44 and P45.



Figure 64 Tattershall Thorpe Neolithic site pottery, P1–P38 (1981); P39–P46 (1984)

## **Indeterminate Prehistoric Pottery**

The bulk of this consists of small, abraded, featureless body sherds from the same contexts as and of fabrics comparable with the identifiable prehistoric pottery. Most are flint and sand-tempered, falling within the overlapping ranges of the Late Bronze/Early Iron Age pots and the majority of the Neolithic bowls. The two indeterminate prehistoric sherds from context 6B and the majority of the 32 from context 7B are of a hardness and sandiness much more characteristic of the Late Bronze/ Early Iron Age pottery from the latter context than of the Neolithic bowls from the site. Some of the context 7Bbody sherds are further distinguished by the presence of occasional fragments of chalk or quartz temper alongside the more usual flint and sand. Eight sherds from pit 4 are all of a coarse fabric tempered with grog and a little sand, with orange exterior and dark interior. They appear to have come from a single pot and are closest to the later Neolithic and Early Bronze Age fabrics, especially that of P23, but the lack of morphological features and the presence of some grog in a minority of the Neolithic bowls (P4, P13, P16) leave their date uncertain.

## **III. Stylistic Affinities**

### **Neolithic Bowl**

The small quantity of bowl pottery already published from Lincolnshire and South Humberside is plain, consisting of Grimston Ware from Skendleby (Phillips 1936, 78–79, figs 20, 21), Dragonby (May 1976, 43), and Walesby (Wilson 1971, 6); a thick-walled, S-profiled bowl from Great Ponton (Phillips 1935; May 1976, fig. 23); and indeterminate plain bowl sherds from Risby Warren (Riley 1978, 9, fig. 3: 2). Its affinities as a group lie with the large numbers of plain bowls, most of them of Grimston ware, found in Yorkshire and North Humberside (Newbigin 1937, 194; Manby 1975, 48–51), and with the much smaller quantities of comparable material known from adjacent parts of the north-east Midlands (Manby 1979, 146).

At Tattershall Thorpe, however, the area excavated in the second season yielded sherds of three bowls with lightly channelled or incised linear decoration (P2, P15 and P16). This is parallelled in the decorated bowl styles southern England, of which the nearest, of geographically and stylistically, is the Mildenhall style of East Anglia, defined by Smith (1954, 224-226) and Longworth (1960, 238-239). Their collective distribution has until recently seemed to end at a line formed by the rivers Welland and Avon (Smith 1974a, fig. 15; Whittle 1977, fig. 11). The Tattershall Thorpe material is one of a number of indications that it extends sporadically farther north. Sherds of a Mildenhall style bowl have been found at Wigber Low, Derbyshire (Vine 1982, 20, 321: no. 265). At least one bowl with linear decoration on the rim occurred at Newton Cliffs, on the Nottinghamshire/ Lincolnshire border (Garton, Phillips and Henson 1989, fig. 4.17: 81). Unpublished bowls from Dragonby, South Humberside, include at least three, one of them carinated, whose slightly expanded rims are decorated with short radial or oblique strokes like those on the rim of P16 (information from Peter Chowne). A superficially Mildenhall-like bowl from Normanby Park, South Humberside (Riley 1973, no. 5) is perhaps best not classed as such, since it and the plain bowl fragments from the site are of the same soft, vacuous fabric as the Peterborough Wares which predominate there and seem to form an homogenous assemblage with them (information from Rosamund Cleal).

It is not clear whether the rest of the bowl pottery from the site forms a single assemblage with these vessels. The 184 sherds from pits 4, 5 and 8 are almost without decoration (P3–P14). It may be significant that the two exceptional fragments from the group, an unusually heavy rim (P4) and a body sherd decorated with a single incised line (P13) are in a minority sand-and-grog tempered fabric which matches that of the Mildenhall style bowl from pit 22B (P16). The plain flint-and-sand tempered bowls from these pits and from elsewhere on the site have some of the characteristics of the plain wares normally associated with decorated bowls, notably a preponderance of closed and neutral forms over open ones. The frequency among them of both out-turned (as distinct from more elaborate) rims and slack, rounded profiles seems best parallelled in the Mildenhall Ware assemblages of the causewayed enclosures of Briar Hill, Northampton (Bamford 1985, 101-2) and Orsett, Essex (Kinnes 1978, 263).

Other characteristics of the Tattershall Thorpe plain wares are, however, more readily matched in the Grimston Ware tradition of eastern Britain, defined by Smith (1974a, note 24; 1974b, 31-33). These include the beaded rim of P17 and, most notably, the thickened necks of this pot and of P5 and P12. This feature occurs the large assemblage from Broome Heath, in Ditchingham, Norfolk (Wainwright 1972, P11, P152, P178, P267, P293, P403) and in smaller assemblages such as those from Fengate, Cambridgeshire (Smith 1974b, 33; Pryor 1974, fig. 6), Thirlings, Northumberland (Miket 1976, nos 31, 2, 48/9) and Sparham and Brettenham, Norfolk (Healy 1984a, P3, P6, P15, P16). Indeed, the overall forms of most of the plain bowls from Tattershall Thorpe are more readily parallelled among the Broome Heath material than among the plain wares of assemblages with decorated bowls. This is true not only of the two open forms (P3, P5), but also of neutral, S-profiled bowls like P8, P11 and P17 (cf. Wainwright 1972, P152, P153, P165, P167, P219, P270, P295). There is also a fairly close parallel for the closed, apparently globular, forms of P7 and P10 (Wainwright 1972, P293). All of these similarities, however, are with what would in previous decades have been called the 'Heslerton' element in the Broome Heath assemblage (Newbigin 1937, fig. 2; Piggott 1954, 114-115) rather than with the 'Grimston' element of fine, sharp-profiled carinated bowls of open, shallow form.

## Later Neolithic and Early Bronze Age

P20, the only partly reconstructable pot of this period, belongs to the Durrington Walls sub-style of Grooved Ware, defined by Wainwright and Longworth (1971, 240–242). Two further grooved sherds (P18, P21) are of similar fabric to P20 and are almost certainly of Grooved Ware. P19 may perhaps, but less certainly, belong to the same tradition. Grooved Ware of the southern British sub-styles, of which the Durrington Walls sub-style is one, has been found over most of England and in Scotland south of the Tay, with a marked easterly concentration (Wainwright and Longworth 1971, fig. 97; Manby 1974, fig. 1; Miket 1976, fig. 7.1).

Locally, sherds of Grooved Ware, some in the Durrington Walls sub-style, have been found on Risby, Manton and Crosby Warrens in South Humberside (Riley 1957, fig. 3: 13, 14; fig. 6: 34), at Salmonby, Lincs. (Wainwright and Longworth 1971, 241, 280), in the mound and ditch silts of a round barrow at West Ashby, Lincolnshire (Manby 1985, 113–6), and in the pits and post-holes of an occupation site at Barholm, Lincolnshire (Pryor 1978, 95–96). Regionally the most notable occurrence of Grooved Ware has been in the ditched enclosure systems of Fengate (Pryor 1978, 61–69). Other East Midland finds are listed by Manby (1979, 147; 1985, 116) and Pryor (1978, 94–95).

The decoration and fabrics of P22 and P24 and the fabric of P23 suggest that they may be of rusticated Beaker, although rustication and soft, grogged, orangecoloured fabrics also occur in other contemporary styles. Rusticated Beaker is abundant in the collections of later Neolithic and Early Bronze Age pottery from occupation sites in Risby, Manton and Crosby Warrens (Rilev 1957. 44, 50-54, pl. IX: 3, fig. 8), and has been found with other later Neolithic ceramics at Salmonby, Lincolnshire (information from Rosamund Cleal) as well as at West Ashby (Manby 1985, 116-121). Rusticated vessels formed part of Late Beaker assemblages at Newton Cliffs (Garton, Phillips and Henson 1989, fig. 4.16). There have also been several Beaker finds in the Tattershall Thorpe area (May 1976, fig. 33), including a reconstructable Northern British/North Rhine vessel, published as from Kirkby-on-Bain (Clarke 1970, corpus no. 453.1, fig. 291), which was in fact found some 120m west of the excavated area at Tattershall Thorpe.

## Late Bronze Age/Early Iron Age

The material excavated in 1981 and represented by P25-P38 is scant and fragmentary, and need not be of any single date. It is marked by the presence of angular, shouldered forms with, at least in four cases (P26, P27, P35, P37), fingernail or fingertip impressed decoration. The 1984 group is quite distinct. It includes only rounded profiles, in the form of straight-necked, possibly globular forms (P39, P40) a bowl (P41) and larger, coarser vessels. There is no impressed decoration, its place being taken by burnish (P39-P41) or shallow superficial fingering (P43 and, perhaps, P44-P45). Both groups seem to lie within Barrett's post Deverel-Rimbury tradition (1980, 302-6). The features of P25-P38 may be eclectically parallelled among the shouldered jars and bowls of assemblages such as those from Orsett, Essex (Barrett 1978, figs 39-42), Fengate, Cambridgeshire (Hawkes and Fell 1943, figs 5-9; Pryor 1980 fig. 61) and West Harling, Norfolk (Apling 1932, figs 1-51; Clark and Fell 1953, figs Those of P39-P45 may be parallelled in 10-17). assemblages such as those from Aldermaston Wharf and Knight's Farm, Berkshire (Bradley et al., 1980, figs 11-18, 31-36). Broadly contemporary local activity is evidenced by a concentration of Late Bronze Age metalwork just above the confluence of the Bain and Witham (Gardiner 1980, fig. 4), including an unpublished dispersed Late Bronze Age hoard from Tattershall Thorpe (information from Peter Chowne).

## **IV. Chronology**

## **Neolithic Bowl**

The Grimston and Mildenhall stylistic elements distinguished in the bowl pottery from the site were extremely long-lived, and the radiocarbon determination of  $4800 \pm 70$  BP HAR-4638 (3776-3390 cal. BC) from pit 5 falls within the currency of both. Determinations for the Grimston/Lyles Hill series, of which Grimston Ware is the English aspect, suggest that it was made and used c. 4200-3000 cal. BC (Herne 1988). The earliest determinations for the southern English decorated bowl tradition fall in the early fourth millennium cal. BC, suggesting that it developed rather later than the Grimston/Lyles Hill series (Smith 1974a, 108). Available dates for the Mildenhall style include determinations of 5095  $\pm$  49 BP (BM–134) from pits on Eaton Heath, Norwich (Wainwright 1973, 9); of 4453 ± 112 BP (BM-1214) and  $4585 \pm 82$  BP (BM–1215) from the primary silts of the Orsett causewayed enclosure (Hedges and Buckley 1978, 295) and of 4650  $\pm$  80 BP (BM–1532) and 4950  $\pm$ 120 BP (BM-1533) from pits on Spong Hill, Norfolk (Healy 1988, 104). Five determinations from ditch deposits at Briar Hill, Northampton, range from  $4780 \pm$ 120 BP (HAR-5271) to 4420  $\pm$  90 BP (HAR-5217) (Bamford 1985, 40-42, 127-8). Continued production up to the mid second millennium cal. BC is suggested by both Longworth (1960, 239) and Clarke (1970, 266-267), who see a reflection of European Bell Beaker decoration in the equal, narrow zones of hatching defined by horizontal lines found on a few atypical Mildenhall style bowls, including one from Hurst Fen (Longworth 1960, P46) and one from Lion Point, Essex (Warren et al., 1936, pl. XXXIX: 13). While all the Bowl pottery from Tattershall Thorpe may date from c. 3500 cal. BC, as the radiocarbon determination from pit 5 indicates, both the traditions represented were current for so long that the whole collection cannot be assumed to have been contemporary.

## Later Neolithic and Early Bronze Age

Radiocarbon determinations for the southern British Grooved Ware sub-styles are concentrated between *c*. 2500 and *c*. 1800 cal. BC, with only a few falling later or earlier (Healy 1984a, 112). The latter include determinations of  $4305 \pm 135$  BP (UB–457) and  $4255 \pm 135$  BP (UB–458) which are apparently to be related to Clacton sub-style Grooved Ware from Barholm, Lincolnshire (Simpson forthcoming). The impression of a mid third/early second millennium cal. BC *floruit* is confirmed by the main enclosure ditch sequence at Mount Pleasant, Dorset, where Grooved Ware is the main pottery style in the mid third millennium cal. BC primary silts but becomes progressively scarcer through successive deposits (Longworth 1979, 76–83, 90).

If P22–P24 are indeed of Beaker or Beaker-related wares, they are unlikely to date from before the later third millennium cal. BC (Kinnes *et al.* 1991). Even if the apparent early third millennium cal. BC date of two small sherds of All-Over-Cord Beaker incorporated into the mound of one of the Giant's Hills long barrows at Skendleby, 22km north-east of the site (Phillips 1936, 53,

fig. 22; Radiocarbon 11, 1969, 287), is accepted, as it is by Case (1977, 73) and May (1976, 63), there is so far no evidence that they represent a general introduction of the tradition into Britain.

Late Bronze Age/Early Iron Age Radiocarbon dates indicate that post Deverel-Rimbury pottery was current from the late second millennium cal. BC to the early first (Barrett 1976, fig. 17.1, appendix 2; Barrett 1980).

## Chapter 5. Discussion by Peter Chowne

Apart from the pioneering work of C.W. Phillips on the long barrows of the Wolds, little is known of the Neolithic in Lincolnshire (1932; 1936). Aerial photography has demonstrated that causewayed enclosures exist in the Welland Valley and more long barrows have been located on the Wolds (Everson, 1983). A number of small 'henges' have been recorded in the Bain Valley (Field, 1982) and at Harlaxton near Grantham (unpublished J. Pickering photographs). One possible henge, the first phase of a complex round barrow, has been excavated at West Ashby (Field, 1985). Later Neolithic pottery has been found in the Scunthorpe area (Riley, 1957, 1973, 1978; May, 1976) and at Great Ponton (Phillips, 1935).

When considered against this background the excavations at Tattershall Thorpe are of some significance. Although the remains were slight, consisting of pits, hearths and post-holes, an important collection of pottery was discovered in association with struck flint and carbonised material that has provided a radiocarbon date of 4800  $\pm$  70 BP HAR-4639 (3776-3390 cal. BC), indicating that the site was in use during the fourth millennium BC. How permanent this settlement was is unclear although one group of post-holes may represent the corner of a rectangular structure. If this interpretation is correct then the building was probably standing in isolation as has been suggested by Prvor (1974) for the Fengate example. However, intensive ploughing, particularly in Medieval times, has eroded the site to such a degree that any interpretation must be treated with caution.

With the exception of three pits, one containing Grooved Ware pottery and two later Bronze Age pottery, the evidence for later prehistoric activity was confined to the ploughsoil, field surface and alluvial layers adjacent to the river. This evidence was in the form of flint tools and waste fully discussed above.

Although the excavations at Tattershall Thorpe were, in many ways, inconclusive, a number of important issues arise that require consideration.

The flint scatter at Tattershall Thorpe extended to approximately 7.5ha with no apparent concentrations, although a gridded survey may have located clusters of particular artefact types. However, this is less likely on a field that has been subjected to ridge and furrow cultivation and modern intensive farming. Frances Healy has already drawn to attention the differing composition of the lithic collections from the upper levels of the site and the underlying features cut into the subsoil. This has serious implications for those engaged in fieldwalking surveys in this particular area at least. If, as has been suggested above, early Neolithic activity is most commonly represented by features cut into the subsoil, it seems unlikely that large scatters of surface material will be located during field survey. This may account for differing nature of surface scatters of flint located during the Bain Valley survey.

A number of discrete scatters of struck flint covering an area of approximately 20m x 20m were found in the upper part of the valley north of Horncastle. The flakes in these collections were generally blade-like in nature, perhaps indicating an early date. These scatters were very similar to those interpreted as Mesolithic containing microliths and blades. Although the fourth millennium occupants at the Tattershall Thorpe site had access to pottery and made typically Neolithic flint types such as leaf-shaped arrowheads, it is by no means certain that agriculture was being practised. Excavation of the flint scatters in the upper Bain Valley described above may reveal similar features to those found at Tattershall Thorpe, as was the case at Low Toynton (Chowne, 1988).

In addition to these discrete scatters a number of very extensive sites were located. These were similar in scale and composition to the Tattershall Thorpe scatter. At Calcethorpe a dense concentration of lithic material was located on clay with flints. The site extended along a prominent ridge dominated by an extant round barrow. Although this concentration is referred to as a site it was difficult to locate specific areas of high flint density or of specific artefact type. Covering an area of approximately 700m by 300m it is not easy to interpret this site. The nature of the lithic material does help though as there was a high percentage of waste material compared with finished objects. It is suggested that the clay with flints was being exploited for raw material with some knapping on site. The flint from the Lincolnshire chalk is not of good quality nor is the gravel flint from the river valleys and fen edge. The best quality flint in Lincolnshire comes from the clay with flints. As this is the area in which the soil still has a loessic content, it seems likely that it would have been favoured for Neolithic cultivation. The presence of arable fields may well have encouraged exploitation of this flint source.

The excavations at Tattershall Thorpe have demonstrated that a considerable amount of information can be obtained from flint scatters even when heavily ploughed, particularly when supported by field survey. Further work in the Bain Valley, which is threatened by mineral extraction and development, is essential and should be considered a major priority for those responsible for Lincolnshire's heritage.

## Bibliography

Anderson, P.C., 1980	'A testimony of prehistoric tasks: diagnostic residue on stone tool working edges', <i>World Archaeol.</i> 12, 181–194
Apling, H., 1932	'A Hallstatt settlement at West Harling, Norfolk', Proc. Prehist. Soc. East Anglia, 7, 111– 122
Bamford, H.M., 1982	'Beaker domestic sites in the fen edge and East Anglia', E. Anglian Archaeol. 16
Bamford, H.M., 1985	Briar Hill, Excavation 1974–1978 (Northampton Development Corporation Archaeological Monograph 3)
Barker, P., 1986	Understanding Archaeological Excavation (London, Batsford)
Barrett, J.C., 1976	'Deverel-Rimbury: problems of chronology and interpretation' in Burgess, C.B. and Miket, R. (eds), 'Settlement and Economy in the Third and Second Millennia B.C.', 289–307, <i>Brit. Archaeol.</i> <i>Rep.</i> 33 (Oxford)
Barrett, J.C., 1978	'The EPRIA pottery' in Hedges, J. and Buckley, D. 'Excavations at a Neolithic causewayed enclosure, Orsett, Essex, 1975', <i>Proc. Prehist.</i> <i>Soc.</i> 44, 268–288
Barrett, J.C., 1980	'The pottery of the Later Bronze Age in lowland England', Proc. Prehist. Soc. 46, 297–319
Barrett, J., Bradley, R. and Green, M., 1991	Landscape, Monuments and Society: The Prehistory of Cranborne Chase (Cambridge, University Press)
Bartlett, A. and David, A., 1976	'Hunstanton, Norfolk, magnetometer survey 1976', Ancient Monuments Laboratory Report 2096
Bell, M., 1977	'Excavations at Bishopstone, Sussex', Sussex Archaeol. Collect. 115, 1–299
Bell, M., 1981a	'Seaweed as a prehistoric resource', in Brothwell, D., and Dimbleby, G. (eds), 'Environmental aspects of coasts and islands' <i>Brit. Archaeol. Rep.</i> S94 (Oxford), 117–126
Bell. M., 1981b	'Valley sediments and environmental change', in Jones, M., and Dimbleby, G. (eds), 'The environment of man: the Iron Age to the Anglo-Saxon period', <i>Brit. Archaeol. Rep.</i> S87 (Oxford), 75–92
Bersu, G., 1940	'Excavations at Little Woodbury, part I', Proc. Prehist. Soc. 6, 30–111
Bond, D., 1985	'The pre-Iron Age pottery from the 1977 excavations', in Hinchcliffe, J., with Green, C.S., 'Excavations at Brancaster 1974 and 1977', <i>E. Anglian Archaeol.</i> 23, 62–71
Bradley, R., 1970	'The excavation of a Beaker settlement at Belle Tout, East Sussex, England', <i>Proc. Prehist. Soc.</i> 36, 312–379
Bradley, R., 1972	'The flint industry', in Holden, E., 'A Bronze Age cemetery-barrow on Itford Hill, Beddingham, Sussex', Sussex Archaeol. Collect. 110, 93–102
Bradley, R., 1975	'The Bronze Age occupation in its wider context', in Bradley, R., and Ellison, A., 'Rams Hill: a Bronze Age defended enclosure and its landscape', <i>Brit. Archaeol. Rep.</i> 19 (Oxford), 150–170

Bradley, R., 1984	The social foundations of prehistoric Britain (London, Longman)
Bradley, R. and Ellison, A., 1975	'Rams Hill: a Bronze Age defended enclosure and its landscape', <i>Brit. Archaeol. Rep.</i> 19 (Oxford)
Bradley, R.J., Lobb, S., Richards, J. and Robinson, M., 1980	'Two Late Bronze Age settlements on the Kennet gravel: excavations at Aldermaston Wharf and Knight's Farm, Burghfield, Berks', <i>Proc. Prehist. Soc.</i> 46, 217–296
Brewster, T.C.M., 1963	The excavation of Staple Howe (Wintringham, Malton, E. Riding Archaeol. Res. Comm.)
Briscoe, G., 1949	'Combined Beaker and Iron Age sites at Lakenheath, Suffolk', Proc. Cambridge Antiq. Soc. 42, 92–111
Briscoe, G., 1957	'Swale's Tumulus: a combined Neolithic A and Bronze Age barrow at Worlington, Suffolk', <i>Proc. Cambridge Antiq. Soc.</i> 50, 101–112
British Geological Survey, 1978	Sheet 145 and part of 129 Solid and Drift edition (London, British Geological Survey, 1:50,000 series)
Broadbent, N.D. and Knuttson, K., 1975	'An experimental analysis of quartz scrapers. Results and applications', <i>Fornvsnnen</i> 70, 113–28
Bull, G. and Payne, S., 1982	'Tooth eruption and epiphyseal fusion in pigs and wild boar', in Wilson, R., Grigson, C. and Payne, S., 'Aging and sexing animal bones from archaeological sites', <i>Brit. Archaeol. Rep.</i> 109 (Oxford), 55–71
Burgess, C., 1980	The Age of Stonehenge (London, Dent and Sons)
Burgess, C., 1986	""Urnes of no small variety": Collared Urns reviewed', Proc. Prehist. Soc. 52, 339-351
Burleigh, R., Hewson, A., Meeks, N., Sieveking, G. and Longworth, I., 1979	'British Museum natural radiocrbon measurements X', <i>Radiocarbon</i> 21 (1), 41–47
Calvocoressi, D., 1967	'Phillips site (Bronze Age) faunal remains', in Kelly, T.C., 'A series of Late Middle Bronze Age sites, Wilde Street, Mildenhall', <i>Proc. Suffolk</i> <i>Inst. Archaeol.</i> 31 (1), 53–55
Campbell Smith, W., 1965	'The distribution of jade axes in Europe with a supplement to the catalogue of those from the British Isles', <i>Proc. Prehist. Soc.</i> 31, 25–33
Case, H., 1977	'The Beaker culture in Britain and Ireland', in Mercer, R.J. (ed.), Beakers in Britain and Europe', <i>Brit. Archaeol. Rep.</i> S26 (Oxford), 71– 101
Chowne, P., 1988	'Aspects of Later Prehistoric Settlement in Lincolnshire: a Study of the Western Fen Margin and Bain Valley'. Unpublished Ph.D thesis, University of Nottingham
Chowne, P., forthcoming	'The Bain Valley Survey', Lincs. Hist. Archaeol.
Chowne, P. Girling, M. and Grieg, J., 1986	<sup>6</sup> Excavations of an Iron Age defended enclosure at Tattershall Thorpe, Lincolnshire <sup>2</sup> , <i>Proc.</i> <i>Prehist. Soc.</i> 52, 159–188

Chowne, P. and Healy, F., 1985	'A Neolithic Settlement at Tattershall Thorpe, Lincolnshire', Fenland Research, 2, 25–31	Drewett, P.L., 1981a	'The carved chalk', in Bedwin, O. and Aldsworth, F., 'Excavations at the Trundle', Sussex Archaeol Collect 119, 211
Clark, J.G.D., 1929	'Discoidal polished flint knives – their typology and distribution', <i>Proc. Prehist. Soc. E. Anglia</i> 6, 40–54	Drewett, P. L., 1981b	'The flint industry', in Bedwin, O., 'Excavations at the Neolithic enclosure on Bury Hill,
Clark, G., 1933	'Report on an Early Bronze Age site in the south- eastern fens', Antiq. J. 13, 266–296	D	Houghton, West Sussex, 1979, Proc. Prehist. Soc. 47, 77–79
Clark, J.G.D., 1932	'The date of the plano-convex knife in England and Wales', Antiq. J. 12, 158–162	Drewett, P. L., 1982	*Later Bronze Age downland economy and excavations at Black Patch, East Sussex', <i>Proc.</i> <i>Prehist. Soc.</i> 48, 321–400
Clark, J.G.D., 1934	'Derivative forms of the <i>petit tranchet</i> in Britain', Archaeol. J. 91, 32–58	Ellison, A., 1986	'Potential for prehistoric research', Bull. Sutton Hoo Res. Comm. 4, 39-41
Clark, J.G.D., 1936	'Report on a Late Bronze Age site in Mildenhall Fen, West Suffolk', <i>Antiq. J.</i> 16, 29–50	Elsdon, S.M., 1979	'Baked clay objects: Iron Age' in Wheeler, H., 'Excavation at Willington, Derbyshire, 1970– 1972' Derbyshire, Archaeol 7, 99, 58–220
Clark, J.G.D. and Fell, C.I., 1953	'The Early Iron Age Site at Micklemoor Hill, West Harling, Norfolk, and its pottery', Proc. Prehist. Soc. 19, 1–40	Evans, J.G., 1972	Land Snails in Archaeology (London, Seminar Press)
Clark, J.G.D. and Higgs, E.S., 1960	'Flint industry', in Clark, J.D., Higgs, E.S. and Longworth, I.H., 'Excavations at the Neolithic site at Hurst Fen, Mildenhall, Suffolk (1954, 1957 and 1958)', <i>Proc. Prehist. Soc.</i> 26, 214–226	Everson, P., 1983	'Aerial photography and fieldwork in north Lincolnshire', in Maxwell, G.S. (ed.), The Impact of Aerial Reconnaissance on Archaeology. <i>Counc. Brit. Archaeol. Res. Rep.</i> 49, London, 14–26
Clarke, D.L., 1970	Beaker Pottery of Great Britain and Ireland (Cambridge)	Fasham, P.J. and Ross, J.M., 1978	'A Bronze Age flint industry from a barrow site in Micheldever Wood, Hampshire', Proc.
Clarke, R.R., 1950	'Notes on recent archaeological discoveries in Norfolk (1943–8)', Norfolk Archaeol. 30 (2), 156– 159	Fell, C.I., 1952	Prehist. Soc. 44, 47–67 'A Late Bronze Age urnfield and Grooved Ware
Clarke, R.R., 1957	'Archaeological discoveries in Norfolk, 1949- 54', Norfolk Archaeol. 31 (4), 395-416		occupation at Honington, Suffolk', Proc. Cambridge Antiq. Soc. 45, 30–43
Cleal, R., 1984	'The Later Neolithic in eastern England', in Bradley, R. and Gardiner, J.P. (eds), 'Neolithic	Field, F.N., 1982	'West Ashby, henge monument', Lincs. Hist. Archaeol. 17, 76–77
	studies. A review of some current research', Brit. Archaeol. Rep. 133 (Oxford), 135–158	Field, F.N., 1985	'A multi-phased barrow and possible henge monument at West Ashby, Lincolnshire', <i>Proc.</i> <i>Prehist. Soc.</i> 51, 103–136
Cleal, R.M.J., 1985	'The Later Neolithic in eastern England', (unpubl. Ph.D. thesis, Univ. of Reading)	Flenniken, J.J. and Garrison, E.G.,	'Thermally altered novaculite and stone tool manufacturing techniques', <i>J. Field Archaeol.</i> 2, 145–24
McK. and Green, B., 1972	The petrological identification of stone implements from East Anglia', <i>Proc. Prehist.</i> Soc. 38, 108–155	1975 Ford, S., 1987	<sup>125–31</sup> <sup>(Chronological and functional aspects of flint</sup>
Coles, J.M., Heal, S.V.E. and Orme, B.J., 1978	'The use and character of wood in prehistoric Britain and Ireland', Proc. Prehist. Soc. 44, 1–45		M.R. (eds), 'Lithic analysis and later British prehistory, some problems and approaches,' <i>Brit. Archaeol. Rep.</i> 162 (Oxford), 67–83
Crabtree, D. E., 1972	An Introduction to Flint Working, Pocatello, Occasional Paper of Idaho State University Muscum, 28	Ford, S., Bradley, R., Hawkes, J. and Fisher, P., 1984	'Flint-working in the metal age', Oxford J. Archaeol. 3 (no.2), 157–173
Craddock, P.T., Gurney, D., Pryor, F. and Hughes, M.J., 1985	'The application of phosphate analysis to the location and interpretation of archaeological sites', <i>Archaeol. J.</i> 142, 361–376	Fowler, P., 1981	'Wildscape to landscape: "enclosure" in prehistoric Britain', in Mercer, R. (ed.), Farming Practice in British Prehistory (Edinburgh, University Press), 9–54
Cummins, W.A., 1979	'Neolithic stone axes: distribution and trade in England and Wales', in Clough, T.H. McK. and	Gardiner, J., 1980	'Land and social status – a case study from eastern England', in Barrett, J.C. and Bradley, B.L. (dc). Sortication and the British
	(London, Counc. Brit. Archaeol. Res. Rep. 23), 5–12		Later Bronze Age,' Brit. Archaeol. Rep. 83 (Oxford), 101–104
Cunliffe, B., 1974	Iron Age Communities in Britain (London, Routledge and Keagan Paul)	Gardiner, J., 1987	'The occupation 3500–1000 bc', in Cunliffe, B., Hengistbury Head, Dorset. Volume 1: the prehistoric and Roman settlement. 3500 BC-AD
Darby, H.C., 1940	The Medieval Fenland (Cambridge, University Press)		500 (Oxford University Committee for Archaeology Monograph 13), 22–47
Deniz, E. and Payne, S., 1982	'Eruption and wear in the mandibular dentition as a guide to aging Turkish Angora goats', in Wilson, R., Grigson, C. and Payne, S., 'Aging and sexing animal bones from archaeological sites, <i>Brit. Archaeol. Rep.</i> 109 (Oxford), 155–205	Garton, D., Phillips, P. and Henson, D., 1989	'Newton Cliffs: a flint-working and settlement site in the Trent valley', in Philips, P. (ed.), Archaeology and Landscape studies in North Lincolnshire, vol. ii, <i>Brit. Archaeol. Rep.</i> 208 (Oxford), 81–180

Gell, A.S.R., 1949	'Grooved Ware from West Runton, Norfolk', Antiq. J. 29, 81	Healy, F., 1985b
Gent, H., 1983	'Centralized storage in later prehistoric Britain', Proc. Prehist. Soc. 49, 243-267	Healy, F., 1986
Gibson, A.M., 1981	'A re-interpretation of Chippenham Barrow 5, with a discussion of the Beaker-asociated pottery', <i>Proc. Cambridge Antiq. Soc.</i> 70, 47–60	
Gibson, A.M., 1982	'Beaker Domestic Sites', <i>Brit. Archaeol. Rep.</i> 107 (Oxford)	Healy, F., 1987
Green, H.S., 1980	'The flint arrowheads of the British Isles', Brit. Archaeol. Rep. 75 (Oxford)	
Green, H.S. and Sofranoff, S., 1985	'A Neolithic settlement at Stacey Bushes, Milton Keynes', <i>Rec. Buckinghamshire</i> , 27, 10–37	Healy, F., 1988
Grant, A., 1982	'The use of tooth wear as a guide to the age of domestic ungulates', in Wilson, R., Grigson, C. and Payne, S., 'Aging and sexing animal bones from archaeological sites, <i>Brit. Archaeol. Rep.</i> 109 (Oxford), 91–108	Healy, F., forthcoming
Grigson, C., 1981	'Fauna', in Tinsley, H.M., 'The Bronze Age', in Simmons, I.G. and Tooley, M.J. (eds), <i>The</i> <i>Environment in British Prehistory</i> (London, Duckworth), 217–230	Healy, F. and Silvester, B., 1985–6
Grigson, C., 1982	'Porridge and pannage: pig husbandry in Neolithic England', in Limbrey, S. and Bell, M. (eds), 'Archaeological aspects of woodland ecology', <i>Brit. Archaeol. Rep.</i> S146 (Oxford), 297–314	Hedges, J. and Buckley, D., 1978
Grigson, C., 1983	<sup>6</sup> Mesolithic and Neolithic animal bones', in Evans, J.G. and Smith, I.F., 'Excavations at Cherhill, north Wiltshire, 1967', <i>Proc. Prehist.</i> <i>Soc.</i> 49, 64–72	Hedges, R.E.M., Housley, R.A., Bronk, C.R., and Van Klinken, G.J. 1991
Grigson, C., 1984	'The domestic animals of the earlier Neolithic in Britain', in Nobis, G. (ed.), <i>Die Anfange des</i> <i>Neolithikums vom Orient bis Nordeuropa</i> (Cologne, Bohlau Verlag)	Helbaek, H., 1952
Guilbert, G., 1981	'Double-ring roundhouses, probable and possible, in prehistoric Britain', <i>Proc. Prehist.</i> Soc. 47, 299–317	Tienk, n., 1766
Hawkes, C.F.C. and Fell, C.I., 1943	'The Early Iron Age settlement at Fengate, Peterborough', Archaeol. J. 100, 188–223	Hope-Taylor, B., 1977
Hayden, B., 1979	'The Ho Ho Classification and nomenclature committee report', in Hayden, B. (ed.), <i>Lithic Use-wear Analysis</i> , London, 135–35	Jackson, J.W., 193
Healy, F.M.A., 1980	'The Neolithic in Norfolk', (unpublished Ph.D. thesis, Univ. of London)	Iones G.G. 1983
Healy, F., 1982	'A chalk object from Feltwell', <i>Norfolk Archaeol.</i> 38 (2), 204–206	Jones, G.G., 1705
Healy, F., 1984a	'Farming and field monuments: the Neolithic in Norfolk', in Barringer, C. (ed.), Aspects of East Anglian Pre-history (Twenty Years After Rainbird Clarke), (Norwich, Geo Books), 77–140	Jones, G.G., 1986
Healy, F., 1984b	'Recent finds of Neolithic Bowl pottery in Norfolk', Norfolk Archaeol. 39 (1), 65–82	
Healy, F., 1984c	'Are first impressions only topsoil-deep? The evidence from Tattershall Thorpe, Lincolnshire', <i>Lithics</i> , 4, 28–33	Jones, G.G., 1989
Healy, F., 1985a	'The struck flint' in Shennan, S.J., Healy, F. and Smith, I.F., 'The excavation of a ring-ditch at Tye Field, Lawford, Essex', <i>Archaeol. J.</i> 142, 177–207	Jones, G.G., forthcoming a

Healy, F., 1985b	'Lithic assemblage variation in the late third and
	early second millennia bc in eastern England', <i>Lithics</i> 5, 10–18
	2111100 5, 10 10

Healy, F., 1986 'Pottery', in Petersen, F.F. and Healy, F., 'The excavation of two round barrows and a ditched enclosure on Weasenham Lyngs, 1972', in Lawson, A.J., 'Barrow excavations in Norfolk 1950-82', E. Anglian Archaeol. 29, 89-97

'Prediction or prejudice? The relationship Healy, F., 1987 between field survey and excavation', in Brown, A.G. and Edmonds, M. (eds), Lithic analysis and later British prehistory, some problems and approaches, Brit. Archaeol. Rep. 162 (Oxford), 9-17

Healy, F., 1988 'The Anglo-Saxon cemetery at Spong Hill, North Elmham. part VI: occupation during the seventh to second millennia BC', E. Anglian Archaeol. 39

Healy, F., 'The prehistoric occupation', in Rogerson, A., as forthcoming yet untitled report on excavations at Middle Harling, Norfolk, E. Anglian Archaeol.

Healy, F. and 'The Decoy Farm sandhill, Hockwold, Norfolk', Fenland Research 3, 59-63 Silvester, B.,

Hedges, J. and 'Excavations at a Neolithic causewayed Buckley, D., 1978 enclosure, Orsett, Essex, 1975', Proc. Prehist. Soc., 44, 219-308

'Radiocarbon dates from the Oxford AMS System: Archaeometry datelist 12', Archaeometry 33(1), 121-134 Van Klinken, G.J.,

Helbaek, H., 1952 'Early crops in southern England', Proc. Prehist. Soc. 18, 194-233

Herne, A., 1988 'A time and a place for the Grimston bowl' in Barrett, J.C., and Kinnes, I.A., (eds), The Archaeology of Context in the Neolithic and Bronze Age: Recent Trends (Sheffield, Department of Archaeology and Prehistory), 30-41

Hope-Taylor, B., Yeavering, an Anglo-British Centre of Early Northumbria (London, Department of the 1977 Environment Archaeological Reports 7)

Jackson, J.W., 1936 'Report on the animal remains' in Clark, J.G.D., 'Report on a Late Bronze Age site in Mildenhall Fen, West Suffolk', Antiq. J. 16, 33-34

Jones, G.G., 1983 'The animal bones', in Allen, D. and Dalwood, H.C., 'Iron Age occupation, a Middle Saxon cemetery and 12th-19th century urban occupation; excavations in George street, Aylesbury, 1981', Rec. Buckinghamshire 25, 17, 31-44, Pl. VIII and microfiche

'The animal bones', in Allen, D., 'Bierton, 1979: Jones, G.G., 1986 a Late Iron Age settlement and evidence for a Roman villa and a 12th-18th century manorial complex', Rec. Buckinghamshire 28, 38

Jones, G.G., 1989 'The animal bones', in Blockley, K., 'Prestatyn: an Iron Age and Romano-British industrial site in north Wales', Brit. Archaeol. Rep. 210 (Oxford) 211-221

> 'The animal bone', in Jones, M. and Allen, T., 'Excavations at Rough Ground Farm, Lechlade, Glos.

Jones, G.G., forthcoming b	s, G.G., 'Animal and Bird Bone' in Dallas, C. and Penn coming b K., 'Excavations in Thetford by Brian Davison between 1964 and 1970', <i>E. Anglian Archaeol.</i>		
Jones. M., 1980	'Carbonised cereals from Grooved Ware contexts', Proc. Prehist. Soc. 46, 61-64	Legge, A.J.,	
Jones, M.U. and Bond, D., 1980	'Later Bronze Age settlement at Mucking, Essex', in Barrett, J. and Bradley, R. (eds), 'The British Later Bronze Age,' <i>Brit. Archaeol. Rep.</i> 83 (Oxford), vol. 2, 471–482	Le Strange, H 1968	
Keeley, L.H., 1980	., 1980 Experimental Determination of Stone Tool uses: A Microwear Analysis (London)		
Keeley, L.H. and Newcomer, M.H., 1977	ley, L.H. and 'Microwear analysis of experimental flint tools: a vcomer, M.H., test case', <i>J. Archaeol. Sci.</i> 4, 29–62		
Kinnes, I., 1972	'Hunstanton', in Department of the Environment, Archaeological Excavations, 1971 (London, H.M.S.O), 10–11	Longworth, I 1971	
Kinnes, I., 1978a	'A Beaker burial on Ringstead Downs, Old Hunstanton', E. Anglian Archaeol. 8, 19–27	Longworth, 1 1979	
Kinnes, I., 1978b	'The earlier prehistoric pottery' in Hedges, J. and Buckley, D., 'Excavations at a Neolithic causewayed enclosure, Orsett, Essex, 1975', <i>Proc. Prehist. Soc.</i> 44, 259–268	Longworth, I 1981	
Kinnes, I., Gibson, A., Ambers, J., Bowman, S., Leese, M. and Boast, R.,	'Radiocarbon dating and British Beakers: the British Museum Programme', <i>Scottish Archaeol.</i> <i>Review</i> 8, 35–78	Longworth, I 1984	
1991 Lanting, J.N. and van der Waals, J.D., 1972	'British Beakers as seen from the continent, a review article', <i>Helinium</i> 12, 20–46	Longworth, I Wainwright, and Wilson, I 1971	
Larwood, G.P., 1970	'The Lower Cretaceous deposits of Norfolk', in Larwood, G.P. and Funnell, B.M. (eds), <i>The</i>	Longworth, I and Kinnes, I 1980	
L	of Norfolk, Norwich, Geological Society of Norfolk), 280–292	Longworth, I Ellison, A.B. Rigby, V., 19	
Lawson, A.J., 1979	A Late Middle Bronze Age hoard from Hunstanton, Norfolk', in Burgess, C. and Coombs, D. (eds), 'Bronze Age hoards, some finds old and new, <i>Brit. Archaeol. Rep.</i> 67 (Oxford), 42–71	Mallouf, R. J	
Lawson, A.J., 1980	'The evidence for Later Bronze Age settlement and burial in Norfolk', in Barrett, J. and Bradley, R. (eds), 'The British Later Bronze Age', Brit. Archaeol. Rep. 83 (Oxford) vol. 2, 271–294	Maltby, J.M.	
Lawson, A.J., 1983	'The archaeology of Witton, near North Walsham', E. Anglian Archaeol. 18	Manby, T.G.	
Lawson, A.J., 1984	'The Bronze Age in East Anglia with particular reference to Norfolk', in Barringer, C. (ed.), Aspects of East Anglian Pre-history (Twenty Years After Rainbird Clarke), (Norwich, Geo Books), 141–171	Manby, T. G. Manby, T. G.	
Lawson, A.J., 1986	'Barrow excavations in Norfolk 1950–82', E. Anglian Archaeol. 29	Manby, T. G.	
Lawson, A.J., Martin, E.A. and Priddy, D., 1981	'The barrows of East Anglia', E. Anglian Archaeol. 12	Manby, T. G.	
Leaf, C.S., 1936	'Two Bronze Age barrows at Chippenham, Cambridgeshire', Proc. Cambridge Antiq. Soc. 36, 134–155	Martin, E.A.,	

egge, A.J., 1981 a	'The agricultural economy', in Mercer, R.J., Grimes Graves, Norfolk. Excavations 1971–72: Volume I (London, Department of the Environment Archaeological Reports 11), 79– 103
egge, A.J., 1981 b	'Aspects of cattle husbandry' in Mercer, R. (ed.), Farming Practice in British Prehistory (Edinburgh, University Press), 169–181

e Strange, H., 'A collection of flint implements from the Hunstanton district', *Proc. Cambridge Antiq.* Soc. 61, 1–7

 Pottery', in Clark, J.D., Higgs, E.S. and Longworth, I.H., 'Excavations at the Neolithic site at Hurst Fen, Mildenhall, Suffolk (1954, 1957 and 1958)', Proc. Prehist. Soc. 26, 228–240

 Congworth, I.H.,
 'The Neolithic pottery', in Wainwright, G.J. and Longworth, I.H., Durrington Walls: Excavations 1966–1968 (London, Rep. Res. Comm. Soc. Antiq. 29), 48–155

ongworth, I.H., 'The Neolithic and Bronze Age pottery', in Wainwright, G.J., Mount Pleasant, Dorset: Excavations 1970–1971 (London, Rep. Res. Comm. Soc. Antiq. 37), 75–124

 <sup>6</sup>Neolithic and Bronze Age pottery' in Mercer, R.J., Grimes Graves, Norfolk. Excavations 1971– 72: Volume I (London, Department of the Environment Archaeological Reports 11), 39–59

> h, I.H., Collared Urns of the Bronze Age in Great Britain and Ireland (Cambridge)

worth, I.H., 'The Grooved Ware site at Lion Point, Clacton', wright, G.J. Brit. Mus. Quart. 35, 93–124 Wilson, K.E.,

agworth, I.H. Sutton Hoo Excavations 1966, 1968–70 (London, Kinnes, I.A., Brit. Mus. Occas. Pap. 23)

ngworth, I.H., Iison, A.B. and gby, V., 1988 The Neolithic and Bronze Age Pottery from Grime's Graves, Norfolk, (London, British Museum Grime's Graves fasicule II)

Mallouf, R. J., 1982 'An Analysis of plow-damaged chert artifacts: the Brookeen Creek cache 41H186, Hill County, Texas', J. Fld. Archaeol. 91, 79–98

Maltby, J.M., 1981 'Iron Age, Romano-British and Anglo-Saxon husbandry – a review of the faunal evidence', in Jones, M. and Dimbleby, G. (eds), 'The environment of man: the Iron Age to the Anglo-Saxon period', Brit. Archaeol. Rep. 87 (Oxford)

Manby, T.G., 1974 'Grooved Ware sites in the north of England', Brit. Archaeol. Rep. 9 (Oxford)

Manby, T. G., 1975 'Neolithic occupation sites on the Yorkshire Wolds,' Yorkshire Arch. J. 47, 23–59

Manby, T. G., 1979 'Neolithic and Bronze Age pottery' in Wheeler, H., 'Excavation at Willington, Derbyshire, 1970–1972', Derbyshire Archaeol. J. 99, 146–162

Manby, T. G., 1980 'Excavation of barrows at Grindale and Boynton, east Yorkshire, 1972', Yorkshire Archaeol. J. 52, 19–47

Manby, T. G., 1985 'The prehistoric pottery', in Field, N., 'A multiphased barrow and possible henge monument at West Ashby, Lincolnshire, Proc. Prehist. Soc. 51, 113–123

Martin, E.A., 1979 'Grooved Ware sherds from West Stow', Proc. Suffolk Inst. Archaeol. Hist. 34 (3), 205–6

Martin, E.A., 1981	'Archaeological excavations in Suffolk 1980', Proc. Suffolk Inst. Archaeol. Hist. 35 (1), 78-86	Piggott, S., 1931	'The Neolithic pottery of the British Isles', Archaeol. J. 88, 67–158	
Martin, E.A. and Murphy, P., 1988	'West Row Fen, Suffolk: a Bronze Age fen-edge settlement site', <i>Antiquity</i> 62 (235), 353–358	Piggott, S., 1954	The Neolithic Cultures of the British Isles (Cambridge)	
Martin, E.A., Plouviez, J. and Feldman, H., 1986	'Archaeology in Suffolk 1985', Proc. Suffolk Inst. Archaeol. Hist. 36 (2), 139–156	Pitts, M.W., 1978	'Towards an understanding of flint industries in post-glacial England', Univ. London Inst. Achaeol. Bull. 15, 179–197	
Martin, E.A., Plouviez, J. and Feldman, H., 1987	'Archaeology in Suffolk 1986', Proc. Suffolk Inst. Archaeol. Hist. 36 (3)	Poole, C., 1984	'Rectangular post-built structures', in Cunliffe, B., Danebury: an Iron Age hillfort in Hampshire. Vol. 1. The Excavations, 1969–1978: the Site (London Counc. Brit Archaeol Res. Perp. 52)	
May, J., 1976	Prehistoric Lincolnshire, History of Lincolnshire I, (Lincoln)	Powlesland D	(Echaoli, Could, Brit, Menacol, Res. Rep. 52), 87–110	
Megaw, J.V.S. and Simpson, D.D.A.,	Introduction to British Prehistory (Leicester)	1986	1978–82', Archaeol. J. 143, 53–173	
1979 Mercer, R.J., 1981	Grimes Graves, Norfolk, Excavations 1971–72:	1974 ryor, F.M.M.,	the First Report, Royal Ontario Museum Archaeology Monograph No. 3 (Toronto)	
	<i>Volume 1</i> (London, Department of the Environment Archaeological Reports 11)	Pryor, F., 1978	Excavation at Fengate, Peterborough, England: the Second Report, Royal Ontario Museum	
Miket, R., 1976	'The Evidence for Neolithic activity in the Milfield Basin, Northumberland', in Burgess, C. B. and Miket, R. (eds), 'Settlement and Economy in the Third Millennium B.C.' Brit. Archaeol. Rep. 33 (Oxford), 113–142	Pryor, F., 1980	Archaeology Monograph 5 (Toronto)Excavation at Fengate, Peterborough, England:theThirdReport,Northampton,NorthamptonshireArchaeologicalSociety	
Murphy, J. and Riley, J.P., 1962	'A modified single solution method for the determination of phosphate in natural waters',	Prvor, F., 1984	Monograph 1; Royal Ontario Museum Archeology Monograph 6 (Toronto) <i>Excavation at Fengate, Peterborough, England:</i>	
Murphy. P., 1986	'Appendix: summary environmental report', Norfolk Archaeol. 39 (3), 294–296		the Fourth Report Northampton, Northamptonshire Archaeological Society Monograph 2; Royal Ontario Museum Archaeology Monograph 7 (Toronto)	
Newbigin, N., 1937	'The Neolithic pottery of Yorkshire', Proc. Prehist. Soc. 3, 189-216	Pryor, F., 1985	'The flints', in Pryor, F.M.M. and French, C.A.I., 'Archaeology and environment in the	
Ozanne, P.C. and Ozanne, A., 1960	'The pre-barrow occupation', in Alexander, J. and Ozanne, P.C. and A., 'Report on the		lower Welland valley' Volume I, E. Anglian Archaeol. 27, 151–163	
	Down, Isle of Wight', Proc. Prehist. Soc. 26, 276–296	Purdy, B.A., 1974	'Investigations concerning the thermal alteration of silica minerals: an archaeological approach', <i>Tebiwa</i> , 17, 37–66	
Payne, S., 1985	'Morphological distinctions between the mandibular teeth of young sheep, Ovis, and goats, Capra', J. Archaeol. Sci. 12, 139–147	Richards, C. and Thomas, J., 1984	'Ritual activity and structured deposition in Later Neolithic Wessex', in Bradley, R. and Gardiner, J.P. (eds), 'Neolithic studies. A review of some current research' <i>Brit Archaeol Pap</i>	
Payne, S. and Bull, G., 1988	'Variation in measurements of pig bones and teeth, and the use of measurements to distinguish wild from domestic pig remains, <i>Archaeozoologia</i>	Piley D.N. 1957	(Neolithic and Bronze Age pottery from Pichy	
Peake, N.B. and	2 (Bordeaux), 27–66 'The Upper Cretaceous of Norfolk'. in Larwood.	Kiley, D.N., 1957	Warren and other occupation sites in North Lincolnshire,' Proc. Prehist. Soc. 23, 40–56	
Hancock, J.M., 1970	G.P. and Funnell, B.M. (eds), <i>The Geology of</i> <i>Norfolk</i> (Norwich, Geological Society of Norfolk), 293–339	Riley, D.N., 1973	'Neolithic site at Normanby Park', Lincolnshire Hist. Archaeol. 8, 51-60	
Pearson, G.W., Pilcher, J.R., Baillie, M.G.I.	'High-precision 14C measurement of Irish oaks to show the natural 14C variations from AD 1840 to 5210 BC' <i>Radiocarban</i> 28, pp. 2B, 911–934	Riley, D.N., 1978	'Risby Warren, an occupation site dating from the Mesolithic to the Early Bronze Age,' <i>Lincolnshire Hist. Archaeol.</i> 13, 5–11	
Corbett, D.M. and Qua, F., 1986	10 5210 DC , <i>Naturearon</i> 20, IN. 20, 711-754	Robertson-Mackay, M.E., 1980	'A "head and hooves" burial beneath a round barrow, with other neolithic and Bronze Age sites, on Hemp Knoll, near Avebury, Wiltshire',	
Petersen, F.F. and Healy, F., 1986	'The excavation of two round barrows and a ditched enclosure on Weasenham Lyngs, 1972', <i>E. Anglian Archaeol.</i> 29, 70–103	Robins, G.V.,	Proc. Prehist, Soc. 46, 123–176 'Identification of ancient heat treatment in flint	
Phillips, C.W., 1932	'The long barrows of Lincolnshire', <i>Archaeol. J.</i> 89, 174–202	Seeley, N.J., McNeil, D.A.C. and Symons, M.C.R 1978	artefacts by ESR spectroscopy', Nature, 276, 703-4	
Phillips, C.W., 1935	'Neolithic 'A' bowl from near Grantham', <i>Antiq.</i> <i>J.</i> 15, 347–348	Robins, G.V., Seeley, N.L.	'Manganese II as an indicator of ancient heat treatment in flint'. Archaeometry, 23, 103–7	
Phillips, C.W., 1936	'The excavation of the Giants' Hills Long Barrow, Skendleby, Lincolnshire', Archaeologia, 85, 37–106	Symons, M.C.R. & McNeil, D.A.C., 1981	,	

Robinson, T.R.,	'A survival of flake-technique in southern Rhodesia Man 38 208	Smith, I.F., 1965	Windmill Hill and Avebury (Oxford)
Roe, F.E.S., 1966	'The battle-axe series in Britain', <i>Proc. Prehist.</i>	Smith, I.F., 1974a	'The Neolithic', in Renfrew, C. (ed.), British Prehistory a New Outline (London), 100–127
Roe, F., 1968	Store mace-heads and the latest Neolithic cultures of the British Isles', in Coles, J.M., and Simpson, D.D.A. (eds), <i>Studies in Ancient Europe. Essays Presented to Stuart Pigeott</i>	Smith, I.F., 1974b	'The Neolithic pottery from Fengate, 1972' in Pryor, F., <i>Excavation at Fengate, Peterborough,</i> <i>England: the First Report</i> , 31–33. Royal Ontario Museum Archaeol. Monograph, 3 (Toronto)
Roe, F.E.S., 1979	(Leicester) 145–172 'Typology of stone implements with shaftholes', in Clough, T.H. McK. and Cummins, W.A. (eds.) Stone Are Studies (London, Counc. Brit	Smith, I.F., 1985	'The pottery' in Shennan, S.J., Healy, F. and Smith, I.F., 'The excavation of a ring-ditch at Tye Field, Lawford, Essex', <i>Archaeol. J.</i> 142, 165–177
	Archaeol. Res. Rep. 23), 23–48	Smith, R.A., 1921	'Hoards of Neolithic celts', Archaeologia 71, 113– 124
Saville, A., 1980 Saville, A., 1981 a	'Five flint assemblages from excavated sites in Wiltshire', Wiltshire Archaeol. Mag. 71/73, 2–27 Grimes Graves, Norfolk, Excavations 1971–72:	Soil Survey of England and Wales, 1973	<i>Soils of Norfolk 1:100,000</i> (Rothampstead, Soil Survey of England and Wales)
	Volume II the Flint Assemblage (London, Department of the Environment Archaeological Reports 11)	Stapert, D., 1976	'Some natural surface modifications on flint in the Netherlands', <i>Palaeohistoria</i> , 18, 7–41
Saville, A., 1981 b	ville, A., 1981 b 'The flint and chert artefacts', in Mercer, R.J., 'Excavations at Carn Brea, Illogan, Cornwall, 1970–73 – a Neolithic fortified complex of the	Stone, J.F.S., 1936	'An enclosure on Boscombe Down East', Wiltshire Archaeol. Natur. Hist. Mag. 47, 466– 489
Saville A 1985	'The flint assemblage', in Field, N., 'A multi-	Stone, J.F.S., 1937	'A Late Bronze Age habitation site on Thorny Down, Winterbourne Gunner, Wilts., 'Wiltshire Archaeol. Natur. Hist. Mag. 47, 640–659
	phased barrow and possible henge monument at West Ashby, Lincolnshire', <i>Proc. Prehist. Soc.</i> 51, 127–131	Stone, J.F.S. and Young, W.E.V., 1948	'Two pits of Grooved Ware date near Woodhenge', Wiltshire Archaeol. Natur. Hist. Mag. 52, 287–306
Schutt, J.A., 1979	'Post-depositional edge damage on lithic artefacts: An experiment in screening and laboratory processing', in Biella, J.V. and Chapman, R.C. (eds), 355–81. Archaeological Investigations in Cochiti Reservoir, New Mexico, Volume 4. Adaptive Change in the Northern Rio Grande Valley, Albuquerque, New Mexico	Stone, J.F.S., 1949	'Some Grooved Ware pottery from the Woodhenge area', Proc. Prehist. Soc. 15, 122-127
		Straw, A., 1960	'The limit of the ''last'' glaciation in north Norfolk', Proc. Geologists' Assoc. 71, 379–390
Semenov, S.A., 1964	Prehistoric Technology. An Experimental Study of the Oldest Tools and Artefacts from Traces of Manufacture and Wear (London)	Straw, A., 1966	'The development of the middle and lower Bain Valley, East Lincolnshire', <i>Inst. Brit. Geogr.</i> 40, 145–154
Shennan, S.J., 1985	'The animal bones', in Shennan, S.J., Healy, F., and Smith, I.F., 'The excavation of a ring-ditch	Tebble, N., 1976	British Bivalve Shells (2nd edition) (Edinburgh, H.M.S.O.)
Shennan, S.J.,	The excavation of a ring-ditch at Tye Field,	Thompson, G.A., 1986	'Carved chalk', in Drewett, P.L., 'The excavation of a Neolithic oval barrow at North Marden, West Sussex, 1982', <i>Proc. Prehist. Soc.</i> 52, 37–39
Smith, I.F., 1985	Lawiord, Essex , <i>Inclucion</i> , J. 172, 150–215	Thorpe, I.J. and	'The decline of ritual authority and the
Shepard, A.O., 1956	Ceramics for the Archaeologist (Washington, Carnegie Institution Publication 609)	Richards, C., 1984	introduction of Beakers into Britain', in Bradley, R., and Gardiner, J. (eds), 'Neolithic studies: a review of some current research', <i>Brit. Archaeol.</i>
Simpson, G.G., Roe, A. and Lewontin, R.C., 1960 Simpson, W.G., forthcoming	<i>Quantitative Zoology</i> , revised edition (New York) 'The excavation of a Late Neolithic settlement at Barholm, Lincs.', in Simpson, W.G., Gurney, D., Neve, J. and Pryor, F., 'Excavations in Peterborough and the lower Welland valley 1960–69', <i>E. Anglian Archaeol;</i> Fenland Project	Tringham D	Rep. 133 (Oxford), 67–84
		Cooper, G., Odell, G., Voytek, B. and Whitman, A., 1974.	damage: A new approach to lithic analysis', <i>J.</i> <i>Fld. Archaeol.</i> 1, 171–96
		Van der Veen, M., 1985	'Evidence for crop plants from north-east England: an interim overview, with a discussion of new results', in Fieller, N.R.J., Gilbertson, D.D. and Ralph, N.G.A. (eds) 'Palaeobiological
Smedley, N., and Owles, E., 1958	'Archaeology in Suffolk 1958', Proc. Suffolk Inst. Archaeol. 28 (1), 90–96		investigations', Brit. Archaeol. Rep. S266 (Oxford), 197–219
Smith, I., 1954	'The Pottery' in Childe, V.G. and Smith, I., 'Excavation of a Neolithic barrow on Whiteleaf Hill, Bucks.', <i>Proc. Prehist. Soc.</i> 20, 221–228	Vine, P. M., 1982	'The Neolithic and Bronze Age cultures of the middle and upper Trent Basin', British Archaeological Reports, 105 (Oxford)
Smith, I.F., 1956	'The decorative art of Neolithic ceramics in south-east England and its relations', (unpubl. Ph.D. thesis, Univ. of London)	Von den Driesch, A., 1976	'A guide to the measurement of animal bones from archaeological sites', <i>Peabody Mus. Bull.</i> 1 (Harvard)

Wainwright, G.J., 1971	'The flint industry', in Wilson, K.E., Longworth, I.H. and Wainwright, G.J., 'The Grooved Ware site at Lion Point, Clacton, <i>Brit.</i> <i>Mus. Quart.</i> 35, 117–123	Whitaker, W. and Jukes-Brown, B.A., 1899	The Geology of the borders of the Wash including Boston and Hunstanton (London, Memoirs of the Geological Survey England and Wales 69, Old Series)
Wainwright, G.J., 1972	'The excavation of a Neolithic settlement on Broome Heath, Ditchingham, Norfolk, England', <i>Proc. Prehist. Soc.</i> 38, 1–97	Whittle, A.W.R., 1977	'The Earlier Neolithic of Southern England and its Continental Background', <i>Brit. Archaeol.</i> <i>Rep.</i> S 35 (Oxford)
Wainwright, G.J., 1973	'The excavation of prehistoric and Romano- British settlements at Eaton Heath, Norwich', <i>Archaeol. J.</i> 130, 1–43	Whittle, A.W.R., 1982	'The flint industry' in Avery, M., 'The Neolithic causewayed enclosure, Abingdon', in Case, H.J. and Whitle, A.W.R. (eds), <i>Settlement Patterns in the Outer of Patterns in Fourier and the Outer and Patterns in Settlement</i> .
Wainwright, G.J., 1979	Mount Pleasant, Dorset: Excavations 1970–1971 (London, Rep. Res. Comm. Soc. Antiq. 37)		<i>Causewayed Enclosure and Other Sites</i> (London, Counc. Brit. Archaeol. Res. Rep. 44), 35–40
Wainwright, G.J. and Longworth,	Durrington Walls: Excavations 1966–1968 (London, Rep. Res. Comm. Soc. Antiq. 29)	Wiffhoft, J., 1967	'Glazed polish on flint tools', Amer. Antiq. 32, 383-88
Waller, M., 1988	'The Fenland project's environmental programme', Antiauity 62 (235), 336–343	Wilson, C. M., 1971	'Archaeological notes, 1970', Lincolnshire Hist. Archaeol. 6, 3–17
Warren, S.H., Piggott, S., Clark, I.G.D., Burkitt	'Archaeology of the submerged land-surface of the Essex coast', <i>Proc. Prehist. Soc.</i> 2, 178–210	Wymer, J.J., 1986	'Early Iron Age pottery and a triangular loom weight from Redgate Hill, Hunstanton', <i>Norfolk</i> <i>Archaeol.</i> 39 (3), 286–294

Yonge, C.M., 1949 The Sea Shore (London)

M.C. and Godwin, H. and M. E., 1936

124

## Index

County names after placenames are abbreviated as follows: (C)=Cambridgeshire; (L)=Lincolnshire; (N)=Norfolk; (S)=Suffolk

Abingdon (Oxfordshire), 34, 98 agriculture, 4, 68, 74, 77, 108 Iron Age, 72 Medieval, 82, 87, 88, 90, 93, 96, 117 air photography, 4, 77, 117 Aldermaston Wharf (Berkshire), 115 antler, 5, 7, 8, 29, 35, 60, 61, 64, 70, 96, 106 Arreton Down (Isle of Wight), 98 arrowheads, 31, 32, 33, 34, 35, 39, 87, 94, 95, 96, 97, 98, 104 Avon & Welland rivers, 114 awls, bone, 60 axes, xiv, 3, 29, 32, 35 Aylesbury (Buckinghamshire), 64 Bacton Wood Mill Farm, Edingthorpe (N), 54 Bain, River, 81, 93, 100 confluence with Witham, 115 Valley: Survey, 81, 117 Barholm (L), 53, 71, 115 barley, 68, 69 Barret Ringstead (N), 2 (Fig. 4), 8 barrows, xiv, 35, 57, 58, 71, 77, 98, 115, 117 Beaker pottery Middle period, 3 Late period, 3, 22, 33 at Hunstanton, xiii, xiv, 1, 3, 8, 26 (Fig. 29), 34, 35, 40, 49, 53-6 (Fig. 44), 60, 69, 70, 71, 73, 75-6, 77 at Tattershall Thorpe, 90, 98, 112, 115 Bierton, 63 Bishopstone (Sussex), 96 Black Patch (Sussex), 99, 100 blades, 9, 34, 35, 94, 98, 117 bone, 3, 60 (Fig. 46), 96, 106 bone, animal, 1, 5, 7, 18, 20, 27 (Fig. 30), 29, 60, 61–4, 70, 76, 90 cat, 61, 64, 70 cattle, 60, 61–3, 64, 72, 75, 76 deer, 5, 61, 64, 70 dog, 64 dolphin, 61, 64, 70 fish, 70, 72 horse, 64, 72 mouse, 61, 64, 70 pig, 5, 61, 63-4 (Fig. 48), 70, 72, 75, 76 sheep/goat, 61, 63, 64, 70, 72 vole, 61, 70 borers, 32, 39, 94, 95, 97, 104 Boscombe Down (Wiltshire), 98 Brancaster (N), 54, 56 Breckland (Norfolk/Suffolk), 76, 77 Brettenham (N), 114 Briar Hill, Northampton, 34, 98, 99, 100, 114, 115 British Columbia, 72 British Museum Phosphate Survey 1, 61, 62 (Fig. 47) Brinze Age, xii, 3, 7, 31, 60, 76, 100 Early, xiii, 71, 72, 73, 74, 75 Middle, 4, 71, 75, 77 Late, 3, 4, 74, 76–7 animal bones, 61, 63, 64 cereal remains, 69 features: Tattershall Thorpe, 88 (Pl. IX) flint/flint industries, 29, 33, 34, 35, 98 metalwork, xiv see also under pottery Broome Heath, Ditchingham (N), xiii (Fig. 2), 1, 76, 98, 99, 100, 114 Buckley, David, 1, 5, 7, 10 burials, 3-4, 34 barrows, xiv, 35, 57, 58, 71, 77, 115, 117 Beaker, xiv, 3, 54 Saxon, 81, 82, 87, 90 Bury Hill (Sussex), 99, 100 Calcethorpe, 117 Carn Brea (Cornwall), 96

cereals/grain, 8, 9, 10, 23, 27 (Fig. 30), 65, 68-9 (Fig. 49), 70, 71, 72, 74, 76, 94, 96, 106 charcoal, 3, 8, 10 (Fig. 10), 18, 65, 68, 76, 77, 87, 90 chisels, 31, 32, 33, 34, 35, 39 Clacton (Essex), 53, 96, 99, 100, 115 clay, 29, 117 clay/marl pits, 7 fired, 7, 10 (Fig. 10), 14, 18, 40-60, 70, 71, 111 hearths, 88 coal/coke, 22, 73 cockles, 5, 65 Collared Urn xiii, 3, 26 (Fig. 29), 40, 55 (Fig. 44), 58–9 (Fig. 45) pits with, 1, 7, 23–4, 29–31, 33, 34, 35, 53, 56–7, 71, 75–6 cores, 28, 29, 33, 35, 39, 87, 93, 94, 96, 98, 100 Cowell, Dr M. (British Museum), 1, 61 Creeting St. Mary (S), 34 crop-marks, 4 Crosby Warrens (South Humberside), 115 Danebury hillfort (Hampshire), 76 denticulates, 32, 39, 95, 97, 105 Deverel-Rimbury farmsteads, 77 Down Farm, Cranborne Chase (Dorset), 76 Dragonby (South Humberside), 114 Durrington Walls (Wiltshire), 49, 72, 75, 76, 98 Eaton Heath, Norwich (N), xiii (Fig. 2), 76–7, 115 Ecton (Northamptonshire), 99, 100 Environment, Department of the, 81 Fengate sites (C), xi, 33, 34, 35, 71, 75, 76, 77, 98, 99, 100, 114, 115, 117 Fimber Church (Yorkshire), 34 flakes, 5, 7, 35, 39, 72, 81, 87, 94, 95 (Fig. 57), 96, 97, 98, 100, 117 and blades 28, 29, 30-1 (Figs 31-2), 32, 33-4 (Fig. 33) see also under flint Flamborough (Yorkshire), 34 flint, xiv, 1, 10 (Fig. 10), 22, 24, 28-9, 75, 87, 107 (Fig. 62), 110 (Fig. 63) Neolithic, 4 Bronze Age, 4, 29, 33, 34, 35, 98 beach pebble, 33 flakes, 5, 7, 9, 10, 73, 81 struck, 1, 3, 7, 8, 35, 71, 90, 93-105 (Figs 58-61), 106, 117 industries/mining, 29, 33, 34, 35, 71, 88, 98 sickle, 34 worked, 18, 20, 23, 25 (Fig. 28), 35, 70, 72 food remains, 18, 20, 27 (Fig. 30), 70, 76 vessel, 3 see also bone, animal; cereals; hazelnuts; molluscs, marine Forest Products Research Laboratory, 72 Fulsby Mill (L), 90 Gayton Thorpe (N), 56 Giant's Hills long barrows: Skendleby (L), 115-16 Gilding, Mr Tony, 1, 5, 7 granaries, 76 Great Ponton (L), 114, 117 Grime's Graves, Weeting-with-Broomhill (N), xii, xiii (Fig. 2), 1, 33, 60, 63, 71, 75, 77, 99, 100 Grooved Ware and bone remains (Hunstanton), 60, 61, 70 discovery/distribution (Hunstanton), xi, xiii, 1, 22, 26 (Fig. 29), 40-53 (Figs 37-43), 71, 73, 75-6 flint/stone artefacts (Hunstanton), 7, 8, 28–37, 60, 70 and molluscs (Hunstanton), 66, 70, 74 Tattershall Thorpe, xi, 87, 90, 98, 112, 114–15, 117 Ground Farm, Lechlade (Gloucestershire), 76 hammerstones, 7, 29, 32, 33, 35, 100 Harlaxton, Grantham (L), 117 hazelnuts, 8, 69, 70, 87 Heacham (N): burial, 3

Heacham River, 4

hearths, 14, 87, 88, 90, 117 Hemp Knoll barrow (Wiltshire), 98, 99, 100 henge monuments, 35, 76, 117 Hengistbury Head (Dorset), 34 Heslerton (Yorkshire), 76 Historic Buildings and Monuments Commission, 81 Honington (S), 34 horn, 5 Horncastle (L), 117 Horncastle Canal (L), 81 Hurst Fen (S), xiii (Fig. 2), 96, 98, 99, 100, 112, 115 Icknield Way, 1 Ingol River (N), 4 Iron Age, xiii, 7, 33, 90, 93 Early: artefacts, 1 dating estimate, 75 overview, 72 settlements, 61, 62, 63 structures, 76-7 see also under pottery Itford Hill barrow (Sussex), 98 Kirkby on Bain (L), 81, 115 Kizilcahaman (Turkey), 64 Knight's Farm (Berkshire), 115 knives, 32, 33, 34, 35, 60, 96 Lawford (Essex), xiii (Fig. 2), 35, 75, 76, 77, 99, 100 Lewton-Braine, Mr C. H., 4 lime kilns, 7 Lion Point, Clacton (Essex), 53, 96, 99, 100, 115 lithic material, xiv (Fig. 3), 7, 28–39 (Figs 34–6), 70, 72, 92 see also flint; stone Little Woodbury (Wiltshire), 77 loom weight, 88 (Pl. IX), 90 Low Toynton, 88, 117 mace-heads, 20, 29, 32, 33, 34-5, 72-3 marl/clay pits, 7 Massingham (N), 56 Medieval period agriculture, 82, 87, 88, 90, 93, 96, 117 pottery, 40 Mesolithic Age, 35, 64, 70, 98, 117 metalwork, xiv (Fig. 3), 3, 115 microwear analysis 34, 96-7, 104, 106-10 (Pls XIV-XXV) Middle Harling (N), 34 Mildenhall: Fen (S), 75, 77 Mintlyn Wood, Bawsey (N), 58 molluscs, 64-8 land/woodland, 8, 22, 65, 66-8, 70, 71, 74 marine, 1, 9, 10 (Fig. 10), 20, 23, 27 (Fig. 30), 65-6 (Pl. IV) cockles, 5, 65 mussels, 5, 7, 8, 18, 24, 40, 65, 66, 70, 71, 74 oysters, 5, 40, 65, 70 Mount Pleasant (Dorset), 75, 99, 100, 115 Mucking (Essex), 77 mussels, 5, 7, 8, 18, 24, 40, 65, 66, 70, 71, 74 Neolithic, xii, xiii, 3, 34, 35, 40, 98 Tattershall Thorpe, 79-117 Later, 70-1 animal bone, 61-2, 63, 64 cereal remains, 68-9 flint and stone, 20, 33, 100 land molluscs, 66-8 structures, 75-7 see also under pottery Newark Road sub-site, Fengate (C), 33, 99, 100 Newcomer, Dr Mark, 96 Newton Cliffs (Notts/Lincs border), 114, 115 Norfolk Museums Service, 1 Norfolk Sites and Monuments Record, 5 Normanby Park (South Humberside), 114 North Carnaby Temple, Boynton (Yorkshire), 76 North Creake (N), 56 North Marden (Sussex), 35 Norwich Castle Museum, 7

Old Hunstanton (N), 57 Orsett (Essex), 114, 115 oysters, 5, 40, 65, 70 pantiles, 7 Peterborough Ware, xiii, 8, 26 (Fig. 29), 34, 40, 53-4, 55 (Fig. 44), 67, 70, 71, 74, 75-6, 98, 114 phosphate analysis, 77 enhancement, 70 survey 1, 61, 62 (Fig. 47) Pickering, J.: photographs, 117 pins, bone, 60 pits, 1, 5, 7, 8, 30-1, 35, 52, 60, 87, 88, 90, 93, 115, 117 plants/vegetation, 68-9 see also cereals; hazelnuts; woodland post-holes, 1, 7-24, 74-7, 81, 87-8, 117 flint/stone, 28, 29, 72-3 Iron Age settlement, xiii molluscs, 66-8 and pottery, 60, 71, 115 pottery, xiv (Fig. 3), 5, 20, 23, 33, 40–60, 66, 70, 93, 94–5, 99 prehistoric, xiv, 24, 26 (Fig. 29), 57–9 (Fig. 45), 111–16 Neolithic period, xiv, 90, 111 Early, 87, 93 Late, 114–16, 117 Neolithic Bowl, 3, 22, 88, 111–12, 114, 115 Bronze Age, xiii, xiv, 5, 26 (Fig. 29), 53, 57–9 (Fig. 45), 90, 93, 94– 5, 96, 114 Early, 111, 112, 114-16 Late, 111, 112, 115, 116, 117 Iron Age, 22, 72, 73, 75, 95, 96 Early, 111, 112, 114, 115, 116 Romano-British, 18, 22, 40, 58, 60, 73, 90, 94 Medieval, 40 Bucket Urn, 3-4 Clacton sub-style (Grooved Ware), 34, 46, 50-1, 52-3, 71, 115 Deverel-Rimbury, 3, 98, 115 post Deverel-Rimbury, 116 Durrington Walls sub-style (Grooved Ware), 34, 46, 49, 114–15 Ebbsfleet sub-style (Peterborough), 22, 53, 76 Grimston Ware, 3, 98, 114, 115 'Heslerton', 114 Mildenhall style, 114, 115 Mortlake sub-style (Peterborough), 53–4, 76 Woodlands sub-style (Grooved Ware), 34, 46, 51 see also Beaker pottery; Collared Urn; Grooved Ware; Peterborough Ware Prestatyn (Clwyd), 64 querns, 8, 29, 32, 33 radiocarbon dating, xi, 74-5, 94 bone, 7, 14 post-holes/pits, 74-5, 87-8, 90, 93, 117 pottery, 71, 115–16 Rams Hill (Berkshire), 8 Redgate Hill, Hunstanton, xii-xiv (Figs 1-3), 2 (Fig. 4) archaeological context, 2-4 (Figs 4-5) artefacts, 25-6 (Figs 28-9), 28-60 chemical/zoological/botanical, 61-9 geology, xiii-xiv (Figs 2-3), 1-3, 29 overview, 70-7 structures, xi, 5-27 (Figs 6-30; Pls I-III), 28, 29, 33, 35, 60, 71, 72-7 Reffley Wood, King's Lynn (N), 54, 56 Rhine style Beaker, 3, 115 Ringstead Downs (N), 54 Ringstead Parva (N), 2 (Fig. 4), 8 Risby, Manton (South Humberside), 115 Risby Warren (L), 114 Romano-British domestic pig, 64 pottery, 18, 22, 40, 58, 60, 73, 90, 94 sites, 62 Salmonby (L), 115 Sandlings (Suffolk/Essex), 76 Saxon period Late, 63

graves, 81, 82, 87, 90 scrapers, 7, 8, 30–1 (Figs 31–2), 32, 33, 34 (Fig. 33), 35, 39, 72, 75, 94, 96, 97, 98, 104 Scunthorpe (Humberside), 117 Seamer Moor (Yorkshire), 34, 64 shaft-hole implements, xiv, 3 Sheldrick, M. C. (British Museum), 64 Skendleby (L), 114, 115–16 Smallwood, Mrs E., 1, 5 Smallwood, Mr J. P., 1, 5 Smith, George, 1, 5, 7, 10 Snettisham (N): pottery found, 3 South Wootton Lane, King's Lynn (N), 56 Sparham (N), 114 spindle whorls, 34 Spong Hill, North Elmham (N), xiii (Fig. 2), 52, 75, 115 spoons, 58 Stacey Bushes, Milton Keynes, 88 Staple Howe (Yorkshire), 77 Star Carr, Seamer (Yorkshire), 64 stone, 10 (Fig. 10), 18, 20, 23, 24, 25 (Fig. 28), 76 discs, 23, 29, 32, 33, 35, 73 fragments, 8 implements, 3, 28–9 mace-heads, 20, 29, 32, 33, 34–5, 72–3 unworked, 33 worked, 70, 72 see also flint Storey's Bar Road, Fengate (C), 33, 34, 35, 71, 75, 76, 98, 99, 100 Stour valley (Essex), 77 structures: Hunstanton, xi, 5-27 (Figs 6-30; Pls I-III), 28, 29, 33, 35, 60, 71, 72-7 Sutton Hoo (Suffolk), 77

Tattershall Thorpe (L), xii (Fig. 1), 34, 79–117 (Figs 50–4; 62–3; Pls V–IX; XI–XIII) geology, 81, 88–90 (Figs 55–6; Pl. X), 94

microwcar analysis, 96–7, 104, 106–10 (Pls XIV–XXV) prehistoric pottery, 111–16 (Fig. 64) struck flint, 93–105 (Figs 57–61) Tay, River, 114–15 textiles, 76 Thetford (N), 63 Thirlings (Northumberland), 114 Thorny Down (Wiltshire), 98 Trundle (Sussex), 35 Trust for Lincolnshire Archaeology, Sleaford (L), 81 Turkey: wild boar, 64 Tye Field, Lawford (Essex), xiii (Fig. 2), 35, 75, 76, 77, 99, 100

#### urns, 3-4, 5, 7

Walesby, 114 Wash, the, 1, 3, 5, 54, 65, 71 Weasenham Lyngs (N), 60, 75, 99, 100 Welland: river and valley, 114, 117 Wessex, 3, 35 West Ashby (L), 115, 117 West Harling (N), 115 West Row Fen, Mildenhall (Suffolk), 77 West Runton (N), 52 wheat, 69, 70 Whipsnade (Bedfordshire), 64 Wigber Low (Derbyshire), 114 Windmill Hill (Wiltshire), 34, 35, 60, 96, 98 Witham & Bain river confluence, 115 Witton (N), 54 wood/wood-working, 23, 88, 90, 96, 106 woodland, 69, 72, 75 molluscs, 8, 22, 65, 66–8, 70, 71, 74 Woodlands, Amesbury (Wiltshire), 76

Yeavering (Northumbria), 76 Yorkshire Wolds, 35, 76, 98

	East Anglian A	rchae	cology sored by the Scole Archaeological Committee	Report No.31,	1986	Norfolk: Settlement, religion and industry on the Fen-edge; three Romano-British
	I td The Norfolk.	Suffoll	and Essex Units, the Norwich Survey and			sites in Norfolk
	the Fenland Project	t will all	be contributing volumes to the series. It will	Report No.32,	1987	Norfolk: Three Norman Churches in
	be the main vehic	cle for	publishing final reports on archaeological			Norfolk
	excavations and sur	veys in	the region.	Report No.33,	1987	Essex: Excavation of a Cropmark
						Enclosure Complex at Woodham Walter,
	Copies and inform	nation a	about the contents of all volumes can be			Essex, 1976 and An Assessment of
	obtained from:			Report No 34	1987	Norfolk: The Anglo-Sayon Cemetery at
	Contro of Fost Ang	lion Stu	dies	Report 110.5 1,	1707	Spong Hill, North Elmham, Part IV:
	University of East	Anglia.	incs,			Catalogue of Cremations
	Norwich, NR4 7T	I		Report No.35,	1987	Cambridgeshire: The Fenland Project
						No.2, Fenland Landscapes and
	or directly from the	e Archa	eology Unit publishing a particular volume.			Settlement between Peterborough and
	-	c		Report No 36	1087	March Norfolk: The Angle Seven Comptons at
	Reports available so	far:	C. (C. 1).	Report 140.50,	1907	Morning Thorpe, Norfolk: Catalogue
	Report No.1,	1975	Norfolk: various papers	Report No.37,	1987	Norwich: Excavations at St Martin-at-
	Report No.2,	1970	Suffolk: various papers			Palace Plain, Norwich, 1981
	Report No.4,	1976	Norfolk: Late Saxon town of Thetford	Report No.38,	1987	Suffolk: The Anglo-Saxon Cemetery at
	Report No.5,	1977	Norfolk: various papers on Roman sites			Westgarth Gardens, Bury St Edmunds,
	Report No.6,	1977	Norfolk: Spong Hill Anglo-Saxon	D N 20	1000	Suffolk: Catalogue
			cemetery	Report No.39,	1988	Nortolk: The Anglo-Saxon Cemetery at
	Report No.7,	1978	Norfolk: Bergh Apton Anglo-Saxon			VI: Occupation during the 7th 2nd
	Demont Ma 9	1079	cemetery			millennia BC
	Report No.8,	19/8	Norfolk: Various papers	Report No.40,	1988	Suffolk: Burgh: The Iron Age and Roman
	Report No. 10.	1980	Norfolk: village sites in Launditch	· · · · · · · · · · · · · · · · · · ·		Enclosure
	Report 10.10,	1700	Hundred	Report No.41,	1988	Essex: Excavations at Great Dunmow,
	Report No.11,	1981	Norfolk Spong Hill, Part II			Essex: a Romano-British small town in the
	Report No.12,	1981	The barrows of East Anglia	D	1000	Trinovantian Civitas
	Report No.13,	1981	Norwich: Eighteen centuries of pottery	Report No.42,	1988	Essex: Archaeology and Environment in
	D	1002	from Norwich			the Grav's By-pass 1979/80
	Report No.14,	1982	Norfolk: various papers	Report No.43.	1988	Essex: Excavation at the North Ring.
	Report No.15,	1962	1978. Part I			Mucking, Essex: A Late Bronze Age
	Report No.16,	1982	Norfolk: Beaker domestic sites in the Fen-			Enclosure
	1		edge and East Anglia	Report No.44,	1988	Norfolk: Six Deserted Villages in Norfolk
	Report No.17,	1983	Norwich: Waterfront excavations and	Report No.45,	1988	Norfolk: The Fenland Project No. 3,
	-		Thetford-type Ware production, Norwich	Peport No. 46	1090	Marshand and the Nar Valley, Norfolk
	Report No.18,	1983	Norfolk: The archaeology of Witton	Кероп 110.40,	1707	of Thuxton, Norfolk
	Report No.19,	1985	pottery groups from Fulmodeston	Report No.47,	1989	Suffolk: West Stow, Suffolk: Early Anglo-
	Report No.20.	1983	Norfolk: Burgh Castle: excavation by	an an the product of the second se		Saxon Animal Husbandry
	100000000000000000000000000000000000000		Charles Green, 1958–61	Report No.48,	1990	Suffolk: West Stow, Suffolk: Prehistoric
	Report No.21,	1984	Norfolk: Spong Hill, Part III	D	1000	and Romano-British Occupation
	Report No.22,	1984	Norfolk: Excavations in Thetford, 1948–	Report No.49,	1990	Norfolk: The Evolution of Settlement in Three Parishes in South Fast Norfolk
	D	1005	59 and 1973–80	Report No 50	199*	The Flatlands and Wetlands: Current
	Report No.23,	1985	Noriolk: Excavations at Brancaster 1974	10.50,	177	Themes in East Anglian Archaeology
	Report No. 24.	1985	Suffolk: West Stow, the Anglo-Saxon	Report No.51,	1991	Norfolk: The Ruined and Disused
	100021,	1705	village			Churches of Norfolk
	Report No.25,	1985	Essex: Excavations by Mr H.P. Cooper on	Report No.52,	1991	Norfolk: The Fenland Project No. 4, The
	_		the Roman site at Hill Farm,	D	1002	Wissey Embayment and Fen Causeway
			Gestingthorpe, Essex	Report No.53,	1992	Noriolk: Excavations in Thetford 1980–
	Report No.26,	1985	Norwich: Excavations in Norwich 1971–	Report No 54	1997	Norfolk: The Iron Age Forts of Norfolk
	Peport No. 27	1085	78; Part II Cambridgeshire: The Fenland Project	Report No.55,	1992	Lincolnshire: The Fenland Project No. 5.
	Report No.27,	1965	No.1. Archaeology and Environment in			The South-West Lincolnshire Fens
			the lower Welland valley	Report No.56,	1992	Cambridgeshire: The Fenland Project No.
	Report No.28,	1985	Norwich: Excavations within the north-			6, The South-Western Cambridgeshire
	1201 (Contraction of Contraction of		east bailey of Norwich Castle, 1978	Denert M. 57	1002	Fenlands
Report No.29, 1986 Norfolk: Barrow excavations in Norfolk,		Report No.5/,	1993	Redgate Hill Hunstanton, and Tatton-11		
1950-82 Demont No. 20 1086 Norfolly Englished at Themelium				Thorpe		
	Report No.30,	1990	Warham Wighton and Caistor St			P*
			Edmund, Norfolk			



# Contents

EXCAVATIONS ON REDGATE HILL, HUNSTANTON, NORFOLK, 1970 and 1971 EXCAVATIONS AT TATTERSHALL THORPE, LINCOLNSHIRE, 1981 and 1984

ISBN 0 905594 10 X

11

0 948639 09 1