GOLTHO
The development of an early medieval manor
c 850–1150

Guy Beresford
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Contents

List of illustrations........................................... vii
Preface.................................................................. x
1 Introduction ................................................... 1
   Location and local topography ............................ 1
   Sites of the deserted settlements in Goltho and Bullington .. 5
   Goltho deserted medieval village ....................... 5
   Bullington deserted medieval village ................... 6
   Bullington Priory ........................................... 6
   The earthwork castle by Bullington Priory ............ 7
   Goltho Hall ................................................ 7
   Bullington Hall .......................................... 7
   The discovery of the Goltho earthworks and the events which led to their excavation .. 7
   Method of excavation ...................................... 8
Photography .................................................... 8
Summary of excavation ....................................... 8
   Periods 6-7: c 1080-1150 ................................ 10
   Period 5: c 1000-1080 ..................................... 10
   Period 4: c 950-1000 ...................................... 12
   Period 3: c 850-950 ....................................... 12
   Period 2: c 800-850 ....................................... 12
   Period 1: c 50-200 ......................................... 14
Buildings and fortifications ................................ 14
Notes ................................................................... 14
2 Periods 1 and 2: Romano-British and middle Saxon settlements ........................................... 15
   Period 1: Romano-British settlement, c 50-200 .......... 15
      The farmstead: phase 1, c 50-100 .................... 16
      The farmstead: phase 2, c 100-200 ................... 16
      Circular huts A-C, c 50-200 .......................... 16
      Hut A, c 50-100 ......................................... 16
      Hut B, c 100-150 ........................................ 17
      Hut C, c 150-200 ........................................ 17
      Reconstruction of huts A-C ............................. 19
      Wattle and daub walls ................................... 19
      Stave walls .............................................. 20
      The roof .................................................. 20
      Period 2: middle Saxon settlement, c 800-850 ....... 22
      Phase 1 .................................................. 24
      Phase 2 .................................................. 24
      House 1 .................................................. 25
      House 2 .................................................. 25
      Reconstruction of middle Saxon houses .......... 26
Notes ................................................................... 28
3 Period 3: ninth-century fortified earthwork enclosure, c 850-950 ........................................... 29
   The fortifications .......................................... 30
   Excavation of the interior ................................ 38
      The long hall ............................................ 38
      Phases 1-2, c 850-950 .................................... 38
      Phase 2 .................................................. 42
      The house shape ....................................... 45
      The design and reconstruction of the hall, c 850 .. 47
      The walls ................................................ 47
      Doorways ................................................. 49
      Windows .................................................. 49
      Wall plates, tie beams, and roof ..................... 49
      The bower .............................................. 52
      The first bower ....................................... 54
      Reconstruction of the first bower ................... 54
      The second bower .................................... 54
      The weaving shed ..................................... 55
      The first weaving shed, c 850 ....................... 57
      Reconstruction of the ninth-century weaving shed ... 57
      The kitchens ........................................... 59
      Reconstruction of the first kitchen ................. 59
      The second kitchen .................................... 59
      The midden pit ........................................ 59
Notes ................................................................... 59
4 Period 4: tenth-century fortified enclosure, c 950-1000 ........................................... 61
   The halls, phases 1 and 2 .................................. 63
      Hall 1 ..................................................... 63
      Hall 2 ..................................................... 63
      Reconstruction of the halls ............................ 63
      The Goltho aisled halls: their predecessors and successors .. 64
      The bowers ............................................. 68
      The weaving sheds .................................... 68
      The kitchens .......................................... 69
      Kitchen 1 .............................................. 69
      Reconstruction of kitchen 1 ............................. 69
      Kitchen 2 .............................................. 69
Notes ................................................................... 70
5 Period 5: eleventh-century fortified enclosure, c 1000-1080 ........................................... 71
   The defences ................................................. 72
      The postern gate ....................................... 72
      Interpretation of the defences ......................... 72
   Pathways ..................................................... 72
   The hall ...................................................... 74
      Reconstruction of the hall ............................. 75
      The principal posts .................................... 76
      The roof .................................................. 77
      The bower .............................................. 78
      Reconstruction of the bower ............................ 79
      The eastern building ................................... 79
      Reconstruction of the eastern building .......... 80
      Northern building 1 ................................... 82
      Northern building 2 ................................... 82
      Kitchen 1 .............................................. 83
      Reconstruction of kitchen 2 ............................. 84
      Notes ..................................................... 84
6 Period 6: motte and bailey castle, c 1080-1150 ........................................... 85
   The plan of the castle ...................................... 86
   The moat ..................................................... 87
      The shape and size of moats before and after the Norman Conquest .. 89
      The ramparts ............................................. 89
      The bridges .............................................. 90
      Reconstruction of the bridges ......................... 91
      The gatehouse ......................................... 92
      The motte .............................................. 94
      The origins and construction of mottes in north-west Europe .. 94
      Excavation and interpretation of the motte at Goltho .... 100
      The tower .............................................. 103
      The bailey .............................................. 106
      The halls, phases 1 and 2 .................................. 106
      Phase 1 .................................................. 106
      Reconstruction of phase 1 hall ....................... 108
      Phase 2 .................................................. 109
Notes ................................................................... 110
List of illustrations

Fig 1 Map of part of Lindsey, Lincolnshire, showing the position of Goltho and some places mentioned in the text
Fig 2 Map of parts of Goltho and Bullington showing the position of Goltho deserted medieval village, Goltho manor site, Bullington Priory, and the adjacent fortified earthwork enclosure
Fig 3 Map showing the position of Goltho and surrounding deserted and shrunken medieval settlements
Fig 4 Goltho: plan of deserted medieval village, showing the positions of crofts 1-37 including excavated crofts A-C, the church, and the manor
Fig 5 Goltho: aerial photograph looking west, showing the earthworks of the deserted medieval village, the castle mound, and the church
Fig 6 The church of St George, Goltho, from the south
Fig 7 Goltho: periods 1-5, showing superimposed levels of occupation dating from c AD 50-100 lying within the area defined by the moat of the twelfth-century motte and bailey castle
Fig 8 Goltho: periods 6-7, c 1080-1150, showing the moated motte and bailey castle and the later superimposed castle mound
Fig 9 Goltho halls, periods 2-7
Fig 10 Comparative plans of timber halls
Fig 11 Castle mound, Goltho: aerial photograph looking west, showing detail of the Norman earthworks lying within the early eleventh-century ramparts
Fig 12 Periods 1-2: view looking south of the remains of the Romano-British huts, of the middle Saxon houses and their boundaries, and of the footings of the postholes cut from higher levels
Fig 13 Periods 1-2: Romano-British and middle Saxon levels
Fig 14 Periods 1-2: interpretation
Fig 15 Detail of Romano-British huts and trenches
Fig 16 Interpretation of Romano-British remains
Fig 17 Plan and section of a Nandi house in Africa showing the earth-fast wall posts encased with clay and wattles
Fig 18 Plan of a stave-built Kikuyu house in Africa
Fig 19 Reconstruction of Romano-British huts
Fig 20 Reconstruction of huts A and B
Fig 21 Period 2: middle Saxon houses and boundaries
Fig 22 Middle Saxon houses 1 and 2
Fig 23 Reconstruction of timber-laced clay wall
Fig 24 Reconstruction of house 2, c 825-850
Fig 25 Periods 3-4: view looking south of the remains of superimposed halls and associated domestic offices, c 850-1000
Fig 26 Periods 3-4: superimposed halls and domestic offices, c 850-1000
Fig 27 Periods 3-6: superimposed halls, c 850-1125
Fig 28 Period 3, c 850-950: plan showing the position of the buildings, the remains of the ramparts, and, in sections B-H, the defensive ditch
Fig 29 Plan and interpretation of the superimposed fortifications, c 850-1000 and 1080-1150 constructed on the north-east corner of the site showing the course of the mid-ninth-century ditch (period 3) and the footings of the superimposed motte revetment trench
Fig 30 Periods 3 and 6, superimposed fortifications
Fig 31 Reconstruction of the plan of the defences, c 850-1000
Fig 32 Reconstruction of defences and buildings, c 850, looking north
Fig 33 Periods 3-4: view looking west of the twelfth-century moat after excavation showing the western bank and the course of the ninth-century ditch
Fig 34 Halls, c 850-950, plan and interpretation
Fig 35 Period 3, sections of halls, c 850-950
Fig 36 Period 3: view looking west of the curved timber-trench of the north wall of the late ninth-century hall, overlying a circular Romano-British hut
Fig 37 Deep post-pits for door jams in the timber-trench of the north wall of the hall, c 850-950
Fig 38 Period 3, phase 2: hearth with surround in long hall
Fig 39 Method of splitting staves
Fig 40 Examples of stave walls
Fig 41 View from the south-east of the wooden church of St Andrew, Greensted, Essex
Fig 42 The north-east corner of St Andrew's church, Greensted, Essex
Fig 43 Detail of the stave construction of the north wall of St Andrew's church, Greensted, Essex
Fig 44 Feet of staves excavated at St Maria Minor, Lund
Fig 45 Diagram demonstrating the interpretation of soil features indicative of characteristic wall construction at Yeaver
Fig 46 Diagram showing the assembly of corner joints of two types of stave building
Fig 47 The wooden church of St Andrew, Greensted, Essex: plan of nave
Fig 48 The church of St Andrew, Greensted, Essex: detail of one plank in the stave wall
Fig 49 Reconstruction of the stave wall of the hall, c 850-950
Fig 50 Hense stave church: reconstruction from reused timbers
Fig 51 Hog-back grave covers
Fig 52 Romanesque roof trusses
Fig 53 Reconstruction of hall, c 850-900: elevation, section, and overview
Fig 54 Weaving sheds, c 850-1000: plans and interpretations
Fig 55 Period 3: view looking west of the timber-trench of the north wall of the weaving shed, c 850-900, showing the footings of the staves
Fig 56 Reconstruction of the wall of the weaving shed, showing the two possible interpretations discussed
Fig 57 Superimposed kitchens, c 850-1000
Fig 58 Period 3: view looking south of the late ninth-century kitchen, c 850-900, defined by the trampled clay floor and the burnt clay hearths
Fig 59 Period 4, phases 1-2, c 950-1000: plan showing the position of the buildings, the remains of the ramparts, and, in sections B-H, the defensive ditch
Fig 60 Tenth-century halls, phases 1-2, c 950-1000: plans and interpretations
Fig 61 Examples of stave walls with principal posts
Fig 62 Der Husterknupp: remains of stave wall built
with principal posts and interrupted sill beams preserved in waterlogged soil
Fig 63 Excavation plan of St Maria Minor stave church, Lund, showing the stave walls and the poorly-aligned aisle posts
Fig 64 The Cherhill Barn, Wiltshire
Fig 65 Reconstruction of the hall c 950-975
Fig 66 Canterbury psalter: 'Building a house'
Fig 67 Canterbury psalter: 'The gentleman's house'
Fig 68 Superimposed bowers c 950-1000 and early eleventh-century kitchen
Fig 69 Superimposed kitchens c 950-1000
Fig 70 Period 5: late Saxon hall and associated domestic offices c 1000-1080
Fig 71 Period 5, c 1000-1080: plan showing the position of the hall and domestic offices and the reconstruction of the defences.
Fig 72 Eleventh-century fortifications, section and reconstruction
Fig 73 Period 5: view looking south-west of the eleventh-century defences
Fig 74 Period 5: view looking north-west of the eleventh-century defences
Fig 75 Period 5, c 1000-1080: plan of the hall and domestic offices
Fig 76 Period 5: detail of the late Saxon hall and bower c 1000-1080
Fig 77 Detail of post-pits for the wall and aisle posts on the south side of the late Saxon hall, viewed from the east
Fig 78 Estimated life of timber of differing grades of durability and of scantling placed outside in earth-fast foundations
Fig 79 Der Husterknupp, reconstruction of principal joints
Fig 80 St Maria Minor, Lund: A, post head as excavated; B, reconstruction of post, wall plate, and tie
Fig 81 Example of slotted joints in the thirteenth-century Kaupanger stave church
Fig 82 Reconstruction of the stave wall of the hall c 1000-1080
Fig 83 Reconstruction of hall (left) and bower (right), c 1000-1080: section and plan
Fig 84 Reconstruction of hall and bower, c 1000-1080: elevations and section
Fig 85 Period 5: view looking south of the eastern building, showing the aisle postholes and the position defined by the wear of the floor of the west and south walls
Fig 86 Eastern building c 1000-1050: plan and interpretation
Fig 87 Eastern building c 1000-1050: reconstruction
Fig 88 Section of the post-trench on the north side of the last kitchen c 1050-1080 looking east, showing the position of the inclined post
Fig 89 Period 6: plan of motte and bailey castle c 1080-1150
Fig 90 Period 6: view looking south of the motte and bailey castle c 1080-1150
Fig 91 Period 6: detail of the hall and bailey c 1125-1150, looking south
Fig 92 Detail of the defences on the eastern side of the castle mound before excavation, looking north along the moat towards the church in the background
Fig 93 Castle defences c 1080-1150: above, reconstruction of the rampart; below, reconstruction of the motte revetment in plan, section, and elevation
Fig 94 Plan and sections of the moat along part of the eastern side of the castle, showing the timber revetment of the bridge footings
Fig 95 Der Husterknupp: reconstruction of the bridge
Fig 96 Reconstruction of the bridge
Fig 97 Reconstruction of the bridge c 1080-1150
Fig 98 Periods 6-7: moat section showing bridge revetment, bridge platform, and rampart c 1080-1150, looking northwest
Fig 99 Periods 6-7: moat section showing bridge revetment, bridge platform, and rampart c 1080-1150, looking west
Fig 100 Periods 6-7: detail of the timber revetment of the bridge footings, looking south
Fig 101 Period 6: footings of the motte revetment cutting eleventh-century levels, looking south, seen after the removal of the castle earthworks
Fig 102 Period 6: detail of the motte c 1080-1150
Fig 103 Period 6, c 1080-1150: details of the motte footings by the edge of the moat, looking south-west
Fig 104 Plan and interpretation of the footings of the motte revetment c 1100-1150
Fig 105 Sections of the edge of the motte, of the revetment trenches, and of the ninth-century defensive ditch
Fig 106 Abinger motte top
Fig 107 Brookland belfry: south elevation of the original tower, as existing
Fig 108 Base of the twelfth-thirteenth century belfry at Brookland, Kent, looking north
Fig 109 Period 6: detail of the east wall of the cistern or cellar beneath the tower c 1080-1150
Fig 110 Reconstruction of the motte c 1080-1150
Fig 111 Motte and bailey castle: reconstruction as seen from east of the bridge
Fig 112 Motte and bailey castle: detail of bailey and hall c 1125-1150
Fig 113 Reconstruction of the motte and bailey castle phase 2, c 1125-1150, looking west
Fig 114 Early twelfth-century halls, phases 1-2, c 1080-1150
Fig 115 Reconstruction of the hall c 1125-1150
Fig 116 Period 6, phase 1, c 1080-1125: footings of the hall looking east, seen after the removal of the bailey ramparts
Fig 117 Period 6, phase 2, c 1125-1150: footings of the hall looking east
Fig 118 Period 7: castle mound c 1150
Fig 119 Castle Hill, Hanby Hall, Welton-le-Marsh, Lincolnshire: aerial photograph of the castle mound, looking west
Fig 120 Reconstructed sections showing how the castle mound was formed by infilling the bailey with soil gathered from the motte and ramparts
Fig 121 Period 7, c 1150: view looking south of the castle mound and postholes of the hall
Fig 122 Castle mound c 1150: detail of hall and associated remains
Fig 123 Faccombe, Netherton, Hampshire: plan of late Saxon aisled building
Fig 124 Bishop's Palace, Hereford: bay elevation
Fig 125 Bishop's Palace, Hereford: joint between principal post and arcade arches
Fig 126 Bishop's Palace, Hereford: joint between arcade arches and plate
Fig 127 Reconstruction of the hall c 1150: elevation and plan
Fig 128 Reconstruction of the hall c 1150: section and elevation
Fig 129 Roman pottery
Fig 130 Roman pottery
Fig 131 Saxon and early medieval pottery
Fig 132 Saxon and early medieval pottery
Fig 133 Saxon and early medieval pottery
Fig 134 Saxon and early medieval pottery
Fig 135 Saxon and early medieval pottery
Fig 136 Saxon and early medieval pottery
Fig 137 Saxon and early medieval pottery
Fig 138 Saxon and early medieval pottery
Fig 139 Saxon and early medieval pottery
Fig 140 Saxon and early medieval pottery
Fig 141 Saxon and early medieval pottery
Fig 142 Saxon and early medieval pottery
Fig 143 Saxon and early medieval pottery
Fig 144 Saxon and early medieval pottery
Fig 145 Saxon and early medieval pottery
Fig 146 Saxon and early medieval pottery
Fig 147 Saxon and early medieval pottery
Fig 148 Saxon and early medieval pottery
Fig 149 Saxon and early medieval pottery
Fig 150 Saxon and early medieval pottery
Fig 151 Fabric and vessel-type occurrence shown phase by phase
Fig 152 Roof tile
Fig 153 Copper alloy
Fig 154 Copper alloy
Fig 155 Copper alloy
Fig 156 Iron
Fig 157 Iron
Fig 158 Iron
Fig 159 Iron
Fig 160 Iron
Fig 161 Worked bone
Fig 162 Worked bone
Fig 163 Glass
Fig 164 Spindle whorls
Fig 165 Querns
Fig 166 Querns
Fig 167 Mortar
Fig 168 Animal bone: goat horn core
Fig 169 Animal bone: perforated ovicaprid tibia and radii and roe deer metatarsal and radii
Preface

The excavation of the late eleventh-century castle mound at Goltho and the underlying sequence of substantial aristocratic houses and their associated fortifications dating back to the middle of the ninth century raises once again the origin of private defences in England, a topic which has aroused in the past considerable divergence of opinion between archaeologists and historians. Mrs E S Armitage, writing in 1912 at a time when there was great controversy over the nature of the late Saxon burh, argued that the motte and bailey castle was not of Saxon origin but was introduced by the Normans in 1066, and that the few castles of this type which were known to have existed before that date were built by certain Norman favourites of Edward the Confessor—a view still held today. Although there is nothing to indicate that there was widespread distribution of mottes anywhere in north-west Europe before the middle of the eleventh century, there is now growing evidence to show that the early fortified sites were simple enclosures surrounded by ramparts and ditches, as at Goltho in the middle of the ninth century.

Renewed interest in the study of the origin of the castle in England was stimulated in the year of the 900th anniversary of the Norman Conquest by the third Château Gaillard Conference held in Battle, Sussex, and in the following year by the Royal Archaelogical Institute who initiated a research project and directly or indirectly sponsored five excavations. Three years later in 1970 the Department of the Environment and the Medieval Village Research Group arranged the excavation of the castle mound at Goltho in response to a threat of destruction through bulldozing and deep ploughing. The excavation continued for five summer seasons, the first of which was devoted to the investigation of the village (Beresford 1975).

The earthworks of the early Norman castle at Goltho were completely excavated to reveal that these defences were constructed c 1080 as a small motte and bailey, but altered in the middle of the twelfth century when the bailey was infilled to form a castle mound for the construction of a large aisled hall. Excavation beneath the castle revealed remains of a fortified earthwork enclosure built in the middle of the ninth century and enlarged c 1000 enclosing a sequence of substantial stave-built halls and their associated bowers, kitchens, and weaving sheds. The removal of the mid ninth-century levels exposed the remains of a middle Saxon settlement and three hut circles built during the first and second centuries AD.

The footings of many differing types of timber buildings were found at Goltho. From their sparse but well-preserved remains it has been possible to formulate the reconstructions of many of those recorded. Some of the reconstructions set out in this book may have to be modified or changed as the result of further research, but, in the meantime, it is to be hoped that they will cast a little light upon the construction of timber buildings of this period and promote further debate.

The excavation of the castle site covered a period of four years from 1971–4 in the course of which time many people contributed to the final result. As author of this book it gives me great pleasure to have the opportunity of thanking, once again, all those who have taken an interest in the work in so many differing ways.

First and foremost, I am particularly indebted to Mr J G Hurst for facilitating the excavation on behalf of the Department of the Environment and for his constant interest and help in bringing this project to fruition. Special thanks are due to Miss M Archibald, Mr R F Bland, Dr G Coppack, Dr I H Goodall, Mrs A Goodall, Mr R T Jones, Mr L J Keen, Mr A MacGregor, Mr D Smith, and Professor R H C Davis for writing the specialist reports included in this text; also to Miss D Fulford for drawing the ferrous and non-ferrous finds, to Miss M Tremayne for drawing the worked bone, spindle-whorls, and beads, and to Messrs Price and C Slack for X-raying and conserving the metal finds. For preparing the text of this book for publication, special thanks are also due to Dr Jane Geddes and, at HBMC, Miss Margaret Wood and Ms Valerie Horlsler. I am very much indebted to those who have granted permission to reproduce certain drawings and photographs which illustrate the text, especially Professor J K St Joseph for the air photographs of Goltho and Hanby Hall. I am also extremely indebted to Professor O H Olsen, Dr H W Schmidt, and Mr J T Smith for discussions on the reconstructions of the Saxon and Norman timber buildings, to Mr B K Davison for much advice on the interpretation of the defences and many other aspects of this excavation, and to Professor P H Sawyer for discussions on the origin of the defences at Goltho. I am most grateful to Professor M W Barley, Miss C A Colyer, Professor R J Cramp, Dr C A Raleigh Radford, Professor P A Rahitz, Mr J T Smith, and Dr I M Stead for visiting the site and discussing the interpretations of the structural remains. I am very grateful to the staff of the City and County Museum and Art Gallery in Lincoln and to the staff of the Lincoln Archaeological Trust for their untiring help at all times and also to Mr and Mrs Ballard, Mr and Mrs H Bruntlett, Miss Eileen Bruntlett, the late Mrs E H Hudkin, Mr and Mrs R C Russell, and Mrs C Wilson. Mention must be made of those who have participated in the excavation: special credit is due to Mr R W Bridgewater, assistant supervisor 1971–3, Mr J M Ball and Mr J Hunn, site assistants, and all the workmen. Thanks are also due to Mr Briggs, plant hire manager at Park Plant Limited, Lincoln, for advice on the use of machinery hired from the company. Special thanks are due to Mrs D Edmond for typing the text.

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1 Introduction

Location and local topography

The site of the deserted medieval village at Goltho lies in the heart of the ancient province of Lindsey about 9 miles (14.4 km) to the east of Lincoln and approximately 800 yards (731 m) south of the A158 trunk road leading eastwards from Lincoln to Wragby and beyond to Horncastle and Skegness (Fig 1). Its grid reference is TF116774. Today, the little sixteenth-century brick-built church of St George standing amongst a cluster of trees in the fields is all that remains to mark the site of a once prosperous community. Gone beneath the plough are the earthworks of the castle mound, once raised so high, and those of the peasants' crofts and hollow-ways which so clearly marked the remains of growing crops. An entry of Golthawe in the episcopal registers 1220-35 is the earliest known record of the hamlet; from this the present name of Goltho appears to have been derived. In the rotuli hundredorum of 1279 it is recorded as Golthawe, and as Golthag in the Index to the Charters and Rolls in the British Museum (temp Ed I). The latter is probably a derivative of the OE gold-haga - enclosure where marigold grew. The meaning of thwait is derived from the Old Norse jveit and varies considerably: Old Norse jveit means a meadow or piece of land, and Norwegian jveit a piece of meadow in a wood, or cleared meadow. In the English dialect thwait means a forest clearing, an enclosed piece of land or a meadow (Ekwall 1960, 200, 472).

The parish of Goltho is joined with that of Bullington to form an ecclesiastically tithe-free parish sometimes known as Goltho-cum-Bullington (Fig 2), but the origins and the extent of the amalgamation are uncertain. However, since the name of Goltho does not appear until the thirteenth century and the details of its land were included under the name of Bullington in the Domesday Survey, it is evident that there was only one parish in 1086: Bullington. There were three manors according to the Survey in 1086: one of five bovates held by Ivo Taillebois and two, each of three and a half bovates, held by the Earl of Chester and the Bishop of Durham respectively (Foster and Longley 1924, 31, 76, 85); but although two and possibly three of the manor sites can be identified on the ground, the sites cannot be related to their occupants with any degree of certainty (pp 127-30). The two manor sites in the parish of Goltho which may be located with some degree of confidence are the Norman earthwork castle by Goltho church, the subject of this book, and the moated sites lying to the south of Goltho Hall. In Bullington parish the site is possibly marked by the large fortified earthworks lying in the woods to the south-east of the site of Bullington Priory. The present Bullington Hall is a relatively recent structure with no known medieval antecedents (Fig 2).

When the name of Goltho first appears in the early thirteenth-century Rolls of Hugh of Wells, Bishop of Lincoln (Rotuli Hugonis, 2, 83-4), concerning the revenues of a perpetual vicarage in Bullington, there is mention of a hall of Philip of Kyme in Golthawe. Since the excavated site had been abandoned for some 75 years by this time, it is evident that Philip's hall must have stood within one of the moated enclosures lying to the south of Goltho Hall. This suggests that the newly formed parish of Goltho, comprising the

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Fig 1 Map of part of Lindsey, Lincolnshire, showing the position of Goltho and some places mentioned in the text
two manors to the east of Bullington, may have taken its name from that of the hall site.

The history of Goltho-cum-Bullington will not be fully clarified until the church of St George, Goltho, and the other two manor sites are examined. Nevertheless, the proven antiquity of the site by Goltho church which has been excavated, the scale of its buildings, and the strength of its surrounding fortifications indicate that it was the nucleus of a large estate during the period dating from c 850 until the middle of the eleventh century. The favourable, dry, and elevated position upon which the excavated site stands when compared with the lower and wetter positions of the other two probable manor sites indicates that it was the primary manorial settlement from which the other two were developed. However, Mr Stephen Bassett suggests (1985) that the principal site lay in the area now defined by the parish of Bullington, though it seems somewhat unlikely that another manorial complex of greater or even of similar standing would have stood so close and remained in occupation for such a long period of time.

Nevertheless, Miss Naomi Field,5 excavating around the footings of the church for the Redundant Churches Fund before the laying of new land drains in the summer of 1986, revealed the foundations of a substantial stone-built sanctuary immediately beneath those of the nave. Although no dating evidence was found, it is clear that the church must have been built before the desertion of the village in the late fourteenth and early fifteenth centuries (Beresford 1975, 53). In the absence of any evidence for the sometime existent church in Bullington, it is possible that this church served the complete parish before its division in the twelfth century, the hypothesis being substantiated by the contiguous manorial enclosure of proven antiquity and importance.

Today Goltho is a parish of 1355 acres (548 ha) comprising four farms and some isolated cottages, while Bullington extends to approximately 760 acres (307 ha) and contains two farms and some cottages. The land is slightly undulating and rises up from the southern part of Bullington, lying approximately 20ft

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Progressive compaction would tend to break down the open texture of the soil to form hard impervious pans thereby causing crop failure. Such deterioration could have occurred even in a favourable climate and would have been difficult to rectify without a long period under grass; today, the formation of plough pans may be prevented by field drainage and subsoiling.

Much of the domestic water supply at Goltho seems to have been obtained from relatively shallow water-pits like those found by the side of the long hall in the manorial enclosure (Fig 28) and those in c roft A on the village site (Beresford 1975, fig 5). The tradition of which was to persist in the area until recent times. Those excavated were no more than 8ft (2.4m) in depth. When found during the summer seasons of excavation in 1970 and 1974, they quickly filled with water to within 2–3ft (0.6–0.9m) of the ground surface. However, a further and possibly more dependable source of water could have been obtained from the small stream running in a westerly direction some 200yds (180m) to the south of the manorial enclosure.

The remains of three hut-circles and a spread of occupational and structural debris emanating from a substantial building lying outside the excavated area indicated that the Goltho village site was first occupied for a period lasting from about AD 50 to the end of the Roman period; but chance finds\(^2\) from the ploughsoil near Goltho Hall lying about 100yds (91m) to the south and a few fragments of pottery from the excavation show that the area had been exploited before the Roman Conquest. The reason for the desertion of the Romano-British settlement is uncertain, but it seems likely that it was associated with the collapse of the Roman culture in the early fifth century.

Goltho was resettled c 800 at the beginning of the most favourable period of the second climatic optimum. The excavation of the village and the collection of pottery from the ploughsoil after the site had been levelled and ploughed suggest that the area just to the west and south-west of the church – the highest part of the village – was the first to be developed (Fig 4). The manor was superimposed on a middle Saxon homestead c 850 and remained in the same position until about 1150 when the site was abandoned. The village, however, prospered and much of its centre had been developed by the beginning of the twelfth century. It continued to expand until the fourteenth century when the medieval period of climatic instability began to affect the ecology of the settlement. The incipient stages of the weather commencing in the middle of the thirteenth century was gradual and its effect at first probably caused little serious inconvenience. Although there were disastrous harvests in many parts of Britain in 1315, 1316, 1319, 1349, and 1350 there were certainly some years of relative prosperity; as the years passed, however, more and more of the plough lands would have become unproductive owing to the compaction of the soil (Beresford 1975, 51–4; Parry 1978, 137).

Pottery found among the remains of the peasant houses during the excavations and collected from the ploughsoil after bulldozing shows that much of the site was deserted by the beginning of the fifteenth century. The site was then abandoned and some of the buildings were deliberately set on fire and burnt. The waterlogged remains of the houses and other structures have been excavated with the object of determining the use and function of the buildings and those of the associated archaeological remains .
Fig 4. Goltho: plan of deserted medieval village, showing the positions of crofts 1–37 including excavated crofts A–C, the church, and the manor.
century. Three of the four homesteads to survive after this date were farms, the occupants of which were to a great extent dependent upon pastoral farming for their livelihood (Beresford 1975, 51-4). These were deserted during the late fifteenth and early sixteenth centuries, but they may have been re-established out in the fields. The farms at Goltho Grange, Goltho House, and two others which have now gone could possibly date from this period.

The desertion of the village was gradual; as in farming today some people are less well adapted to face the serious difficulties which follow a disastrous harvest and have to leave, while others soldier on until the next crisis or to the end of their lives. There are, of course, many circumstances which may lead to the desertion of a medieval settlement and considerable care must always be exercised when attributing the abandonment to climatic deterioration. The examination of one site in isolation results in no satisfactory conclusion, but examination and comparison of evidence from both highland and lowland sites reveals much evidence to show how the worsening climate affected the ecology of certain medieval settlements situated on land which would have been considered marginal by existing standards of agrarian technology (Beresford 1975, 50-4, 100-2; 1979, 142-6; 1981b).

Sites of the deserted settlements in Goltho and Bullington

Goltho deserted medieval village

The deserted medieval village of Goltho lay on a north-south alignment and was clearly defined by the deep sunken roads and the remains of the 37 rectangular peasant crofts (Figs 4, 5; Beresford 1975, 7-9). Houses built of timber leave no visible traces above ground, in marked contrast to areas where building stone was abundant so that ruined stone foundations are clearly visible as substantial earthworks. The crofts were levelled and ploughed after the first season of excavation in 1970. Although no trace of the field system can be seen from the ground, it is clearly depicted on the air photographs taken by the Royal Air Force in 1948. The remains of the village were dominated by the moated earthworks of the Norman castle which stood close to the church towards the south-east corner of the settlement commanding wide views over the surrounding countryside.

The little brick-built parish church of St George is the only surviving building on the site of the medieval

Fig 5 Goltho: aerial photograph looking west, showing the earthworks of the deserted medieval village, the castle mound, and the church (cf Fig 4) (photo: Cambridge University Collection, copyright reserved)
settlement (Fig 6; Beresford 1975, 48–9). The nave, some 27ft (8.1m) long and 15ft (4.5m) wide, is traditionally thought to have been built by the Grantham family when they purchased the estate in the 1530s; the chancel, 18ft (5.4m) long and 12ft (3.6m) wide, was added in the late seventeenth or early eighteenth century. The cutting of the trenches around the sides of the church for the new drains in the summer of 1986 revealed the footings of the chancel and the eastern end of the nave of a substantial stone-built church beneath the brick-built nave of the 16th century. The chancel was approximately the same size as the later nave (27ft (8.1m) long and 15ft (4.5m) wide). The early nave was apparently without aisles and approximately 17ft (5.1m) wide, but the length was not determined. Tombstones dating from the fourteenth and fifteenth centuries form part of the modern floor. The church was for a time a peculiar of Bullington Priory, but after the dissolution of the monastery it seems to have been served from Bardney and later Rand. It was used for occasional worship until about 1960, after which date it gradually became derelict. The building has now been taken into the custody of the Redundant Churches Fund and is being restored.

**Bullington deserted medieval village**

(Fig 2)

No remains of the peasant holdings mentioned in the Domesday Book have been identified in Bullington, but it is possible that they lie destroyed beneath either the priory or Bullington Hall, or remain unnoticed in the woods in the south of the parish (Foster and Longley 1924, 31, 76, 85).

**Bullington Priory**

(Fig 2)

The Gilbertine Priory for canons and nuns was founded between 1148 and 1154 by Simon son of William, in his park in Bullington (see p 127; Knowles and Hadcock 1953, 171). The Gilbertine Order, established by St Gilbert of Sempringham about 1139, was of English origin and comprised 13 double convents, 12 priories of canons only, and 5 lesser cells or halls. Bullington ranked fifth in importance among these houses. The Regulations of the Gilbertines indicated that the numbers at Bullington Priory were to be limited to 100 nuns and lay sisters and 50 canons,
but it is doubtful that these numbers were ever reached. At the dissolution of the monastery the prior and 9 canons surrendered and the prioress and 14 nuns were included with them in the pension list (Knowles and Haddock 1953, 171). The priory church, dedicated to St James, was used by the parish. A few fragments of its ruined walls remained above ground in the middle of the nineteenth century (White 1892, 360). The remains of the site were levelled in or about 1970 without excavation, but a plan showing the positions of the principal buildings and the enclosing ditches has been prepared from air photographs taken in 1936 (Haddock 1937, 213-18).

The earthwork castle by Bullington Priory
(Fig 2)

The substantial fortified earthwork enclosure, traditionally thought to have been at one time the seat of Simon son of William, the ancestor of the house of Kyme, lies some 500yd (455m) to the south-east of the priory and has not been excavated. The subrectangular earthwork was entered from the southern side and enclosed an area of approximately 3 acres (1.214 ha). It was surrounded by a moat about 50ft (15m) wide and a thick inner rampart some 60ft (18m) thick, parts of which still stand over 6ft (1.8m) high. Trenches lying close to the south-eastern corner of the earthwork possibly mark the position of a bailey. The buildings, doubtless of timber, have left no trace above ground. The remains are now somewhat difficult to interpret as the eastern side of the site is missing, though it is not known whether this is because it was destroyed or because it was not completed. Close study of the earthwork is now further hampered as much of the enclosed area is covered with conifers and dense scrub. However, enough of the site has survived to show that it was certainly an earthwork castle of considerable local importance.

The scale of these earthworks, similar to those at Lincoln Castle, clearly indicates that it was a strongly fortified site for its period (King and Alcock 1969, 90-127). The surviving sections of the ramparts give no indication as to the form of their revetment, but it was probably of turf like that of the earlier defences at the Goltho manor site (see p 30). Contemporary literary sources and artistic representations of castles (Stenton 1965; Mackenzie 1933-4, 117-27) suggest that they would have been completed with a timber palisade or a wall of clay. The site was finally deserted in favour of another lying just to the south of the present Goltho Hall sometime in the early thirteenth century.

Goltho Hall
(Fig 2)

Sparse remains of two moated enclosures were to be seen lying just to the south of Goltho Hall until the field was levelled and ploughed in the autumn of 1974 (air photographs 541 RAF 185, 19.10.48; 4097-8). The southernmost enclosure, surrounded by a moat 40ft (12m) wide, was about 250ft (75m) long from east to west and 250ft (75m) wide at the western end tapering to 200ft (60m) at the other. Much of the second enclosure lying some 50ft (15m) to the north had been destroyed by the construction of the present hall and the layout of its grounds. There was nothing to indicate whether they were contemporary – possibly one enclosing the domestic buildings and the other the farm – or of differing periods. Their rectangular shape is consistent with other moated enclosures of the thirteenth and fourteenth centuries (Beresford 1977a, 207).

The remains of the two moated enclosures differed from those of the Norman fortified earthworks close to Bullington Priory in that the spoil from the moat had not been built up to form a rampart, but had been spread over the site. No indication as to the character of the boundary set on the inner bank of the moat could be determined from the air photographs. Since the site was not excavated, any interpretation of the enclosures must be speculative. However, at Goltho, a district where there was a dearth of building stone, it seems probable that timber or clay would have been used. In the absence of any known archaeological or documentary evidence to suggest that the walls were constructed with crenels and wall walks, the site could not be classified as a castle. Although Goltho Hall was a capital messuage frequently occupied by one of the most prosperous families in the region, it seems that they had castles elsewhere to which they could go in times of trouble. It would be reasonable to postulate that the function of the moats was purely a mark of lordly presence, setting the hall and its associated domestic offices apart from the houses of the peasantry. Moated enclosures of this type were constructed in many parts of England from the middle of the thirteenth century in areas where the nature of the subsoil permitted (Beresford 1977a, 207). The present brick hall dates from the early nineteenth century.

Bullington Hall
(Fig 1)

Bullington Hall lies towards the northern tip of the parish of Bullington alongside the highway leading from Lincoln to Wragby and beyond to Horncastle and the coast. The house is built of stone but has a facade of brick which was probably added c 1800. There are no visible remains of medieval occupation associated with the house or its immediate environs (p 127).

The discovery of the Goltho earthworks and the events which led to their excavation

Although the ruins of Bullington Priory and the remains of the nearby earthwork castle have been recorded in the county parochial histories and gazetteers (T Allen 1833-4, 64), the earthworks of the deserted medieval village at Goltho escaped the notice of archaeologists and historians until the site was discovered by Professor M W Beresford whilst recording the lost villages of Lincolnshire in 1950. The
clearly defined remains represented one of the best examples of a clay-land deserted medieval village in the East Midlands. The site was accordingly scheduled under Ancient Monuments legislation.

The extent of the village earthworks, which covered much of a 40 acre (16.2 ha) field, and the size of the sunken roads, some 40ft (12m) wide and 5ft (1.5m) deep, saved the site from the plough for 500 years (Fig 5). The field, well watered from a stream, was consequently exploited for its good summer grazing until the sharp rise in the value of agricultural land, the gradual abandonment of stock rearing in favour of arable farming, and the availability of heavy contractors’ plant led to an application being made to the Ministry of Public Buildings and Works to level, drain, and plough the northern part of the site, the area including crofts 1–10 (Fig 4). After cultivations Mr and Mrs Rex Russell recorded areas of occupation and finds of pottery dating from the late Saxon period to the sixteenth century. In 1969 a further application was made to the Ministry for permission to level the remaining earthworks. Before this could be granted an excavation was arranged by the Ministry and the Medieval Village Research Group. Crofts 13, 26, and 29 were excavated in the summer of 1970 and the others were levelled and ploughed during the following winter, an operation which revealed the positions of many houses of the last period of occupation (Beresford 1975, fig 2, 12–26). The manor site was excavated in four summer seasons between 1971 and 1974.

Method of excavation

The heavy clay soils, so difficult to manage in medieval times, proved equally arduous to excavate. After rain, the excavated features filled with water and the ground surface became a soggy, slippery morass precluding the possibility of further work. Then, after a few hours sunshine, the clay baked into a hard, colourless, unworkable mass. However, it was soon discovered that the soils could only be excavated in dry weather and only then by controlling the moisture of the ground by soaking the soil to be worked with water brought to the site in a bowser a few hours before it was due to be examined. The fine texture of the soil beneath the castle, devoid of coarse granules or pebbles, rendered most of the sections of the postholes and post-trenches extremely difficult to interpret because of the lack of contrast between primary and secondary fill. Especially difficult were the greenish-grey soils surrounding the buildings of the first five structural periods, sealed beneath the earthworks of the motte and bailey castle. The site was excavated by making the maximum use of machinery with the minimum amount of labour. The excavation team comprised the author, one assistant supervisor, an occasional site assistant, and a selected group of men seldom exceeding ten in number. A total number of 2650 man days was devoted to the complete excavation of the manor site, a task lasting for about 46 weeks. About one-third of the men, each year, had at least one season’s digging experience with the author; the others were completely inexperienced in the art of excavation.

Owing to the great amount of soil to be moved (about 6000 cu yds or 4580 cu m) and the necessity to examine long lengths of rampart in both plan and section the maximum use was made of modern hydraulic excavators. Those chosen to tackle the finer work at this site were the Atlas and the Hy-Mac. Both machines could work to a precise level leaving a smooth surface unencumbered by loose earth. They were fitted with a 5ft (1.5m) ditching bucket, but later experience has shown that a 3ft (0.9m) ¼ cu yds (0.57 cu m) bucket is more versatile for general work owing to its narrower cutting edge. After examination, the ramparts were removed with a Caterpillar D7.

A system of open area excavation similar to that practised on the village site (Beresford 1975, 12) was used so that each of the seven periods of occupation could be completely excavated with the very minimum of trial trenching. A trial trench cut across the insubstantial remains of many of the houses would almost certainly have destroyed many important unnoticed features.

The excavations were recorded in imperial measurements and these are used in the text with metric equivalents. Metric and imperial scales are shown on the line drawings, but those on the photographs are imperial.

Photography

Photographs showing remains of timber buildings frequently look flat and without contrast when taken in cloudy conditions; consequently all the photographs were taken, when and where possible, in full sunlight at a time when the light fell upon the subject to its best advantage. The black and white photographs were taken by 2½in format cameras: a Pentax 6 using an 80 or 50mm lens was employed except where a wider angle lens was required for the recording of certain views of the twelfth-century castle; for these (Figs 90, 91, 98, 117) a Hasselblad 500 EL/M with a 40mm lens was used. Ilford FP 4 panchromatic safety films were used for all black and white exposures for record and publication. The high level photographs were taken from a height ranging from 90ft (27m) to 115ft (34.5m) from a 1½ cu yd (1.14 cu m) muck skip suspended from a Hydrocon mobile crane. These were taken about midday when the sun was slightly right of centre.

Summary of excavation (Figs 7, 8)

The moated castle mound, a subrectangular earthwork 176ft (52.8m) long, 168ft (50.4m) wide, and approximately 11ft (3.3m) high stood close to the south-west corner of the church dominating the village and the surrounding countryside. The complete excavation of the site revealed a long sequence of substantial superimposed timber houses, their associated buildings, and fortifications built in five structural periods, dating from c 850 to the middle of the twelfth century (Figs 7–10). The late Saxon and
Fig 7 Goltho: periods 1–5, showing superimposed levels of occupation dating from c AD 50–100 lying within the area defined by the moat of the twelfth-century motte and bailey castle.
Norman levels overlay a middle Saxon and a Romano-British settlement. The levels were well stratified and frequently dated by coins. Both the large egg-shaped enclosures, surrounded by a rampart and ditch representing the remains of the fortifications of the early eleventh-century hall, and the moated earthworks of the twelfth-century castle, built within the late Saxon enclosure, are clearly visible on the air photographs (Figs 5, 11).

Periods 6–7: c.1080–1150
(Fig 8)

Excavation commenced late in the summer of 1971 to reveal the remains of a substantial mid-twelfth-century aisled hall built in the centre of the castle mound (Fig 121). Owing to the general erosion of the sides of the earthwork, little remained of its associated outbuildings and fortifications. During the course of the excavation it was soon realised that the mound on which the hall had stood was in origin a small motte and bailey castle and that the castle mound was formed by the infilling of the bailey with earth removed from both the top of the motte and ramparts. This filling was removed in 1972 by following the spread of occupational debris down the sides of the ramparts by hand and removing the core of the infill with the Hy-Mac excavator. The spread of occupational material, defined by dark soil, ash, bones, and pottery, was extremely thin in places especially on the north side of the bailey away from the hall: consequently considerable care had to be exercised not to lose the level as it was impossible to differentiate the clay of the infill from the clay of the ramparts, both of which were, of course, the same material. The investigation of these levels revealed much information on the construction and layout of a small motte and bailey castle (Fig 90).

Excavations were continued in the summer of 1973 when the ramparts of the twelfth-century castle were removed with a Caterpillar D 7. Although the clay of the ramparts could be readily distinguished from the dark grey soils of the underlying eleventh-century levels of occupation, care had to be taken lest the tracks of the crawler should dig down and damage the site; therefore the crawler was only permitted to work down to 12 in (0.3 m) from the top of the Saxon levels; the next 9 in (0.22 m) were removed by the Hy-Mac and the last 3 in (0.08 m) by hand.

Period 5: c.1000–1080
(Fig 7)

The fortifications and principal buildings of the late Saxon earthwork enclosure were laid out during the first years of the eleventh century and the site was continuously occupied until the construction of the motte and bailey castle in or about 1080. The excavation of the interior revealed substantial remains of a range of important timber buildings including a hall, kitchen, and bower standing round three sides of a courtyard (Fig 70). Although some of the remains lying round the periphery of the site had been damaged by the excavation of the late eleventh-century moat and by a post-medieval pond, those lying in the centre of the site were exceptionally well
Fig 9 Goltho halls, periods 2-7: A, B, period 2; C, D, period 3; E, F, period 4; G, period 5; H, I, period 6; J, period 7
preserved having been sealed beneath the earthworks of the motte and bailey castle from the time of their demolition.

Period 4: c 950–1000
(Fig 7)

The removal of the remains of the late Saxon manor in the spring of 1974 exposed the layout of the tenth-century levels of occupation dating from about 940 (Fig 25). The foundations of the hall, kitchen, bower, weaving shed, and other outbuildings were clearly defined and lay round three sides of a courtyard. The fortifications surrounding the site, although much damaged by later development, were sufficiently well preserved to indicate that these were similar to those of the eleventh century, but built to enclose a smaller area. They were constructed c 850 to defend the house and buildings of the earlier structural period.

Period 3: c 850–950
(Fig 7)

Later in the same summer the tenth-century levels were removed to reveal the earliest of the sequence of the important fortified houses, built about 850 (Fig 25). The layout of the site was like that of the tenth century, with the halls and weaving sheds built in the same position. The size and plan of the bow-sided hall was comparable to that of the long hall excavated at the Royal Palace at Cheddar, Somerset (Rahtz 1979, 99–107).

Period 2: c 800–850
(Fig 7)

The removal of the earliest fortified enclosure and its associated buildings revealed the remains of the middle Saxon settlement which dated from the beginning of the ninth century. The houses built of
Fig 11 Castle mound, Golitho: aerial photograph looking west, showing detail of the Norman earthworks lying within the early eleventh-century ramparts (photo: Cambridge University Collection, copyright reserved)
timber and clay stood in large enclosures similar in size to the crofts of the later medieval period along the side of a street (Fig 12).

**Period 1: c 50–200**

(Fig 7)

Finally, towards the end of the same summer, the earliest of the Saxon remains were removed to expose the Romano-British settlement occupied from c AD 50–200 (Fig 15). Excavation of these levels revealed a sequence of three circular houses, ranging from 29–40ft (8.7–12m) in diameter. A spread of occupational and structural debris indicated that there had been a substantial building close to the area of excavation in the third and fourth centuries.

**Buildings and fortifications**

Several types of timber building were identified during the excavation of the manor site and frequently buildings of differing structural complexity and tradition were found side by side as at Wintringham, Huntingdonshire (Beresford 1977a, 199–240). However, the houses built in Periods 3, 4, 5, and 7 may be favourably compared in both size and structural complexity with those excavated at important sites both in England and on the Continent (Figs 9, 10). The principal houses built before the Norman Conquest were of stave construction, as were the halls at Yeavering (Hope-Taylor 1977, 272–3) and Trelleborg (Nørlund 1948), and certain churches such as Greensted, Essex (Christie et al 1979, 93–112). The house built in the middle of the twelfth century on top of the castle mound was probably a complex aisled structure with clerestories. The houses of the second and sixth structural periods and many of the outbuildings in the others were of clay and stud construction as at other sites on the clay lands.

The remains of the Norman motte and bailey castle and those of the Saxon fortified enclosures have revealed much information on the construction of private fortifications during this period and raise the question of the function of such residences in England before the Norman Conquest.

The excavation finds included a long sequence of stratified pottery, coins, ferrous and non-ferrous metal objects, and worked bone objects, which have been generously donated to the Lincoln Museum and Art Gallery, Lincoln.

**Notes**

1. The naturally wet state of the ground would encourage the growth of *Calla palustris*, marsh marigold.
2. An Iron Age coin was found close to Goltho at TF 1175 7665 in 1971 (*Lincolnshire Hist Archaeol*, 7 (1972), 6, fig 11, 14). In Gunstone 1981 it is no 1611. It is Allen’s Corinthian type F (Allen 1963).
3. Photograph nos: 541 RAF 185 19.10.48; 3097, 3098, 3099, 4097, 4098, 4099.
4. Photograph nos: 541 RAF 185 19.10.48; 3097, 3098, 3099, 4097.
5. I am most grateful to Miss Naomi Field for this information.
Periods 1 and 2: Romano-British and middle Saxon settlements (Figs 12–20)

Period 1: Romano-British settlement, c. 50–200

The area lying beneath the manor sites was first settled c. AD 50, although the thin scatter of late Iron Age pottery on the site and chance finds from the ploughsoil near Goltho Hall indicate that the land had been exploited before the Roman Conquest. Owing to the limited size of the excavation, the full extent of the Romano-British occupation could not be determined. The remains were more difficult to interpret than those of the later periods since they were not so clearly stratified. Certain difficulties in interpretation were also encountered in the northern part of the site where much of the contemporary ground surface had been scoured away by later occupation, especially by the removal of mud around the entrance to the later Saxon fortified enclosures (cf Figs 31, 32, 59, 75). Further, there were many archaeological features at these levels which contained no pottery from which a date could be derived. Some of these could have been cut from a higher level and their positions passed unnoticed in the course of excavation in the difficult soils until they were clearly defined at the point where they entered the subsoil. Accordingly all features cut into the subsoil and not certainly related to periods 3–7 have been included in Figure 13 so that all possible Romano-British and middle Saxon features can be seen on one plan: from this the interpretations showing the individual remains of the first two periods have been formulated (cf Figs 13–16, 21).

It was not possible to determine the full extent of the Romano-British settlement because it had been cut by the eleventh-century moat, and because it extended beyond the area reserved for investigation. The excavation revealed a sequence of three circular huts, some palisade trenches separating the homestead from the fields, two pounds, and a water pit. The layout of the palisades and buildings and the quality and quantity of the pottery indicate that it was a prosperous native farmstead occupied from the middle of the first century AD to c. 200. A spread of
later pottery, coins, roof and flue tiles, and sections of a stone pillar indicate that the circular huts were replaced by a complex building of Roman design standing close to the excavated area. This marked change in the social importance of the site in the early third century can be paralleled in England with that at Winterton, Lincolnshire (Stead 1976, 79-83).

Although six coins of the Roman period were found during the course of the excavation of the Goltho manor site, ranging in date from the middle of the first century AD to the end of the fourth century (see p 187), none was found in stratified levels; accordingly the date of the Romano-British remains was determined by groups of pottery from construction deposits in huts A and B and from the occupational deposits associated with hut C. The fabrics of the vessels are all well known in the region and can be dated from stratified contexts elsewhere (see p 164).

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**The farmstead: phase 1, c 50–100**  
(Figs 12, 14, 15, 16)

The excavated site was divided into two parts by a palisade trench, aligned north-west/south-east and designed to separate the fields to the west from the farmstead to the east (Fig 16). The trench was up to 2ft (0.6m) deep in the southern part of the farmstead, but towards the north where the ground level had been worn away by later occupation it penetrated the subsoil only in places. The bottom of the trench was sufficiently wide to take posts up to 12in (0.3m) thick, but the fill revealed nothing to indicate the character of the fence. However, the existence of the pound and drove in the southern part of the site suggests that the fences had been constructed to control the movement of sheep or oxen, and had to be strong enough to serve such a function. Since the posts had been set in a trench rather than in individual postholes it would be reasonable to postulate that they were either close set or contiguous. In a region where timber must have been readily available a palisade of whole or split logs would therefore seem probable. The farmstead was entered from the south by way of a narrow drove, but its narrow form and the absence of wear would suggest only occasional use and that the main entrance lay elsewhere outside the excavated area. The remains of a pound surrounded by a similar palisade lay in the angle between the drove and the south-east corner of the farmstead. It was 30ft (9m) wide and over 40ft (12m) long, the length being indeterminate owing to the construction of the late eleventh-century moat. Hut A stood very close to the south-east corner of the farmstead, but just sufficiently far away to prevent the oxen standing in the field from eating the thatch on the roof.

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**The farmstead: phase 2, c 100–200**  
(Figs 12, 14, 15, 16)

The second phase was marked by the construction of huts B and C, the widening of the northern part of the farmstead to facilitate their construction, and the rebuilding of the pound.

The second-century pound, about 25ft (7.5m) long and 20ft (6m) wide, stood on the same site as that of the earlier phase and was probably of similar construction. The palisade trench was cut some 18in (0.46m) into the clay and the width of the bottom indicates that the posts could have been up to 10in (0.25m) thick. The enclosure was entered through a gateway some 9ft (2.7m) wide in the north-east corner, but the absence of gateposts suggests that the entrance was closed with hurdles. The smaller size of the enclosure and the shallower trenches could suggest that it was used to pen sheep or goats rather than oxen.

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**Circular huts A–C, c 50–200**  
(Figs 12, 15, 16, 36)

Although some important rectangular houses have been built from the Neolithic period onwards (Childe 1949, pl XXII, fig 2), the construction of circular houses was almost universal in Britain before the Roman Conquest and the tradition was to persist into the Romano-British period. Excavations at Winterton (Stead 1976, 79-83), some 28 miles (44km) north-east of Goltho, have shown that circular huts continued to be built at that site until the late second century, when they were replaced by a complex building of Roman design. Other examples of circular huts in this period have been recorded at Bozeat, Northamptonshire (J Rom. Stud. 56 (1966), 207, fig 12), at the Cortican villas at Great Weldon (J Rom. Stud. 45 (1955), 135) and Barton in Fabis (Thompson 1951), and north of the Humber on Parisian villa sites at Langton and Rudston. Further circular huts of the Romano-British period have been excavated in the North Riding of Yorkshire at Beadlam (Stead 1971) and at Holme House, Manfield (Wilson 1970, 279).

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**Hut A, c 50–100**  
(Figs 12, 15, 36)

The footings of the earliest of the three huts were well preserved. The hut was built in the middle of the first century AD and lay in the centre of the excavated area. It was clearly defined by a ring-ditch 40ft (12m) in diameter, 18in (0.46m) deep, and wide enough at the bottom to take posts up to 9in (0.23m) in thickness. No floor levels survived. Access was gained from the east by way of a door, the position of which was marked by a threshold trench. The hut was partitioned by a screen set in earth-fast foundations similar to those of the walls to form a small inner room in the northern part of the building. The finds associated with the building and its immediate surrounds include three copper alloy brooches and the remains of 15 vessels which were made up of 12 cooking pots and 3 flagons (p 131, Fig 129).
Hut B, c. 100–150
(Figs 12, 15)

Hut B lay in the northern part of the excavated area. The remains had been considerably damaged by later occupation of the site: the footings of the northern half of the building had been completely destroyed by the late eleventh-century moat and much of the contemporary ground surface had been eroded by the removal of the mud inside the gateway of the Saxon fortified enclosures. The shallow depth of the northern end of the early palisade trench suggests that as much as 18–21in (0.46–0.53m) of the original ground surface could have been worn away. The position of the hut slightly over 40ft (12m) in diameter was defined by a timber-trench then some 15in (0.38m) deep. The width of the bottom of the trench indicates that it could have held timbers up to 9in (0.23m) in thickness. The building had been partitioned by a timber screen set in a trench similar to that of the wall. A doorway led into the southern part of the house, the position of which was marked by a threshold piece.

A water pit 8ft (2.4m) deep, 9ft (2.7m) wide at the top, and 3ft (0.9m) at the bottom lay close to the door to provide a supply of water for domestic needs. In the late summer of 1974 the pit usually contained 5ft (1.5m) of water. However, stone steps had been set in the side of the weathering cone to facilitate access to the water in drier seasons (cf Figs 12, 15). The remains of several vessels of grey ware and of Nene Valley manufacture, a flagon, and a fragment of samian ware were found in and surrounding this house (p 131, Figs 129, 130).

Hut C, c. 150–200
(Figs 12, 15)

Hut C lay between those of earlier date. The position of the building was defined by a short section of a timber-trench which owed its survival to the protection of the Saxon weaving sheds. The hut was entered from the east by way of a doorway marked by a deep posthole set in a break in the trench. Although its remains were very slight, sufficient remained to suggest that it was similar in size and construction to hut A. The pottery associated with hut C included 14 cooking pots, 6 bowls, and a jar (p 131, Fig 130).
Fig 15 Detail of Romano-British huts and trenches
Reconstruction of huts A–C
(Figs 17–20)

The remains of the Goltho huts, although somewhat mutilated by later occupation, revealed sufficient information to elucidate their construction. Although there were no visible post-impressions in the foot of the trenches or within their fill it may be reasonably assumed that the buildings were constructed with close-set posts since the footings were set in a trench rather than in individual postholes. The decision to set the posts in a trench or in postholes would generally depend upon the depth of the foundations and the spacing of the posts. The trench construction at Goltho would suggest that the posts would not have been more than 2–3ft (0.6–0.9m) apart. Three differing types of wall could be considered in the discussion on the reconstruction of these huts: they could have been of wattle and daub constructed around the earth-fast posts or alternatively, by using greater quantities of timber, the walls could have been built of contiguous untrimmed posts or of radially split timbers (cf Figs 19, 23). Excavations in various parts of north-west Europe clearly demonstrate that all these types of construction have enjoyed a long tradition from early times. Many such buildings are still to be found in tribal Africa today, though it could be dangerous to look to the African continent to solve all structural problems owing to the social and environmental differences between the two continents. Nevertheless, their study may in some instances demonstrate how certain structural problems for people building circular huts with similar materials could have been overcome.

Wattle and daub walls
(cf Fig 23)

Wattle and daub walls constructed around earth-fast posts have a long tradition and wide distribution in both circular and rectangular buildings and, if well
maintained, provide warm and dry accommodation for a reasonable period of time. Recent research has demonstrated that a post some 6m (0.15m) square of heart English Oak (Quercus Robur) can last 50 years set in earth-fast foundations and exposed to the weather (Purslow nd; DoE 1969). Untrimmed posts, however, containing a proportion of sapwood are less durable according to the nature of the wood. It is probable, nevertheless, that these posts would have been completely encased in the wall of wattles and clay, like some of the African houses (Figs 17, 18, 23; K B Andersen 1977, 202–3), and the timbers thus protected from the weather and wood-rotting fungi would have had a prolonged life. Each house could have stood, if properly maintained, for some 40–50 years, as the ceramic evidence suggests.

The timber-trench footings indicate that the wall posts were set no more than 2–3ft (0.6–0.9m) apart, so it is unlikely that they would have been morticed to a wall plate, although such an assembly would be possible. Since the outward thrust of the roof in this circular building would have been largely contained by the wattles woven through the wall posts, the function of a plate in this instance would have been to prevent the feet of the rafters from sinking into the walls. However, if the stability of the rafter footings had been of some concern to the builders, their feet could have been notched to the post heads or supported upon a ring of strong wattles.1

**Stave walls**
(Figs 18, 19, 20)

Walls built of radially-split timbers have been constructed since Neolithic times (Childe 1949, pl. XXII, fig 2) and examples are still to be found in some Kikuyu houses in Africa (K B Andersen 1977, 77–87). There are many ways of splitting the staves, but as detailed discussion follows in the next chapter it is sufficient to say now that the form likely to have been chosen by the early builders at Goltbo would probably have been similar to that at Hedeby (Schiertz 1969) or in the African Kikuyu house (cf. Figs 18, 19, 20) where the edges of the staves were either butted against one another or slightly overlapped. It is also possible that the walls could have been built with posts set as close together as possible like the African Pokot houses (K B Andersen 1977, 219–20).

Staves or contiguous posts would have had to be bound at the top of the wall against the outward thrust of the roof. This could have been accomplished in several ways: firstly, a plate of timber could have been slotted into the top of the wall, as in the Saxon buildings (see p. 50); alternatively, and more likely, the walls could have been completed with wattles pressed between the tops of the posts or staves like those in the Pokot houses, or by bands of wattles or bands of heavier timber secured to the outer side of the wall top like the Kuria and Kikuyu houses respectively (K B Andersen 1977, 219–20, 120, 80).

![Fig 17 Plan and section of a Nandi house in Africa showing the earth-fast wall posts encased with clay and wattles (after K B Andersen)](image-url)

**The roof**

The roof is the most uncertain element in the reconstruction of these circular huts since the archaeological evidence is limited to the timber-trenches. Although some postholes were excavated inside the largest of the three huts, there was nothing to show that they were associated with the building; even if they were, they were set too close to the wall to be footings for the roof supports. However, it was only the largest of the three huts, over 40ft (12m) in diameter, which would have needed internal support for the roof because the rafters would have been over 30ft (9m) in length. Since such support would not have been subject to lateral thrust, the load would have been transmitted directly to the ground. It therefore follows that the principal function of any earth-fast foundations that there might have been for these posts would have been to facilitate the erection of the building. Accordingly, their depth would tend to be shallower than that of the wall trench. Since as much as 18in (0.46m) of the contemporary ground surface had been worn away by later occupation of the site it is not surprising that no remains of these footings
survived. In the absence of any archaeological evidence to indicate the form of the roof support, it would be reasonable to postulate that it was similar to those found in the larger huts at Winterton, where the roofs were supported by four internal posts and presumably an associated ring beam joined to the post heads. This type of construction may be traced back to the early Iron Age when it was adopted in the construction of particularly large buildings like the 50ft (15m) example at Little Woodbury, Wiltshire (Bersu 1940, 78-92).

Alternatively, there could have been a ring of about 25 inner posts set some 5ft (1.5m) inside the wall to support a continuous circle of horizontal timbers, as in the Pimperne house (Harding and Blake 1963). The horizontal members could have been joined to the posts by way of a fork at the post head or by way of a mortice and tenon joint of a type identified by the passing of the tenon through the horizontal member. The choice would in some instances depend on the number of posts involved in the construction of the roof support since it would be difficult to obtain sufficient naturally forked timbers for a building like the Pimperne house. Various forms of the mortice and tenon joint occur in early contexts at Stonehenge and the Glastonbury Lake Village (Bulleid and Grey 1906, 113–14). Without doubt the roof would have been completed with a ring beam, probably of wattle, set close to the apex to hold the tops of the rafters.

The thatch was possibly supported on laths, bound to the rafters with ropes of grass or hemp; in some instances leather thongs may have been used. Although wattle had a long tradition in roof construction, their widespread use in circular huts is unlikely since it would have been difficult to weave them through the narrow spaces between the rafters towards the apex of the roof. The huts could have been thatched with straw, sedge (Carex), or rush (Juncus), all of which must have been readily available at Goltho.

Smoke from the hearths possibly escaped through the thatch since an opening for this purpose would not only have let the rain into the building, but also into the roof itself. Further, the opening would have created a draught drawing sparks from the fire into the thatch.
Period 2: middle Saxon settlement, c 800–850 (Figs 12, 21–24)

During the last two decades considerable progress has been made in the understanding of Saxon buildings and rural settlement in England (Ralegh Radford 1957; Addyman 1972b; Rahtz 1976). The present archaeological evidence indicates that the early Germanic settlers, on entering England during the fifth, sixth, and seventh centuries, generally neglected the clay lands and took over the then existing pattern of farming from the native inhabitants who preferred the more easily worked lighter soils on the gravel, sand, and chalk (Rahtz 1976, 54; Ozanne 1962–3, 17). The lightest of these soils could have produced reasonable crops in the fifth and sixth centuries only by bringing fresh ground into cultivation after long periods of rest and by the use of all the available manure (Watson and More 1949, 31), but over-cultivation in some of the driest sandy areas would very soon have led to the breakdown of the soil structure in periods of climatic optimum rendering the land little better than a desert. Such conditions probably led to the desertion of some sites like those of the Breckland of north-west Suffolk (Clarke 1937, 90, 93). The increasing population and the failure of some of the lighter soils to stand up to continuous cultivation probably led to the exploitation of the clay lands during the peak years of the second climatic optimum in the eighth and ninth centuries (Lamb 1968, 7).

The artefacts from Goltho associated with this structural period were few and comprised only pottery. The earliest group included fabrics in shell-tempered ware, harsh shell-tempered ware, grey ware, Torksey ware, and Maxey ware. Many of these vessels were closely comparable with those from other early medieval sites in Lincolnshire (pp 164–8). The ceramic evidence shows that the village site at Goltho was resettled in the very late eighth or early ninth century after a period of complete abandonment since the Romano-British period. The pottery which dated the middle Saxon settlement was recovered from the footings of the palisade and also from occupational deposits in the north-west corner of the excavated site (see p 137). The farmsteads prospered

![Fig 19. Reconstruction of Romano-British huts: 1. walls of timber (a, b. cleft timbers, c, contiguous poles); 2, stave heads slotted to a plate as in medieval stave construction; 3, staves or contiguous poles held with a binding member as in some African houses; 4, 5, alternative methods of securing the ring beam to the internal roof supports in hut B]
until the middle of the ninth century when the site was cleared for the construction of the first of the sequence of fortified aristocratic homesteads which were to stand on the site until the middle of the twelfth century.

The excavation of the middle Saxon levels, although small in area, suggested that it was a planned settlement laid out with large rectangular croft-like enclosures (Beresford 1975, 12–13) along the side of the trackway, as at Catholme (Losco-Bradley 1974, fig 3), and Little Paxton (Addyman 1969). The houses at Goltico probably represent the homes of the Anglo-Saxon ceolr – the social equivalent of the Continental free man (Raleigh Radford 1957, 38). The houses are similar in size and construction to those excavated at Chalton (Addyman et al 1972, 12–28; Addyman and Leigh 1973; Cunliffe 1972), West Stow (West 1969; 1985), St Neots (Addyman 1965; 1969; 1972–3), Maxey (Addyman 1964), and elsewhere in England. Middle Saxon houses in Britain differ from many of those excavated on the Continent in that they were not long-houses in which the occupier and his animals could live at opposite ends of a building, under a single roof and sharing a common doorway in the lateral wall. Houses in which man and his farm animals lived under a common roof have a long tradition on the Continent dating back to the Bronze Age and the many excavated examples in Norway, Sweden, and Denmark show that this was the characteristic house plan in Scandinavia during the Iron Age and Viking periods (Roussel 1974). The aisled buildings at Feddersen Wierde (Haarmagel 1958; 1961) are typical of the type of dwelling found in Germany between the late Iron Age and the fifth century AD. Later examples of large long-houses occur at Warendorf near Münster (Winkelmann 1954) in the seventh and eighth centuries. Although isolated long-houses occur in the British Isles, eg at Jardshof, Shetland, c 850 (Hamilton 1956, 102), and at Mawgan Porth, Cornwall, c 950 (Bruce-Mitford 1956), there is no evidence to indicate that they were widely distributed until the late thirteenth or early fourteenth centuries. The apparent dearth of Saxon and Norman long-houses may be attributed to the mean temperature of the maritime climate prevailing in England and Wales, which was warmer than that of places of similar latitude on the Continent. Consequently small numbers of cattle could always be out-wintered...
especially in periods of climatic optimum. However, the increasing number of cows held by the peasantry and the climatic deterioration of the late thirteenth and early fourteenth centuries led to the widespread construction of the long-house in pastoral areas of Britain in order to protect the meadows from the treading of the animals during the winter months (Beresford 1975, 13–18; 1979, 124–7).

Although bones of oxen, pigs, and sheep were found among the spread of occupational debris from the houses, there was nothing to show whether the community was principally dependent upon pastoral or arable farming for its livelihood. However, the layout of the site, the size and construction of the houses, and the quantity of pottery found on the site suggest that the population was as prosperous as any of those living at the other settlements of this period which have been excavated during the past two decades in Britain.

The track by which the middle Saxon farmsteads lay ran in a north-westerly direction on the same course as the late medieval village street by crofts 31 and 32, suggesting that much of the south-east corner of Goltho village may have been set out in the ninth century (Fig. 21). It is unfortunate that the early foundation of the settlement was not realised before the levelling of crofts 30, 31, 32, 36, and 37 during the winter of 1970, as their excavation would probably have revealed further middle Saxon occupation. Tantalising glimpses of trenches and substantial postholes lying immediately to the south of the manorial enclosure were fleetingly revealed as the site was being levelled after excavation, indicating the extension of the early settlement in a southerly direction (cf. Figs 4, 21).

The remains of the two farmsteads lay to the west of the trackway, but both enclosures had been extensively damaged by the excavation of the late eleventh-century moat which destroyed the northern end of the northermmost holding and all but the northern end of the other. Accordingly it was not possible to determine their original size. However, approximately 125ft (37.5m) of road frontage survived in the best preserved northern farmstead, but only 45ft (13.5m) in the other; both enclosures extended about 140ft (42m) back from the trackway. The period of occupation extending from c. 800–850 can be divided into two structural phases, the second of which in the northernmost farmstead was marked by the rebuilding of the house and its associated boundaries. The rebuilding of the boundary in the southern homestead indicates that the sequence there was similar.

**Phase 1**
(Figs 21, 22)

The boundary of the two farmsteads was defined by a timber-trench cut some 2ft 6in (0.76m) into the clay; allowing for the removal of the contemporary topsoil by later occupation of the site, the trench was probably a few inches deeper in origin. It was about 3ft 6in (1.07m) wide at the top and about 18in (0.46m) at the bottom. The trench running between the two farmsteads was slightly smaller. No remains of the post positions could be identified in the difficult soil, either in plan or section, but the fact that the proportions of the trench were rather deep for the width suggests that it was the footings for a timber palisade. The position of the entrance to the northernmost farmstead was clearly marked by an area of wear in the gateway some 12ft wide and 18in deep (3.6 x 0.46m), covered with a thin spread of stones. Both farmsteads had been divided by a shallow gulley lying some 40ft (12m) into the enclosure parallel to the trackway, possibly separating a toft from the croft as in the later medieval period (cf. Fig 4). The trench varied between 12 and 15in (0.3 and 0.38m) in depth and the bottom between 9 and 15in (0.23 and 0.38m) in width. It was not possible to determine whether it was the footing for a palisade of lighter construction or an open ditch by the side of a hedge. It was not replaced in the second structural phase. No evidence of a gateway was found in its course through the northern farmstead; perhaps it lay outside the area of excavation or perhaps it had been closed with a light hurdle which would have left no archaeological remains.

The house of the northern farmstead was built with its eastern end facing the trackway just to the south of the gateway.

**Phase 2**
(Figs 21, 22)

The boundary of the second phase lay on the same alignment as that of earlier date but was marked by lines of postholes up to 18in (0.46m) in diameter, measured at the base, up to 2ft (0.6m) in depth, and set up to 10ft (3m) apart. The shallow depth of some suggests that the boundary was of lighter construction than that of the earlier phase. There was nothing to indicate its character, but it would seem likely that it was of post, rail, and wattle construction, a type having a long tradition in Lincolnshire where examples occurred until recent years in cattle yard shelters (Beresford 1975, 13–18). The post-pits along the southern boundary produced a group of vessels comprising cooking-pots, bowls, and jars, the fabrics of which were shell-tempered, grey sandy, Torksey, and Maxey-type wares (p 137, Fig 131).

The house of the second phase was built close to the boundary on the opposite side of the enclosure. The later dating of this house is attested by the spread of associated pottery in the north-west corner of the excavated site (p 137, Fig 132).

**Houses**
(Fig 21)

Although a substantial stone 'industrial hearth' survived in the small enclosed yard by the side of house 2, the floor levels of the two houses excavated in the northern farmstead had been worn away by the later occupation of the site; accordingly, the hearths did not survive. The domestic hearths were probably of trampled clay similar to many elsewhere of this period, so only a little wear of the ground surface
would have removed any evidence of their existence. Since there was no other building nearby which could be interpreted as a house, the absence of hearths in these two buildings does not indicate that they were not houses; the spread of middle Saxon pottery, especially that around the environs of house 2 in the north-west corner of the excavated site, clearly indicates its domestic character. Besides, large outbuildings in this period would have been comparatively rare since it was the usual practice for farming communities to keep produce at one end of the house whilst occupying the other.

House 1
(Figs 21, 22)

House 1, probably built c 800, stood on an east–west alignment by the side of the road. The house, comprising two rooms, was 36ft (10.8m) long with the width 18ft (5.4m) in the east tapering to 16ft (4.8m) in the west, the position being clearly defined by lines of postholes some 12in (0.31m) deep and set 2–3ft (0.6–0.9m) apart. As with some other houses of the Saxon and Norman periods, the end walls were apparently built without earth-fast foundations (Beresford 1975, 21–2). The positions of the opposed doorways set to the east of the partition were marked by the slightly wider spacing of the postholes.

House 2
(Figs 21–24)

House 2, built on an east–west alignment, stood close to the western boundary of the farmstead. The building, bow-sired in plan (see p 46), was 19ft 6in (5.8m) wide in the middle, 17ft (5.1m) wide at the ends, and 44ft (13.2m) long, and its position was clearly defined by postholes 9–12in (0.23–0.30m) deep and spaced about 3ft (0.9m) apart. Some of the extra postholes may be attributed to adjustments made as the building was rising to conform with the irregularities of the timber used, or to later structural repairs. Access to the house was gained by way of two opposed doors set in the lateral walls towards the western end of the building. Their positions were marked by the slightly deeper and larger postholes of the door jambs and, in the southern doorway, by a threshold piece. A light partition divided the house to form a small inner room towards the eastern end of the building.

Outside the house to the north a small fenced yard approximately 23 by 30ft (6.9 x 9m) contained two rectangular stone hearths. An associated thin spread of slag suggested that the area had been used for smithing. Although a considerable quantity of pottery was recorded with the remains of house 1, a group from the occupational deposits of house 2 is of more interest. The group comprised the remains of some 68 vessels, consisting of 44 cooking-pots, 22 bowls, and 2 pitchers. The fabrics include shell-tempered, Torksey-type, grey, and Stamford wares (p 137). Stratigraphically these deposits are later than those found in the palisade footings and are themselves sealed beneath the levels of occupation associated with the first of the aristocratic homesteads. No metal finds were excavated from the middle Saxon levels of occupation.
The very heavy clay driven into the one direction would have to be of the original excavation of ground to clear the site for another building.

26

The remains of buildings constructed with unprepared timbers some 6–9in (0.15–0.23m) in diameter set in small, shallow postholes are frequently difficult to interpret unless circumstances are such that the position and size of the posts are revealed either in section or plan on excavation of their footings. An impression of a post can only be recorded in the fill of the hole either if the post foot rotted in the ground or if the original packing after the withdrawal of the post remained in position until the cavity was refilled with fresh earth. Frequently posts were dug out of the ground to clear the site for another building and in the process the postholes were enlarged to facilitate the withdrawal of the post. Soon after, the sides of the holes would weather, rendering their shape very different from that originally excavated. The method of the original excavation of the postholes must determine their size (see p 75); if the hole for a small post were excavated with a spade, the hole in at least one direction would have to be as wide as the spade itself. In some instances where the nature of the soil permitted, the posts could have been pointed and driven into the ground; in others the soil could have been loosened with a bar and scooped out by hand. The very heavy clay soils at Goltho made the reading of even the largest sections difficult and those of the small postholes almost impossible. In these circumstances it is only possible to determine the approximate size of the posts used in the construction of these houses from the diameter of the bottom of the postholes, the part least likely to have been disturbed.

The size and shape of the postholes of the two houses excavated in the northernmost homestead suggest that the posts were untrimmed and about 6–9in (0.15–0.23m) in diameter. The posts were poorly aligned and unevenly spaced in both buildings. The alignment was too poor to have permitted the fitting of a plate to the post heads by way of a post head tenon or by way of a halved joint and the posts were too closely set for the difficulty to have been overcome by the use of short plates as at the Cherhill Barn, Wiltshire (Fig 64; Rigold 1968). The terms 'normal assembly' and 'reversed assembly' were coined by Mr Cecil Hewett to describe the relationship between the post, tie beam, and plate. In 'normal assembly' the tie beam is dovetailed on to the plate which rests upon the post. In rare instances the order of erection of the two horizontal members is reversed so that the tie beam rests directly onto each pair of posts while the plates run above it, hence 'reversed assembly' (Hewett 1961, 33–7; 1962–3, 260–2). In the earlier house, built by the side of the road, the posts were too closely set for the practical use of reversed assembly with a tie beam to every pair of opposed wall posts; the posts were also too poorly aligned for the use of reversed assembly with a tie to every third or fourth pair of opposed posts. In the second house reversed assembly could not be reasonably considered since there were more posts on one side of the building than...
on the other. The close setting of the posts and their poor alignment must, therefore, suggest that the walls were either of clay and wattles or of clay tempered with chopped straw (Fig. 23), constructed so that the wall material completely surrounded the posts; in such a wall the poor alignment and spacing of the posts would have been of no consequence. Clay walls tempered with chopped straw and laced with posts set in earth-fast footings had a long tradition on the clay lands (Beresford 1981a). Buildings of this type had the advantage that timber of interior quality could be readily used. Timbers like ash or some sapling hardwoods containing a high proportion of sapwood, normally classified as perishable or at best non-durable when set in earth-fast footings and exposed to the weather, could readily be used since they would have been encased in thick clay walls and so protected from the damp, insects, and wood-rotting fungi (Purslow nd; DoE 1969). The availability of the necessary materials on the clay lands and the lack of structural complexity in the design must have been an attraction to the small builder throughout the Middle Ages. The difficulty in obtaining crushed stone, chalk, or slate, or other suitable aggregate for the tempering of cob walls in the "no stone areas" of the clay lands probably led to the development of this type of building. Although they must have had all the appearance of cob construction, and probably some of the advantages too, they must have been easier to erect and could have been completed with less skilled labour. Walls only some 18-21 in (0.46-0.53m) thick would have required less material than those of a traditional cob-walled structure, and the narrow timber-laced walls would have facilitated the hardening of the clay, thus permitting early occupation of the building; it is said that it took two years to build a cob-walled house of two storeys (Clifton-Taylor 1972, 289).

Although certain vernacular buildings in Ireland (McCourt 1972) and Devon (L Alcock 1966, fig 2) show that roofs can be constructed without wall plates, it seems likely that they would have been adopted in these buildings in order to distribute the weight of the roof evenly along the length of the wall and so prevent the rafters from sinking into the wall material. The zigzag alignment, the close setting, and the narrow width of the posts in many of these buildings would preclude any possibility of a plate being joined to the post heads, but one could have been placed on the top of the wall as in a building of stone, cob, or clay lump; alternatively, heavy wattles could have been woven between the post heads to support the feet of the rafters as in the African Pokot houses today (K B Andersen 1977, 217-21).

Contemporary illustrations of Viking and Norman houses show that both hipped and gable-ended roofs have a long tradition in the British Isles and on the Continent, but the choice, in some circumstances, must have depended upon the availability of suitable building materials — especially in timber buildings — to infill the gable before the development of timber framing as known in the later Middle Ages (Peterssen 1958; Henry 1967, col pl 13; Stenton 1965; Christie et al. 1979). Although there are some houses of cob in Devon and clay lump in Norfolk (Clifton-Taylor 1972, 283-4) which have gable-ended roofs, it is unlikely that they were frequently adopted in buildings constructed with timber-laced walls since many of the slight posts in the end walls could not have reached up to the top of a gable in a wide building. However, in the second house the bow-sided plan and the presumed hog-back roof would have facilitated such a construction owing to the smaller dimensions of the gable (see p 48).

The excavation of the middle Saxon houses at Goltho revealed no evidence of internal posts to support a ridge piece or arcade plate or any feature to indicate the form of the roof. However, a roof built against a ridge piece or a trussed rafter roof construction could be considered. Both types could be constructed with poles or with prepared timbers and would have the advantage of spreading the load of the roof evenly along the length of the wall — an important factor in a building of relatively light construction.

The ridge piece has a long tradition in England and its widespread use is attested by its dialect names in the west, north and east Midlands, Lancashire, and Yorkshire (Innocent 1916, 13). The purpose of the ridge piece is to provide a convenient method of fixing the rafters and not to bear the weight of the roof. Many reconstructions of medieval houses base the assembly of the roof upon a ridge piece housed in the fork formed by the crossing of the principal rafters at the ends of the building. Although this type of ridge has had a long tradition on the Continent, there is no evidence to suggest that it was ever adopted in Britain except in cruck construction (N W Alcock 1973, fig 6); perhaps none has survived. Nevertheless, the ridge could have been housed between the ends of common rafters as at the farmhouse near Strata Florida Abbey, Cardiganshire (S W Williams 1899), or lashed to paired common rafters with grass ropes. There was nothing to suggest that a ridge was supported by a central row of posts: However such a roof must have some means of compensating against the outward thrust. In the absence of any evidence to suggest that the houses had been built with outside buttresses, the outward thrust could only have been contained with tie beams and wall plates, but a construction of this type does seem rather out of character with the relatively light construction of the walls. In these circumstances a collared rafter roof might seem to have been a likely choice for this type of building in the middle Saxon period at Goltho. The construction is particularly suited to a building of this type where the walls were of relatively light materials and where the opposite walls must have been difficult to tie adequately together. The collars, set two-thirds up the height of the paired rafters, would have contained the outward thrust of the roof and the longitudinal stability would have been provided by the thatching laths or possibly by wattles woven between the rafters for the support of the thatch. Wattles were favoured in many parts of the British Isles, with recorded examples occurring in medieval and later buildings, as at Higher Tor, Widecombe, Devon. Athelney, Somersetshire (Laver 1909), or the farmhouse near Strata Florida Abbey, Wales (S W Williams 1899).

A layer of turf was possibly pressed between the wattles and the thatch as in Scotland (Roussel 1974).
Ireland (Buchanan 1957), and on the Continent (Innocent 1916, 214–15), where the use has persisted. The turves were usually cleaned of surplus earth so that the matted roots could be placed between the wattles or laths. In some counties in Ireland (Buchanan 1957, 126) the turves were cut about 2 ft (0.6 m) in width and up to 20 ft (6 m) or more in length running from the wall plate to the ridge which they overlapped by about 1 ft (0.3 m). The houses could have been thatched with either straw, sedge (Carex), or rush (Juncus) (Innocent 1916, 213–14), all of which would have been available at Goltho.

Notes

1. I am most grateful to Dr Peter Reynolds for this information.
2. The road seems to have been diverted in a south-westerly direction to allow for the increase in the size of the churchyard.
3. I am most grateful to Dr N W Alcock for drawing my attention to this house.
Period 3: ninth-century fortified earthwork enclosure c 850–950

The middle of the ninth century saw the beginning of the structural sequence of imposing Saxon houses to be built at the Goltho manor site. The hall and domestic offices stood round three sides of a courtyard and were enclosed by substantial fortifications (Fig 25). The layout of the site and its surrounding defences are, at present, without parallel, but the hall is comparable in both size and plan with that at the royal palace at Cheddar, referred to in tenth-century charters witnessed at the palace as villa celebris, palatio regis, and sedes regalis ad Cedore. However, Cheddar was a country palace, an important royal estate, visited by kings from the late ninth century until the reign of John (Rahtz 1979, 14–15). Substantial though the halls at Cheddar and Goltho were, their size was less than half that of the seventh-century palace at Yeavering and that of the eighth to ninth century at Northampton (J W Williams 1984, 120–6), and about one-twelfth of the late eleventh-century palace at Westminster (RCHM 1925, 121–3; Rahtz 1976, 69, fig 2.8). The plan of the ninth-century hall at Goltho was also similar in size to those of the larger houses of the freemen at Warendorf, but the superior social position of the occupier of Goltho to that of those living at Warendorf (Winkelmann 1954) is attested by the substantial range of associated domestic buildings and the fortifications, features lacking in the houses of the freemen.

The plans of the buildings of the third structural period dating from c 850 to the middle of the tenth century were confused by the footings of those of later date superimposed on similar foundations. To facilitate their understanding all the ninth- and tenth-century buildings are illustrated in Figure 26 which also shows the remains of the eleventh- and early twelfth-century structures in broken lines. Figures 27 and 28 show the buildings in their respective structural periods.

Pottery from occupational and constructional deposits (see p 137) associated with the hall, kitchen, weaving shed, and garderobes indicated that the 'manorial' complex was founded some time in the middle of the ninth century, probably early in the second half. Such dating in most circumstances would
be quite satisfactory, but since this period was crucial in the history of the province of Lindsey, owing to the extensive Viking settlement of the area in the late 860s and early 870s, much closer dating would be required to establish whether the manorial complex was founded by a member of the Saxon aristocracy in the 850s or early 860s or by one of similar position of Viking origin at the time of their settlement of the region. Unfortunately there is insufficient evidence to determine the origin of the builder with any degree of certainty, but the little evidence there is, although possibly open to various interpretations, suggests that the ‘manor site’ could have been of Saxon origin. First, there was nothing to suggest that the farmstead had been ravaged by Viking raiders before the establishment of the manorial complex; second, the footings of the hall and associated domestic offices were more comparable with those of the Long Hall at Cheddar - well outside the area of Viking settlement - than with some substantial village houses of similar date recently excavated at Viking-age settlements in West and Central Jutland, Denmark (Becker et al. 1979); third, there was a dearth of artefacts of possible Scandinavian origin associated with these early levels; finally, both Goltmo and Bullington are Old English place-names (Ekwall 1960, 200) rather than of Viking origin. The fortifications of the enclosure must not be taken as a criterion of Viking settlement since there is now growing evidence of the existence of private defences within the Saxon period.

The excavation of the levels associated with the early aristocratic homestead produced five principal groups of pottery which included shell-tempered, harsh shell-tempered, grey sandy, Stamford, and Torksey wares (pp 141-3). The ferrous metal finds included knives, a bridle bit, and a weeding spud. Other finds included those associated with spinning and weaving (pp 178, 187, 195).

The fortifications
(Figs 28-33)

The manorial enclosure was fortified with a strong rampart and ditch, but these earthworks had been extensively damaged in the course of the construction of the defences of the later structural periods and the remnants were few. Nevertheless, sufficient remained to show that the enclosed area, sub-rectangular in shape, was approximately 160ft (48m) long and 160ft (48m) wide. The position, however, was clearly defined by the footings of the ramparts to the south of the enclosure, by the spread of demolished rampart material to the west, and by the ditch to the north and east. No remains of the entrance survived. The ditch was excavated with the superimposed earthworks of the motte and bailey castle in the summer of 1972 before the early foundation of the site had been realised. At that time there was nothing to suggest that it had formed a major part of an earlier defensive system; consequently its course was not followed. By the time the early levels had been reached, much spoil had been deposited over the remains. Since funds were very limited and chances of successfully tracing the line were not auspicious, further excavation of such a large area was not practical.

The ditch was between 7ft and 8ft (2.1-2.4m) in depth and about 18ft (5.4m) wide round the north-west corner of the site. The remains, although extensively damaged by the earthworks of the motte and bailey castle, could be followed for some 38yards (34m) around the north-east corner of the enclosure before running on beyond the limit of excavation (cf sections marked H to B in Figs 28-31). The best preserved part of the ditch was recorded in sections F and G where the sides and fill were almost undisturbed. In section H the western side and much of the bottom of the ditch survived, but the eastern side had been destroyed by the eleventh-century moat. The remains of the ninth-century ditch at this point are clearly visible in Figure 33. Sections E to B mark both the line of this ditch and that of the superimposed late eleventh-century motte revetment trench (Figs 28, 29). The widening of the western side of the ditch at this point could possibly be attributed to the collapse of the side under the weight of the rampart (Fig 29); similar slips were recorded in the side of the late eleventh-century moat (Figs 28, 94). Section B marks the point where the course of the early defensive ditch and the motte revetment trench divide: the former continued in a north-west direction while the latter turned sharply to the west. No trace of the ninth-century ditch could be found in section A. The shallow ledge on the southern side of the late eleventh-century moat in this section (Figs 29A, 30A) was probably similar to that found in the bottom of the moat in section H (Fig 30H), discussed in chapter 5.

The surviving section of the rampart lay to the south of the site. Although the outer face and much of its depth had been cut away by the eleventh-century moat, the inner face was well preserved for a length of about 140ft (42m) (Figs 25, 28). The remnants of the rampart stood about 15in (0.38m) high and were up to 12ft (3.6m) thick when the site was excavated in 1974. The footings were made up of a mixture of clay from the ditch and patches of darker soil. Since the whole of the outer face of the rampart had been destroyed, any reconstruction must depend upon analogy, but it is possible that it was similar to that of the early eleventh-century fortification by which it was replaced. That rampart at the time of its excavation was 24ft (7.2m) wide and 6ft (1.8m) high; the ditch was 18ft (5.4m) deep. In the absence of any evidence to indicate the form of the front revetment of either rampart, it is likely that it would have been of turf. It is possible, although somewhat unlikely, that footings of a timber revetment could have been set in a shallow trench insufficiently deep to penetrate the subsoil. At Cricklade (Raleigh Radford 1972, 100-3) the timber-trench was cut no more than 9in (0.23m) into the subsoil; at Hedeby (Jankuhn 1937, 198, fig 122, 204-6) there was no trench in the oldest rampart, but the uprights were set in shallow foundations barely deeper than the topsoil. The ramparts of the two fortified enclosures at Goltmo would, without doubt, have been completed with a timber breastwork. Since it is evident that its footings were cut into the summit of the rampart rather than on
the old ground surface, they must have been set slightly back from the rampart's outer face in order to provide sound footings. Such a decision appears to have been taken after the Norman Conquest at Abinger where there is a slight berm between the breastwork and the upper edge of the motte (cf Figs 93, 106).

From these sparse remains it is possible to reconstruct the shape of the enclosure and the approximate scale of the fortifications. The surviving sections of the ditch clearly defined the eastern boundary, and the slight turn of its course close to the northern limit of its excavation indicated the approximate position of the northern boundary. A trial trench was cut with a machine in a westerly direction across the field from the excavated area in order to establish the position of the western boundary, but since no trace of its course was found, it may be reasonably assumed that this section had been completely destroyed by the excavation of the moat of the motte and bailey castle in the late eleventh century. This hypothesis is greatly strengthened by the general spread of levelled rampart material all along the western side of the excavated site. The south side of the enclosure was clearly marked by the inner face of the rampart. Allowing for a reasonable curve of the two corners of the southern part of the site, the rampart would have been approximately 18–20ft (5.4–6m) wide. Its width can be determined by the amount of space between both the south-west corner of the hall and the south-east corner of the bower, and the extended lines of the inner face of the rampart and the eastern ditch (Figs 28, 29, 31).

The uneven shape of the enclosure suggests that the fortifications were put up to protect already standing buildings with the greatest economy of labour. The construction of the ramparts could have been effected within weeks or possibly years of the completion of the buildings, but since the shape was largely governed by the bower in the south-east corner of the enclosure, they must have been completed within a period of 30–40 years, the estimated life of a building of relatively light construction. This, of course, does not necessarily mean that there was any undue interval between the date of the completion of the buildings and that of the fortifications, since it may have been general practice to construct the buildings before surrounding them with fortifications, as the
irregular shape of some of the later medieval moated enclosures seems to suggest.

The excavation of the interior clearly revealed that the site was domestic in nature, a homestead of a man of considerable importance, and not a fortified township like Wareham (RCHM 1959, 125-6, fig 47) or a military fort like Trelleborg (Nørlund 1948). The scale of the early earthworks at Goltho, stronger than those of the early tenth-century borough defences at Tamworth (Gould 1968-9, 32-41; 1967-8, 17-25) and almost as impressive as those of the first period at Wareham (RCHM 1959) or Cricklade (Ralegh Radford 1972, 100-3), indicated that they were constructed for serious defence rather than to create an impressive boundary setting the demesne apart, like some moats of the thirteenth and fourteenth centuries (Table 1).

The deep outer ditch also indicates that the earthworks were built for defence rather than to serve a purely utilitarian function, since a substantial bank could more readily be built from the surrounding topsoil, as in the construction of the earthen field boundaries in south-west England today.

Defences similar to those at Goltho were appearing at major sites on the Continent during the same period. The mid ninth century saw the construction of the bishop’s fortress at Hamburg (Kramer 1958, 596) which was fortified with earthen banks revetted with timber. These fortifications were built after the Carolingian penetration to the Elbe and were to serve as a frontier fortress against the Slavs and Danes.4

There is also evidence of defended sites in the British Isles. The Irish raths date from the Roman period onwards (Armitage 1912, 324-7; Proudfoot

<table>
<thead>
<tr>
<th>Name of site</th>
<th>Width of ditch</th>
<th>Depth of ditch</th>
<th>Width of rampart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cricklade</td>
<td>20ft (6.0m)</td>
<td>5ft (1.5m)</td>
<td>30ft (9.0m)</td>
</tr>
<tr>
<td>Tamworth</td>
<td>15ft (4.5m)</td>
<td>5ft (1.5m)</td>
<td>16ft (4.8m)</td>
</tr>
<tr>
<td>Wallingford</td>
<td>35ft (10.5m)</td>
<td>not excavated</td>
<td>35ft (10.5m)</td>
</tr>
<tr>
<td>Fyrkat</td>
<td>22ft (6.6m)</td>
<td>6ft (1.8m)</td>
<td>39ft (11.7m)</td>
</tr>
<tr>
<td>Trelleborg</td>
<td>50ft (15.0m)</td>
<td>12ft (3.6m)</td>
<td>62ft (18.6m)</td>
</tr>
<tr>
<td>Plessis-Grimoult 2</td>
<td>15ft (4.5m)</td>
<td>6ft (1.8m)</td>
<td>24ft (7.2m)</td>
</tr>
<tr>
<td>Goltho 3-4</td>
<td>18ft (5.4m)</td>
<td>7-8ft (2-2.4m)</td>
<td>20ft (6.0m)</td>
</tr>
<tr>
<td>Goltho 5</td>
<td>18ft (5.4m)</td>
<td>6ft (1.8m)</td>
<td>25ft (7.5m)</td>
</tr>
</tbody>
</table>

Fig 28 Period 3, c.850-950: plan showing the position of the buildings, the remains of the ramparts, and, in sections B-H, the defensive ditch; the broken line marks the position of the Norman moat and motte excavation trench

Table 1 Some pre-Norman Conquest fortifications in England and on the Continent
Fig 29 Plan and interpretation of the superimposed fortifications c 850–1000 and 1080–1150 constructed on the north-east corner of the site, showing the course of the mid ninth-century ditch (period 3) and the footings of the superimposed motte revetment trench c 1080–1150 (period 6); the course of the west bank of the ninth-century ditch is marked by the unbroken line, while the broken line defines the position of the inner side of the Norman moat and motte revetment trench: 1, the plan of superimposed fortifications of the two periods; 2, reconstruction of the course of the ninth-century ditch and its associated rampart; 3, reconstruction of the superimposed motte revetment trenches c 1080–1150
The larger examples possibly represent communal settlements while those of smaller size, which are the more numerous, are likely to be the residences of kings or chieftains or, in some instances, enclosed farmsteads. There are also the brochs (Cruden 1960, 1–6) in Scotland which possibly belong to the first century AD, but many of these may have served as communal protection from Roman slave traders. Excavations at Yeavering, the seventh-century seat of the kings of Northumbria, revealed the remains of a large, fort-like enclosure, but apparently the hall and its associated buildings lay unprotected outside (Hope-Taylor 1977, 157, 163). The existence of private fortifications at an early date in England is indicated by the Anglo-Saxon Chronicle in an entry for the year 757 in which it describes a stronghold with a gate and chamber (Whitelock et al 1961, 30–1). It records how an Atheling called Cyneheard, on discovering that Cynewulf, King of Wessex, was at Merton visiting his mistress with a small following, overtook him there and surrounded the chamber and killed him. The account continues that on the following morning the king’s thegns who had been left behind heard that the king had been slain and rode and discovered Cyneheard ‘in the stronghold where the king lay and they locked the gates against them – and they went thither’. Finally it recalls that they proceeded to fight around the gate before they broke their way in and killed the Atheling and the men who were with him, all except the one who was the eardorman’s godson. The Laws of Alfred also indicate the existence of private defences by the inclusion of the word ‘besiege’ in Clause 42 and 42.1 (Whitelock 1955, 379). The relevant clauses rule ‘Moreover we command: that a man who knows his opponent to be dwelling at home is not to fight before he asks justice for himself; if he has sufficient power to surround his opponent and besiege him there in his house, he is to keep him seven days inside and not fight against him, if he will remain inside; and then after seven days, if he will surrender and give up his weapons, he is to keep him unharmed for 30 days, and send notice about him to his kinsmen and his friends.’ Finally, there is the compilation known as ‘Of Peoples Ranks and Laws’ probably written by Archbishop Wulfstan of York between 1002 and 1023 stating that ‘if a freeman prospered so that he had fully five hides of land of his own, a chapel and a kitchen, a bell-house and a burh-seat, and a seat and a special office in the King’s Hall, then henceforward he was worthy of the rights of a thegn’ (Liebermann 1903, 1, 456; Whitelock 1955, 432). Although the term ‘fortress’ is not mentioned, it is clear that the thegn was expected to have some form of private defended enclosure or burh in which stood his hall and other domestic offices.

The plan of the village suggests that the enclosure was entered either by the north or east. Close examination of the eastern side of the site where the
inner bank of the boundary ditch was well preserved revealed no remains of the gate. Although this was the side on which the middle Saxon farmstead was entered, it is not surprising that the gate of the mid ninth-century ringwork was not there since the early trackway had been included in the new enclosure. Nevertheless the layout of the buildings and the stone path leading to the hall suggest that it stood north-west of the weaving shed, slightly to the west of the later entrance of the eleventh-century ringwork, on a site destroyed by the twelfth-century moat (see Fig. 71). A gate in this position would have provided a direct and impressive entrance to the principal door to the hall and would have given easy access to all the buildings. The strength of the defences suggests that the gatehouse would have been substantial (Figs 31, 32).

It is unfortunate that the entrance to the ringwork did not survive, as its excavation would certainly have assisted in the interpretation of the earthworks at Goltho and may have elucidated the meaning of the *burh-gate* listed in 'Of Peoples Ranks and Laws' (Whitelock 1955, 432). The interpretation of the term *burh-gate* has been a subject of controversy: Davison (1967b, 204) suggests that this implies some form of private defended enclosure in which stood the...
thegn's hall, chapel, and other buildings; while Maitland (1960, 232, n 3, 226), basing his argument on the pre-Conquest legal text 'Thus far shall the king's peace extend from his burh-geat', thought that it had some lordly symbolic function probably for the administration of justice, though his arguments are mainly based upon twelfth-century evidence by which time burh-geat did mean the right of justice (for example see Henry II's grant of Berkeley to Fitz Harding in 1154 (Smyth 1883, 24-5)). By the early eleventh century when 'Of Peoples Ranks and Laws' was written, burh-geat may already have had connotations of justice. However, by c 1000 justice was connected in legal phraseology with a ditched place - a burh - belonging to a thegn, and also with the break in the ditch which, as it was mentioned, must have been impressive and in the form of a gatehouse. The excavations at Goltby have clearly demonstrated that it was possible for a thegn's residence to be fortified and it is inconceivable that it was an isolated example. However, thegns formed a numerous class (Stenton 1947, 479-82): some were certainly holding large estates in several counties in the early tenth century and those with special services in the king's hall might have others in their community to attend them at court, but there were still many, as the Domesday survey demonstrates, whose possessions were small. But even those living in impoverished circumstances were, in social standing, sharply distinguished from even the highest ranks of the peasantry (Stenton 1947, 481-2). It would be difficult to envisage that the impoverished thegns occupied fortified houses; moreover, if all thegns' residences were fortified, it is more than probable that the remains of some would have survived above ground as substantial earthworks or would have been revealed by excavation.
However, it is probable that many thegns would have had impressive gateways leading through their homestead boundaries, whether they were hedges, palisades, or substantial earthworks like those at Golti; such a tradition was to persist throughout the Middle Ages in the construction of both ecclesiastical and secular houses. The size and defensibility of a *burh-gate* built in the Saxon period would without doubt reflect the social position of the thegn and the strength of the surrounding fortifications.

As yet, no remains of a thegn's *burh-gate* have been found in England, but gateways, some of two storeys, are known at various types of site from excavation and documentary sources on the Continent. Among the earlier excavated examples are Kastell Holmbeck of c. 811 (Sprockhoff 1958), and Bennigsburg (von Uslar 1964, 114–16) and Hünenburg (Sprockhoff 1933), both of the tenth century, where it is thought that the two rows of three posts supported revetments for the ramparts and perhaps carried a bridge or tower. Perhaps some of the more helpful examples are to be found in Carolingian documentary sources such as the *Brevium Exempla* (MGH Leges II, 250–6), inventories of royal and ecclesiastical establishments which *inter alia* refer to substantial gatehouses of two storeys. One of particular interest is that which mentions *porta lapidea et desuper solarium ad dispensandum* (MGH Leges II, 254, 8–9). This may be taken to mean a stone gateway with a balcony to make distributions, or, as du Cange (1840–50) and Niermeyer (1954) suggest, it may be interpreted as an upper room for estate management. Perhaps this inventory could elucidate the pre-Conquest legal text 'the king’s peace extending from his *burh-gate*’ (Maitland 1960, 232, n 3, 226).

During the years following the Norman Conquest the timber gatehouse was frequently the main military feature in some fortified earthwork enclosures and was built to defend the weakest part of the perimeter, as at Penmaen, South Wales (L Alcock 1966, 181–90). In some castles built within a few years of the Norman Conquest the gatehouse of two or more storeys was built of stone and set in earthen ramparts as at Bramber and Exeter (Davison 1967b, 207) and Lincoln (Renn 1973, fig 43, 236).

Fig 33  Periods 3–4: view looking west of the twelfth-century moat after excavation showing the western bank and the course of the ninth-century ditch, the bottom of which lies some halfway up the side of the later earthwork (cf Figs 28–32) (photo: G Beresford)
Excavation of the interior
(Figs 25, 31–58)

The excavation of the interior revealed the remains of a range of substantial timber buildings constructed round three sides of a courtyard. The hall and weaving shed stood at opposite sides of the courtyard while the kitchen made up the third side. A fourth building, without doubt the bower, stood some 40ft (12m) from the doorway leading from the eastern end of the hall. The two principal buildings, the hall and weaving shed, were of stave construction. In Britain, owing to the extravagant use of timber which necessitated the felling of a great many trees, construction of this type was most likely to be found in the halls of secular or ecclesiastical magnates or in churches. The buildings at Goltho were certainly the work of skilled craftsmen. However, the minor domestic offices were of clay laced with timber, similar to the houses of the peasantry, which were built with less skilled labour (pp 24–8). Both types of building have a long tradition dating from prehistoric times, but it was the stave construction which was employed in the houses of the aristocracy in the Saxon period. Although stave construction was to persist in Scandinavia, the present evidence suggests that it gave way to other types of building towards the end of the eleventh century in England. The remains of timber buildings of differing construction are not infrequently to be found lying side by side, as the excavations at both Yeavering and Wintringham have so clearly demonstrated (Hope-Taylor 1977; Beresford 1977a).

The long hall

Phases 1–2, c 850–950
(Figs 27, 34–40, 44–53)

The long hall built c 850 was the first of a long sequence of substantial superimposed halls to be built at the Goltho manor site and it stood until about 900 when it was either extensively repaired or completely rebuilt upon the same foundation. Timber-trenches varying in depth from 1ft 6in to 2ft
Period 3: Ninth-Century Fortified Enclosure

Fig 35 Period 3, sections of halls c 850-950: 1, fill of the trenches; 2, stone packing for the support of the door jambs; 3, later disturbance. Section of the north wall trench looking east (1-1 insert): 4, the original packing of the trench behind the staves; 5, the fill after their withdrawal; the section clearly reveals the impression of the inner face of the footings of the wall.

Fig 36 Period 3: view looking west of the curved timber-trench of the north wall of the late ninth-century hall, overlying a circular Romano-British hut (cf Fig 34) (photo: G Beresford)
Fig 37 Deep post-holes for door jambs in the timber-trench of the north wall of the hall c.850–950 (cf Figs 34, 35) (photo: G. Beresford)
6in (0.46–0.76m) clearly marked the position of the walls and revealed that the building was of stave construction. The hall, slightly bow-sided in plan, was 80ft long and 20ft wide (24 x 6m) in the centre, 18ft (5.4m) wide at the western end, and 17ft 6in (5.2m) wide at the other end, similar in both shape and size to the almost contemporary long hall at the royal palace at Cheddar (Rahtz 1979, 99–107). The building was divided into three rooms comprising hall, antechamber, and pentice added to the western end. Access was through three doorways: one at the eastern end of the hall and two on either side of the antechamber; a fourth door led from the antechamber into the pentice. The latter doorway was, in origin, an outside door. The principal doorway opening to the

![Fig 38 Period 3, phase 2; hearse with surround in long hall (cf Fig 34) (photo: G Bovestford)](image)

Fig 39 Methods of splitting staves

The courtyard from the northern front of the house was approached by a paved path consisting of large limestone blocks, probably excavated from glacial deposits in the field to the south of the site. A similar stone path is mentioned in *Beowulf* and examples are also known from excavation on the Continent (Cramp 1957, 75). The doorway at the upper end of the hall presumably led to the bower lying some 40ft (12m) to the east.

The floor of the hall and antechamber, about 3in (70mm) thick, was of trampled clay similar to that of the kitchen and those of some of the buildings excavated at Flaxengate, Lincoln (Colyer and Jones 1979, 58). It was clean and free from occupational debris indicating that it had not been covered with a deep spread of straw or rushes. The eastern half of the hall floor - the upper end - was raised some 18in (0.46m) to form a large dais. The hall was heated from a cobbled hearth placed in the centre of the dais. The domestic water supply was obtained from a pit some 6ft 6in (1.9m) deep close to the north-west corner of the house. A small group of 15 shell-gritted cooking pots was found with the construction deposits of the hall and its immediate surroundings.

**Phase 2**

The hall was rebuilt or extensively repaired in the late ninth or early tenth century when the partitions and end walls were rebuilt some 2ft (0.6m) to the east and set in shallower trenches. At the same time the size of the pentece was reduced. The walls of the side of the house, however, remained in the same foundations. The floor was raised 2-3in (50–70mm) by adding a fresh layer of clay on top of that of the earlier phase and a new hearth with a timber surround set in shallow gullies was placed on the centre of the dais. The house was probably demolished a little before the middle of the tenth century when it was replaced by another of completely different construction. The pottery from the later occupational deposits of the hall comprised sherds from 22 cooking-pots, 14 bowls, and a jar, the fabrics of which included shell-gritted, grey sandy, Torksey, and Maxey-type wares (p 141, Fig 133). A few metal objects were found with these remains which included some knives of characteristic Viking form. On the floor of the hall there was found a bone comb (p 191, Fig 161) and from the courtyard some bone pins associated with both the third and fourth structural periods (p 181). However, perhaps the most important of these finds was the bridle bit which is almost identical to a complete bit from York, itself similar to Scandinavian examples of ninth- and tenth-century date (see p 184). Its position on the path leading into the second of the two long halls attests the early foundation of the aristocratic homestead.
Fig 42 The north-east corner of St Andrew's church, Greensted, Essex (photo: G Beresford)
Fig 43 Detail of the stone construction of the north wall of St Andrew’s church, Greensted, Essex (photo: G Beresford)
The house shape

The plan of the hall connects the building with well-known prehistoric and medieval long-houses in north-west Europe and the bow-sided walls are comparable with some of those found in a type of house which had a long tradition and wide, but not dense, distribution (Trier 1969; Hope-Taylor 1977, 213–44). Early examples of convex-sided long-houses like those on Gotland and Oland are of the Iron Age (Boethius 1931). The form seemed popular in Denmark during the Viking period.5 Outside Denmark houses have been excavated at Dorestad in Holland c.800 (van Es 1969), at Warendorf, Germany in the late eighth century (Winkelmann 1954), and at some Scandinavian settlements around the north Atlantic (Dahl 1970; Hamilton 1956; Raleigh Radford 1956; Sternberger 1943). In England, besides the houses at Gottho, a middle Saxon house has been excavated at Catholme (Losco-Bradley 1974, fig 3) and later Saxon houses at Buckden (Tebbutt 1961), Cheddar (Rahtz 1979, 99–107), St Neots (Addyman 1972–3, 54–8), Sulgrave (Davison 1977, fig 3), and Thetford (Davison 1967a). It is, therefore, no longer possible to associate the bow-sided plan exclusively with Viking settlement (H. Schmidt 1973, 60). Since the houses have been built in differing countries over a long period of time and represent the homes of people of very different social positions, it might be difficult to label the shape as a stylistic element, although it certainly seems to have been exploited and developed in the houses of secular magnates and in Viking fortresses during the ninth and tenth centuries as the archaeological and pictorial evidence suggests (ibid, 61–76). It is therefore reasonable to seek some
functional explanation. It has been frequently suggested that the shape may be attributed to the desire of the builder to strengthen the building against the forces of the wind, but many of the known examples were situated in areas not subject to exceptionally strong winds, so such an argument would be difficult to substantiate, especially for buildings like Goltho where the side walls were only slightly curved. Although there is no certain explanation for the shape of these buildings, it seems probable that the bow-sided house with its characteristic hog-backed roof was developed to overcome the difficulties which the early craftsmen must have encountered in the infilling of the gable ends of a large timber building before the introduction of the framing so well known in the later Middle Ages. By reducing the width of the ends of the building and by the gradual lowering of the ridge of the roof towards the gable ends, the area of gable wall would have been appreciably reduced.

Two- and three-dimensional contemporary representations of Viking and late Saxon houses clearly demonstrate that both hipped and gable-ended roofs had a long tradition in the British Isles and on the Continent (see p.27).

The excavations at Goltho have shown that the bow-sided house was built by people of differing social positions. The middle Saxon house of c. 800, probably the homestead of a ceord, was built of wattle and daub or clay and stud and stood alone within a palisaded enclosure, while that built in the next period, c. 850, probably by a thegn or ealdorman, was of stave construction and stood with other buildings around three sides of a courtyard within a fortified..
end of the tenth century to work on a double curved surface is attested by the remains of splendidly built Scandinavian ships (Olsen and Crumlin-Pedersen 1967, 158, fig 62). Nevertheless, it must be emphasised that it is impossible to accept that the shape has any connection with the tradition of boat building.

The design and reconstruction of the hall, c 850
(Figs 34-37, 39, 40, 44-53)

The advance of structural technology in north-west Europe from the early post-Roman period to the middle of the tenth century was slow compared with that of the twelfth and thirteenth centuries. The Saxon and Viking periods also saw less national variation of structural detail than at the time when timber buildings became more structurally complex. There was, of course, a wide variation in the size and quality of the buildings which were erected according to the resources of the builder, as excavations like those at Yeavering (Hope-Taylor 1977, 157, 163) and Chalton (Addyman et al 1972; Addyman and Leigh 1973) so clearly demonstrate; the builder, however, depended to a great extent upon the exploitation of fundamental traditions, many of which had been known from prehistoric times.

The layout of the mid ninth-century Goltbo manor site with its associated fortifications shows that the builder was a man of considerable importance who would have been in a position to have employed skilled craftsmen. However, the excavation and recording of timber buildings of the period like those at Yeavering (Hope-Taylor 1977, 46-169) clearly indicate that the construction of the house of an important aristocrat in Saxon times would have been very different from one in the later Middle Ages. The early buildings differed in that they were constructed without the complex framework generally known as 'timber-framing'. The structural stability of timber buildings in the early Middle Ages was generally dependent upon earth-fast foundations and joints which were halved, slotted, or dove-tailed. Although forms of mortise-and-tenon joint have been used from prehistoric times (Bulleid and Grey 1966, 113-14), they seem to have been generally avoided where possible in the construction of large timber buildings until the late twelfth century. The successful use of such joints was dependent upon a certain amount of prefabrication of the principal members and their associated bracing which would be difficult, although not impossible, to achieve in buildings where the posts were set in earth-fast foundations, owing to the difficulty of manoeuvring heavy timbers so placed to precise positions. Nevertheless a few buildings constructed upon a sill beam foundation have been excavated from the early tenth-century levels at Coppergate, York (Interim, 5/1, 17-24) but they differed from the aristocratic halls at Goltbo in that they were smaller and of lighter construction.

Pictorial representations of early medieval houses in Britain and Scandinavia, with certain reservations, may serve as models to cast a little light upon the general appearance of an aristocratic homestead (H Schmidt 1973, 61-76). Among these examples are the hog-backed grave covers from the Anglo-Celtic-Scandinavian culture in Northumberland (ibid) and the bronze model of a house mounted on an iron rod from a tenth-century grave in Klinta, Oland (Peterssen 1958); the highly decorated Cammin Casket (Wilson and Kindt-Jensen 1966, 126, pl lv, lv i), destroyed in the Second World War, was another; more representations of houses are to be seen carved on picture stones or worked on tapestries (H Schmidt 1973, 61-6).

The walls

The excavation of the timber-trenches provided much information on the construction of the walls although the remains were considerably confused by the repairs or rebuilding of the house c 900 and by the later occupation of the site. The trenches varied between 1ft 6in (0.46m) and 2ft 6in (0.76m) in depth and were sufficiently wide at the bottom to take timbers up to 15in (0.38m) in thickness. The excavation of the trench of the north wall revealed the impression of timbers against the original fill, showing that the walls were of stave construction. The impression was formed by the inner face of the wall in a continuous section of about 15ft (4.5m) in length in the centre of the building. No remains of the outer face survived, as the timbers, at the time of demolition, were dug out from the outside of the building and pulled outwards (Figs 34, 35). Although this impression did not reveal the width of the staves it did show that the inner surface of the wall was flat, as would be expected of one built from half sections of trees. However, the impressions of the feet of a few of the staves were apparent in the bottom of the same trench towards the eastern end of the building, indicating that they were about 18in (0.46m) wide and possibly up to 15in (0.38m) deep, as in the weaving shed (pp 57-8). The remains suggest that the feet of the staves were slightly tapered, like those at St Mary Minor (Ekhoff 1914-16, figs 149-50) and Trelleborg (Nalund 1946, fig 58), and not staggered like those in building A4 at Yeavering (Fig 45; Hope-Taylor 1977, fig 9).

The impressions left in the trenches indicate that the walls were without principal posts. The staves, some 18in (0.46m) in width, were probably connected by tongue and groove joints similar to those at Greensted (cf Fig 48; Christie et al 1979, fig 4). In the absence of any evidence of aisle posts or external buttresses it is clear that the outside walls made up the shell of the building and carried the weight of the roof. As no principal posts were used in the main walls of the buildings, it would be reasonable to postulate that the construction of the corners would have been similar either to those at Greensted church (ibid, fig 4) or to those at Lund (cf Fig 35; Ekhoff 1914-16, fig 157). There was no evidence to show the height of the walls, but many of the pictorial representations of houses of
this period suggest that the eaves were comparatively low for the size of the building (H Schmidt 1973, 66-76). This was confirmed by the excavation at Fyrkat where the height of the walls was calculated from the buttress postholes to be between c. 9ft 9in and 11ft 6in (2.9m-3.4m), the longest planks being in the centre of the building (Olsen and Schmidt 1977, 224). The walls at Goltho are unlikely to have exceeded this height. There was, however, nothing to suggest that the eaves gradually curved upwards from the ends to the centre of the building in a similar way to those depicted in some grave covers or those indicated by the inclination of the buttress posts at Fyrkat (ibid., 224).

Contemporary illustrations of both Viking and Norman houses show that both hipped and gable-ended roofs have a long tradition in north-west Europe (p 27), but careful examination of the end wall trenches at Goltho revealed no evidence to indicate which form had been adopted in the construction of the ninth-century hall. If the roof had been gable-ended, it is probable that the staves would have extended from their earth-fast foundations to the gable rafters as at Greensted (Christie et al 1979, 99-100).

The timber chosen at Goltho is likely to have been English Oak (Quercus Robur), the most durable wood to be found in the district. The quantity of oak now standing in the surrounding woodland suggests that a sufficient supply could have been obtained for the buildings of stave construction in the ninth century. Fragments of oak staves found at Trelleborg and
Evidence from several Viking sites confirm that oak was the preferred timber in north-west Europe (Olsen and Schmid 1977, 227).

Although many structural traditions in the British Isles seem to differ from those of contemporary date in Scandinavia, there were, nevertheless, very many similarities as the construction of the stave church at Greensted, Essex (Christie et al 1979) and that of the stave churches at Lund and Hemse (Ekhoff 1914-16, 149-78) clearly indicate. Accordingly, it is possible to look, with caution, to certain Scandinavian buildings to elucidate those excavated in Lincolnshire, even though there was no evidence to suggest that the aristocratic homestead at Goltho was of Viking origin.

According to traditional Scandinavian practice the carpenter would have cut, prepared, and fitted the component parts of the building on the ground before it was raised. At Fyrkat (Olsen and Schmidt 1977, 227), the form of the postholes suggests that a deliberate attempt had been made to use timbers of standard dimensions to facilitate the construction of the buildings, but there was insufficient evidence to indicate whether the builders at Goltho had followed a similar practice. The Bayeux Tapestry (Stenton 1957, pl 38) shows that trees were felled and timber dressed with an axe. The cross-cut saw seems to have been unknown in the Viking and Norman periods, but it is possible that some of the smaller sections of timber could have been cut with a hand-saw similar to the one with a 2ft (0.60m) blade found at the site of Mastermyr on Gotland (Foot and Wilson 1973, fig 19).

There was, nevertheless, no evidence to suggest the use of a saw in the construction of the Skuldelev ships (Olsen and Crumlin-Pedersen 1967, 158, fig 62). The timbers were probably dressed with a broad axe or an adze. The impressions in the bottom of the hall timber-trenches at Goltho demonstrate that they had been laid out for large staves similar to those used in the construction of the church at Greensted, Essex (Christie et al 1979, fig 3) or the ‘plano-convex’ type as at Trelleborg (Nerlund 1948, fig 58) or at St Maria Minor church, Lund (Fig 44, Ekhoff 1914-16, figs 146-150). The latter type of stave is produced by cutting the bark edge off the radially split stave at a tangent (Larsen 1957, 76; 1972, 154; Olsen and Schmidt 1977, 227), and a stave so trimmed would provide the strongest and most durable timber with the minimum of shrinkage and warping. The proportions of the stave positions seen in the bottom of the north wall trench suggest that the staves probably had trimmed feet like those at Lund (Fig 32, Ekhoff 1914-16, 149-78).

Doorways

In the first phase the four doorways of the hall were clearly marked by deep postholes in the timber-trenches about 3ft 6in (1.03m) in depth, the proportions of which suggest that they were originally excavated to take jams of up to 12 x 21in (0.3 x 0.53m) scantling (Figs 34, 37). The principal doorways in the side walls were about 3ft (0.9m) wide while those at the ends of the building were about 2ft 6in (0.76m) in width. In the second phase those in the side wall remained in the same position, but the postholes were packed with stones to give greater stability. The doors in the new end walls were marked by gaps in the trenches, so presumably these doors were hung upon the staves, as at Hedeby (Ekhoff 1914-16, fig 19b). No door furniture was found associated with these buildings to cast a little light upon their form, but they were possibly of batten construction similar to those found at Hedeby. The door heads could have been either rounded like that of the bronze model of a house from the tenth-century grave at Klinta, Oland (Petersen 1958), or square like that of the early eleventh-century stone building excavated at Sulgrave, Northamptonshire (Davison 1969a).

Windows

Excavations at Hedeby (Olsen and Schmidt 1977, 230) have shown that some houses in Scandinavia had glazed windows in the Viking period, but in Britain, although there is evidence of glazing in ecclesiastical and secular buildings from an early date (Harden 1978, 7-11), there is nothing to suggest the widespread use of window glass, even in the more important manors, until the later medieval period. Remains of glass spindle whorls and beads survived at Goltho, but no window glass was found associated with either the Saxon or Norman buildings. However, it is possible that it was removed from the windows before demolition, being such a rare commodity. The window openings were probably cut out of the staves, as were those in some of the Norwegian stave churches.

Wall plates, tie beams, and roof

The mid ninth-century hall at Goltho resembled some Scandinavian buildings, such as those excavated at Fyrkat and Trelleborg, in many aspects, but differed in that it was constructed without the outside timber buttresses and internal roof supports. Since the floor levels and surroundings of the hall at Goltho were undisturbed, the footings of such members, even if placed originally on top of the old ground surface, should have been visible either in the outside accumulation of occupational deposits or in the build-up of the clay floor levels within, as were the walls and partitions respectively. However, buttressed halls have been revealed by excavation in many parts of north-west Europe: in Britain, examples have been found at Yeavering (Hope-Taylor 1977, 204-30), Chalton (Addyman et al 1972; Addyman and Leigh 1973), Thirlings (Miket 1978), Cowdery’s Down (Millett and James 1983, 272-279), Northampton (J W Williams 1984, 116-20), and Portchester (Cunliffe 1976, 34-46). The buildings in England range in date from the seventh to the eleventh century and in location from Northumbria in the north to Hampshire in the south.

Although the substantial staves of the hall at Goltho were set in timber-trenches up to 2ft 6in (0.76m) in
depth, forming a strongly built wall on which to construct a heavy roof, the walling itself would not have been sufficiently stable unless some of the weight of the roof had been carried on internal roof supports or the outward thrust had been corrected either by tie beams or by outside buttresses. Since there was no archaeological evidence of either inside or outside supports, it is evident that the wall was completed with wall plates and tied with beams. Professor Olsen and Dr Schmidt (1977, 230–1) established the existence of wall plates at Fyrkat. Indeed it can be maintained that a stave building of any complexity would have been fastened at the top by a plate.

The forests to the south of Goltho would have provided a wide selection of trees from which curved timbers could have been chosen for the wall plates. The eleventh-century wall plate from the stave church at Harning (Krogh and Voss 1961), the earliest known example in Denmark, is about 2ft (0.6m) high and some 4in (0.1m) wide. It was cut from a tree about 30in (0.76m) in diameter. Trees of this thickness at about 4ft (1.2m) from the ground normally provide planks 23–26ft (6.9–7.8m) long (Olsen and Schmidt 1977, 227–8), so it would be reasonable to postulate that there would have been at least three or four plates on each side of the Goltho building owing to the curve of the walls. As the centre of the curve is less than 18in (0.46m) on each complete side, the necessary timbers would not be difficult to find. If the eaves of the roof were curved downwards as well as outwards, as some of the hog-backed grave covers suggest (Fig 51), extra plates may have been required on each side to take up the double curve. The cleft timbers would have been dressed with an axe and adze and the underside cut with a slot to clasp the heads of the staves.

Sometimes wall plates were made out of two or three members laid on top of each other (Olsen and Schmidt 1977, 231) like those in some traditional timber buildings in Scandinavia to be seen in the Frilands Museum (ibid, 231) and those in some Norwegian stave churches (Hauglid 1970). At Greensted church, Essex (Christie et al 1979, fig 4), three of the timbers in the north wall, now serving as wall planks, show traces of having been originally prepared for a different function. One of the three is very similar to the lower member of the present wall plate. It seems possible that they once formed part of an original plate made up of two plates separated by a spacing plank, similar to that of more recent date in

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Fig 51 Hog-back grave covers: A. Covan church, Glasgow; B. Crosscanonby church; C. Sockburn-on-Tees church (after Schmidt)
the church. This construction has the advantage that the smaller plates are less likely to topple than a single tall thin plate, especially if the tie beams are effectively locked between the upper and lower members (Olsen and Schmidt 1977, 231). Such plates would certainly be very practical in a building where there was a collared rafter roof or in one where the construction was dependent upon a ridge piece to support the upper end of the rafters, but it would not be advantageous in a Romanesque type of roof where the trusses with their individual ties would have to be fitted to the uppermost plate.

There are two types of tie which come under the general heading of 'tie beam'. Both may be considered in the discussion on the reconstruction of the mid ninth-century Goltho hall. Firstly, there is the beam used in timber buildings which ties wall plates of the lateral walls to the corresponding members on the opposite side of the building to prevent the walls spreading outwards under the thrust of the roof. These beams are sometimes known as wall ties. Secondly, there is the member of the roof which ties the feet of the rafters in a trussed rafter roof to form a triangular frame found in Romanesque stone-built churches like Soignies (Brigode 1949, figs 29, 30). The form was without doubt adopted in some early stave churches, as at Hemse (Ekhoff 1914-16, figs 36, 37) and Hørning (Krog and Voss 1961).

The tie beams which tie the walls rather than the feet of the rafters have a long tradition dating back to the earliest times. The ties, usually set 10-15ft (3-4.5m) apart, were probably joined to the wall plates by a cross-half joint. So as not to weaken the joint unnecessarily the tie was extended some way outside the building and, in some instances, would probably have protruded through the roof. It is possible that some of these projecting tie beams were decorated. Dr C G Schultz (Schmidt 1973, 60) thought that the heads of birds and beasts placed along the 'eaves' of the 'house-shaped' Cammin Casket represented finials to beams. He interpreted the two beasts in the gable ends as the ends of the wall plates and the heads of the birds on the two sides as decorative finials of the tie beams.

The footings of the hall at Goltho were probably not sufficiently deep to compensate for the outward thrust of the roof. In the absence of any evidence to indicate the use of outside buttresses the necessary compensation could have been achieved by the use of collared rafters or by the insertion of tie beams - possibly both. If the stability of the hall depended upon tie beams, more ties might have been required in a bow-sided building constructed without outside buttresses than in one of conventional shape, owing to the shorter lengths of wall plates made necessary by the curvature of the walls. Since each individual length of wall plate would have required at least two ties, the number of ties would depend to some extent upon the availability of long lengths of naturally curved timbers suitable for the manufacture of such plates. If long lengths were available, the ties were probably spaced about 10ft (3m) apart. If the length of the plates necessitated closer spacing of the ties, a roof of Romanesque form with a tie to the feet of every pair of rafters would seem the most likely construction. Accordingly, two types of roof could be considered for this type of building: first, the Romanesque roof with a tie to every pair of rafters, and second, the collared rafter roof with or without tie beams to tie the walls. Although there is no evidence that the stability of the

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**Fig 52** Romanesque roof trusses: Mosjø (after Ekhoff), Hviding (after Møller), and Soignies (after Brigode)
roof was dependent upon horizontal beams running the length of the building midway between the eaves and the ridge, it is possible that these beams could have been supported upon queen posts; such a supposition is rather unlikely, however, since this assembly was not common until the later medieval period in England.

The Romanesque roof had a long tradition (Fletcher and Spokes 1964, 153-6) in buildings of both timber and stone and it is reasonable to assume that the earlier buildings of stave construction (Hauglid 1972, 24), like those at the earlier Uernes church in Sogn (Hauglid 1969), Hemse (Ekhoff 1914-16, 149-78), or Horning church in Jutland c 1100 (Krogh and Voss 1961), had roofs of this type (Fig 52). Although the Romanesque roof must have been widespread in Britain its remains are now very rare owing to subsequent reroofing and alterations (Currie 1983); well-preserved examples attributed to the eleventh and twelfth centuries, however, survive in Belgium (Brigode 1949, figs 29, 30) and in Scandinavia (Fig 52; Ekhoff 1914-16, fig 443; Schultz 1940; Moller 1953). However, evidence of this construction may be traced back to an even earlier date in the Carolingian nave at St Ursmer at Lobiess (Brigode 1949, figs 29, 30).

The Romanesque roof, noted for its lavish use of timber, formed a distinct group within the family of trussed rafter roofs. The earlier roofs in this category tended to be less steeply pitched than those familiar in surviving thirteenth-century buildings (Fletcher and Spokes 1964, 153-8). The roof was made up of repeated independent trusses set some 30-36in (0.76-0.91m) apart and halved to the wall plate. Each truss comprised a pair of rafters, joined at the apex by a halved joint and at the feet by a tie beam. The trusses were usually strengthened by horizontal and vertical bracing as in the north and south transepts at Soignies (Brigode 1949, figs 29, 30). The individual members of such roofs were more or less of the same scantling—hence the term uniform scantling roofs (Deneux 1927). Trusses in this category could readily be adapted for the construction of a hog-backed roof. The rafters were probably some 4 x 6in (0.1 x 0.15m) in section and placed face downwards as at Der Husterknupp (Herrnbrodt 1958, fig 68) and in various French and English medieval examples (Olsen and Schmidt 1977, 233). In many such roofs the longitudinal stability was provided by laths on which hung the tiles or lead cladding (Charpentiers c 1959, introduction), but at Goltho in this early period this strengthening was probably provided by a cladding of cleft planks placed horizontally on the rafters, a construction known in north-west Europe since Roman times and to be seen in many of the surviving stave churches (Olsen and Schmidt 1977, 233).

The extent of the curve of the ridge in a bow-sided building was, of course, dependent upon the outward curve of the walls and the pitch of the roof. The increase of either would exaggerate the curve of the ridge. In order to maintain the roof at an even pitch in such a building where the height of the wall plates was constant and not curved downwards towards the corners, the length of the rafters would have to be increased towards the centre of the building, which in turn would account for the curve of the ridge. It is perhaps needless to say that if the wall plate curved downwards towards the end of the building, the pitch of the rafters would have been steeper towards the end in order to maintain an even curve between the ridge and plate. Such a plate curving both outwards and downwards from the centre, as suggested from the inclination of the buttress posts at Fyrkat (Olsen and Schmidt 1977, 233) and depicted on some grave covers (fig 51), would be well within the capabilities of skilled craftsmen of this period, as the remnants of contemporary ships so clearly demonstrate. There was, however, no evidence to suggest whether the double-curved plate had been adopted at Goltho or not.

It is generally agreed that the pitch of the Carolingian and early Romanesque roof was usually lower than that of many built after 1200 (Fletcher and Spokes 1964, 153-8); nevertheless, if the boards were covered with shingles, as literary sources, pictorial representations, and archaeological excavations suggest, the roof would have had to be reasonably steep for the shingles to fit tightly, so an angle of between 30° and 60° might be expected which is similar to that of the pictorial evidence (Olsen and Schmidt 1977, 233). However, owing to the early date, a pitch of some 30° to 55° would seem more realistic. If the pitch of the roof at Goltho was 50° the roof would have been approximately 3ft 9in (1.1m) higher in the centre than at the ends.

A crested ridge piece, possibly similar to those of the Norwegian stave churches and those depicted in pictorial representations, would have completed the roof to seal the ridge and to clasp the uppermost layers of shingles. The roof was probably decorated with finials. There was nothing to show how the smoke passed through the roof but, as the hearth was close to the eastern end of the building, it is probable that there was a vent in the gable wall for this purpose as in some of the later medieval halls (Olsen and Schmidt 1977, 233; Carver 1979, 24-6, fig 16, pl IIIc; Biddle 1976, 438).

It must be emphasised that, although the house was probably highly decorated according to contemporary style (Olsen and Schmidt 1977, 234) and built by skilled craftsmen, as would have befitted the high social position of its builder, its construction showed no indication of advanced structural technology like that found in the later medieval period. Excavations in many parts of north-west Europe at differing types of sites (Hauglid 1972, 21) have clearly demonstrated that timber houses built to high architectural standards were not to be found until the late eleventh or twelfth centuries.

The bower
(Figs 26, 31, 32)

The hall at Goltho, as at other sites, was the principal building and would have been used for the estate court as well as for the reception and feasting of visitors, as described in dramatic scenes in Anglo-Saxon literature. The bower would have provided the private accommodation for the principal members of the family. The words bower, bur, buras, bríadbur, or
Fig. 53 Reconstruction of the hall c. 850–900: elevation, section, and overview
camera-bur, are frequently to be found in Saxon literary sources and may be interpreted as a private apartment, a guesthouse, or sometimes the private quarters of a young man within his father's household (Cramp 1957, 71–3). The excavations at Goltho, Cheddar (Rahitz 1979, 107–16, fig 10), and Yeavering (Hope-Taylor 1977, 157–63, areas C and D) have revealed that the private apartments were smaller than the hall and were some distance from it.

Excavations at Yeavering and, to a lesser extent, the air survey of the cropmarks at Milfield and Hatton Rocks clearly reveal the layout of rural houses of the highest level of Anglo-Saxon society and show a number of detached chambers associated with each hall (Hope-Taylor 1977, pls 7–9; Rahitz 1976, 65–8). The excavation of the mid-ninth-century levels at Goltho revealed the remains of two such chambers: one, on the northern side of the courtyard, was interpreted as a weaving shed because of the associated finds, while the other was interpreted as a bower because it stood close to the doorway at the upperend of the hall (Figs 31, 32). After a period of some 20 to 30 years, the early bower was replaced by another, a substantial building of stave construction which stood on the same alignment as the hall, close to the doorway leading from the dais (Fig 59). Although no pottery was found on its floor or in the timber-trenches, the early date is attested since the remains of the first bower lay over the middle Saxon boundary and beneath the tenth-century build-up of soil and occupational debris.

The first bower

The bower, 40 ft long and 18 ft wide (12 × 5.4 m), was similar in size and proportion to the ‘minor halls’ at Yeavering (Hope-Taylor 1977, 46–122). The building lay to the south-east of the enclosure at the foot of the rampart some 40 ft (12 m) from the eastern end of the hall. The floor levels and much of the north-western corner of the building had been completely destroyed by later development and occupation of the site, but sufficient remained to elucidate its size and probable construction. The positions of the side walls were clearly defined by timber-trenches about 12 in (0.3 m) deep and varying between 9 and 15 in (0.22 and 0.38 m) in width at the bottom. The southern end of the building was marked by four postholes 6 in (0.15 m) deep and about 9 in (0.22 m) in diameter at the bottom, but the northern end had been destroyed by the construction of a tenth-century garderobe. The single doorway set in the centre of the western wall was clearly marked by the slight widening of the wall-trench (Fig 26).

Reconstruction of the first bower

The stability of the bower was dependent upon earth-fast foundations, but the excavation of the timber-trenches of the long side walls did not reveal any information to elucidate the type of timbering. However, since the timbers were set in a trench foundation rather than in individual postholes, it might be reasonably assumed that they were set closely together. The width of the bottom of the timber-trenches shows that the posts could have been up to 9 in (0.23 m) thick in the side walls and the size of the postholes shows that those at the end of the building could have been up to 9 in (0.23 m) in diameter. Since it is difficult to interpret these remains as those of a stave-constructed building, it is reasonable to postulate, in this instance, that the walls were of earth-fast posts completely encased in clay tempered with chopped straw, or clay and wattles, as suggested for the reconstruction of the middle Saxon houses of the earlier structural period (see pp 25–7). The probable close spacing of the members of the side walls could be attributed to the desire to strengthen them against the outward thrust of the roof. There was no archaeological evidence to indicate the form of the roof, but the relatively light construction of the walls suggests that it may have been similar to that of the middle Saxon farmhouse.

A building of this type within the fortified enclosure is of considerable interest since it differs so much from the hall and weaving shed, not only in the materials used but also in its ‘simple’ construction. Since it so closely resembled the early houses of the peasants on the village site (Beresford 1975, 21, 37–40), it is tempting to postulate that craftsmen skilled in the art of the construction of major timber buildings suitable for aristocratic occupation were employed from outside the village to erect the large important buildings at Goltho, while other domestic offices were built by estate labour skilled only in the construction of vernacular buildings. These two differing structural traditions persisted side by side within the fortified enclosure at Goltho until after the Norman Conquest. Similar differing types of building have been found by excavation at both Yeavering (Hope-Taylor 1977, 157–63, 46–112) and Cheddar (Rahitz 1979, 99–132), and at a much later date at Winttingham (Beresford 1977a, 214–16, 224).

The second bower

The second bower, probably built a little before the beginning of the tenth century, was about 18 ft (5.4 m) wide and about 45–50 ft (13–15 m) long and stood on an east–west alignment some 6 ft (2 m) to the east of the long hall. The remains of this building had been considerably disturbed by the footings of the four later bowers superimposed upon similar foundations. Though it was not possible to determine the plan of any one building, there was sufficient evidence to show that each had been divided into two or three rooms possibly comprising a private hall, a chamber, and sometimes an inner chamber with an attached garderobe. These later bowers, like the halls, were of stave construction and the earliest of the buildings was probably similar to the long hall but constructed without bow sides. There is no apparent reason why it was only the hall which was so planned, but it would seem that, although the bowers were both well built and commodious, the hall was intended to be seen as the most important building in the courtyard and it was accordingly constructed with rounded sides and hog-back roof to set it apart.
The weaving sheds c. 850–1000: plans and interpretations

**The weaving shed**
(Figs 54–56)

Evidence of spinning and weaving within the manorial enclosure at Goltho is attested by the finding of 14 heckle-teeth, 13 spindle-whorls, 1 needle, 1 sheathboard hook, and 6 pin-beaters (thread-pickers) (Figs 156, 161, 162, 164). Of these 35 finds, all but 6 were found in certain late ninth- and tenth-century contexts. The spindle-whorls were mostly found in positions closely associated with the halls or the tenth-century bowers, while the heckle-teeth and pin-beaters were mostly found scattered either in the courtyard or in the northern part of the site, indicating that the looms were in the three superimposed buildings which lay to the north of the hall. There was no evidence of spinning or weaving at Goltho before the construction of the first of these buildings in the middle of the ninth century or after the demolition of the last in the late tenth century. Only three finds associated with weaving were found in certain post-tenth-century contexts. Since these superimposed buildings at Goltho differ from the small weaving huts at West Stow (West 1969, fig 3) or Old Erringham (Holden 1976), they might be interpreted as large weaving sheds like those at Tilleda (Grimm 1968, 83, n 3, 97–9) or Heuneburg (Kimmig and Gersbach 1966, 123ff, pl VIII), or like those mentioned in the Carolingian Capitularies and other documents of the period, known as *gettium* or *gynacaeum* (Postan and Rich 1952, 359, 364–5; MGH Leges III, 161, Capit LXXX, Lex Secunda LXXXII, Lautfrid LXXIV). However, the buildings at Goltho seem to have been structurally more complex than the large sunken-floored weaving sheds at Tilleda and Heuneburg, but this may be due to the fact that it is not practical to construct a building with a sunken floor on land which is subject to rising water.

The finding of six pin-beaters shows that the looms used at this period at Goltho were warp-weighted vertical looms (M W Thompson 1968; Carus-Wilson 1969, 164–5). The absence of loom-weights, so familiar in Iron Age, Roman, and Saxon sites (M W Thompson 1968, 146), suggests that the looms at the site may have had a horizontal warp beam at the base similar to that illustrated in the fourth-century Virgil manuscript in the Vatican Library (Singer et al 1957, 211). Modern vertical looms in America, Africa, and India are of similar construction. Although the positions of the looms at Tilleda (Grimm 1968, fig 24f) and Heuneburg (Kimmig and Gersbach 1966, pl VIII) were defined by long trenches, such clear evidence has not, as yet, been found elsewhere. At many excavations the evidence of weaving is based on the finding of a spread of loom-weights, as at West Stow (West 1969, fig 3) or Old Erringham (Holden 1976). In such
Fig 55 Period 3: view looking west of the timber-trench of the north wall of the weaving shed c 850–900, showing the footings of the staves (cf Figs 54, 56) (photo: G Beresford)
instances the loom would have stood on the floor and the top would have rested against the wall or the roof. The weight would have been sufficient to ensure stability (Holden 1976). Nevertheless, the floors of the Goltzo weaving sheds had been cut by postholes and slots (Fig 54) and it is accordingly tempting to interpret the pairs of postholes in the western end of the buildings as the footings for looms of differing dates. The slot in the eastern part of the building was similar to the footings of the looms at Tilleda (Grimm 1968, 83, n 3, 97-9) and Heuneburg (Kimmig and Gersbach 1966, 123 ff, pl VIII), but since it was placed across the building, it could also, in this instance, be interpreted as a partition.

A garderobe lay some 3ft (0.9m) from the north-eastern corner of the weaving-shed, its position marked by an irregularly-shaped pit about 8ft (2.4m) long, 5ft (1.5m) wide, and almost 2ft (0.6m) deep.

Since the floors had been disturbed and the structural sequence of the four superimposed weaving sheds was somewhat confused, the pottery from these remains has been divided into two principal groups: one group excavated from constructional deposits, and the other found in the levels associated with occupation. The earlier group of vessels comprised six cooking-pots, four bowls, and a pitcher. The fabric and form of these vessels closely compare with those of Group 3 found associated with the construction of the long hall. An additional find was a ewer of eastern Mediterranean origin (p 141, Fig 133). The group from the occupational deposits is discussed later (p 141).

The first weaving shed, c 850
(Figs 54-56)

The shed was rebuilt at least twice on the site of the original building of c 850. The earliest of the sequence of the three superimposed buildings was 63ft long and 15ft wide (19 x 4.5m) and was of stave construction, built with earth-fast foundations. Since the levels of the floor had been considerably damaged by the building and occupation of the later weaving sheds, it was not possible to determine those of the individual buildings, nor to relate the individual features inside the building to any one shed; all the features are included in Figure 54.
was of clay and stud constructed with or without wattles, but a wall of staves with fillet pieces, as at Greensted (Christie et al. 1979, figs 1, 3, 4), or with panels, as at Burg Meer (Hernbrodt 1967, fig 5A), could be considered. The adoption of the latter in this building seems unlikely, however, as there would have been rather too much variation between the width of the staves in relation to that of the panels (Fig 56B). Accordingly, a wall of staves of uneven width as at Greensted (Figs 40, 47) would seem the more probable (Fig 56A). To make such impressions the feet of the staves must have been trimmed like those at St Maria Minor, Lund (Fig 44; Ekhoff 1914-16, figs 146-50), and Trelleborg (Norlund 1948, fig 58). Uneven trimming of the feet of staves of varying thickness would cause the apparent uneven spacing and misalignment of the impressions in the bottom of the trench. However, the poor alignment of these footings does seem to have been slightly exaggerated in the drawing of the plan (cf Figs 55 and 56).
The kitchens
(Figs 57, 58)

Throughout the Middle Ages kitchens were usually detached buildings and those of timber were often flimsy and short-lived structures (Beresford 1975, 216–19), but a feature of the Saxon kitchens at Goltho was their long life; only five were found within the manorial enclosure in contexts covering a period of about 250 years dating from c. 850–1080. The excavated remains, especially those of the late tenth and early eleventh centuries, showed that they were built with substantial materials, in marked contrast with many of the later medieval period (ibid). The earliest two were found superimposed beneath a mid-tenth-century outbuilding on the eastern side of the courtyard midway between the end of the hall and that of the weaving sheds (Figs 26, 57, 58). The earliest, lying on the same level as the hall, was probably contemporary and would have been built about 850. It was probably replaced by the other when the hall was either extensively repaired or rebuilt in the late ninth or early tenth century.

The earliest of the two kitchens, some 21ft long and 13ft wide (6.5 x 3.9m), was built without earth-fast foundations, but the position of the building was very clearly defined by the clay floor. Access was gained by way of a single entrance in the western wall which was marked by a short line of stones at the threshold. The laid and trampled clay floor, similar to those of the first two halls, was about 4in (0.1m) thick and had been considerably burned by the lighting of many fires. A baking oven, almost in the centre of the building, was defined by a shallow pit some 5ft (1.5m) long, 3ft (0.9m) wide, and about 4in (0.1m) deep. The oven was both filled and surrounded by fragments of burnt daub marked with wattle impressions, the remains of the sides and top. Similar ovens were found in the thirteenth- and fourteenth-century kitchens at Wintringham, Huntingdonshire (Beresford 1975, 216–19). A group of pottery comprising the remains of six cooking-pots, a bowl, a pitcher, and further fragments of the eave of eastern Mediterranean origin from the weaving shed were found in this early kitchen, much of which was very similar to that from the construction deposits of the early long hall (p 141, Fig 133).

Reconstruction of the first kitchen

The walls of the kitchen were constructed without earth-fast footings, and so left no trace to show how they had been built. However, in this building, it would seem unlikely that they were of clay-lump, clay laced with vertical timbers, or cob since it is difficult to envisage that such footings could disintegrate while leaving the clay floor so well preserved to the very limits of the building. In these circumstances it is reasonable to postulate that the walls were built upon timber footings and were either of staves or of wattle and daub. The possibility of block-house construction cannot be excluded but, at present, there is no evidence that this type of building was ever adopted in the British Isles, although it had a wide distribution elsewhere in north-west Europe (Innocent 1916, 108–9). Nevertheless, this kitchen is of interest in the structural sequence of Goltho since it is an early example of a building constructed without earth-fast footings (cf Interim, 5/1, 17–24).

The second kitchen
(Figs 57, 58)

The remains of the second kitchen were few as the floor levels had been completely destroyed by later occupation of the site, but the position of the building, which was some 18ft long and 13ft wide (5.4 x 3.9m), was clearly defined by a narrow timber-trench some 12in (0.3m) wide and 9in (0.23m) deep. Post-positions in the bottom of the trench of the south wall suggest that the timbers were about 6–9in (0.15–0.23m) in diameter and were set some 12–18in (0.3–0.46m) apart. The arrangements of the posts suggest that the walls were of similar construction to those of the first bower (p 54).

The midden pit

A trench some 25ft (7.5m) long, 3ft (0.9m) wide at the top, and about 2ft 6in (0.75m) deep was excavated in the courtyard to the north of the hall. There was nothing to indicate its origin but it was possibly a quarry trench to provide clay for the floors or for the building of the ovens. It contained pottery contemporary with the construction of the hall and weaving shed and other domestic debris, which suggests that the open trench was used for the collection of refuse. Pits serving similar functions were found beneath the thirteenth-century kitchen floor at Penhallam Manor, Cornwall (Beresford 1974, 112).

Notes

1 There was no major change in the layout of the site until the time of the construction of the small motte and bailey castle c. 1080. The complete excavation of the Saxon levels revealed the remains of six superimposed timber halls. In order to clarify their interpretation in the text, the sequence has been divided into three structural periods (periods 3–5) to differentiate the three types of timber construction of the halls. The domestic offices were sometimes built of differing constructions, as and when they were required, quite independently of the principal buildings. The ninth-century fortifications were levelled in the late tenth or early eleventh century and replaced by others to enclose a larger area to accommodate the buildings of the last Saxon period.

2 cf Ordnance Survey one-inch maps 104, 105, 113, and 114, with local settlement names ending in -by or -thorpe.

3 The hachures of this trench are not all shown in Figure 28 owing to a small discrepancy between the plan and section at this point. The section is,
however, correct. The discrepancy arose from the fact that the original plan of the section was drawn from a trial trench cut in 1971 and was not corrected when the area was completely opened up in the following season (see Fig 33 for true course).

4 In 864 in the Capitulary of Pitres, Charles the Bald, king of the West Franks, prohibited the construction of fortresses without his permission and ordered their destruction: 'We will and expressly command that whoever has made castles (castella) and fortifications (fortitatus) and enclosures (hauis) without permission shall have them demolished by the first of August' (MGH Leges II, 328, 1.20).

5 Hearths with surrounds were appearing at Coppe­

5 gare, York, at a similar date (Interim, 7/1).

6 Examples occurred at Aggersborg (Schultz 1949,

105-6), Esbjerg (Vorting 1972), Fyrkat (Olsen and

Schmidt 1977, 288), Lejre (H H Andersen 1960),

Lindholm Hoje (Ramskou 1953; 1955; 1957),

Omgård (Nielsen 1979), Sædding (Stoumann

1979), Trabjerg (Jørgensen and Skov 1979),

Trelleborg (Nørlund 1948, 44-5), Viborg (Nielsen

1968), and Vorbasse (Hvass 1979).

7 Some of the houses built by early settlers in the

seventeenth century in Maryland, USA, had earth-fast posts. Cedar Park, Anne Arundel

County, was constructed with such footings and

with a framing system which was fully interlocking

from the interrupted sills to the wall ties to the

ridge of the roof (Carson et al 1981).

8 Olsen and Schmidt 1977, figs 83-84. For convenience, the spelling ‘Hedeby’ not ‘Haithabu’ is used in this text.

9 The term is mentioned in Beowulf (Zupitza 1882, lines 2455-7) where Hrothgar emerges from his brydhura with his queen and proceeds along the path to the hall; it is also recorded in the Anglo-Saxon Chronicle (Whitelock 1961, 30-1), where Cynewulf was killed in a bur when visiting his mistress in 757; private rooms are mentioned in King Alfred's Old English version of St Augustine's Soliloquies (Hargrove 1902, 44); in The lives of the saints (Skeat 1900, xxvi, 404) there is a description of St Thomas building a palace for the king of India with the hall and other buildings which include the eynasima buras behind the hall. The references in Beowulf and in The lives of the saints definitely indicate that the bower was a private apartment situated some distance from the hall.
Period 4: tenth-century fortified enclosure, c 950–1000

The commencement of the fourth structural period in the middle of the tenth century saw the construction of the single-aisled, stave-built hall with principal posts and interrupted sill beams. There was, however, little change in the layout of the site: the fortifications remained unaltered and the two halls and weaving sheds built during this period were superimposed upon earlier remains. The bower built close to the ‘upper end’ of the hall c 900 was built again in that position three or four times before the beginning of the eleventh century. The mid tenth-century kitchen was superimposed on the original kitchen site, but that of the end of the century stood close to the south-west corner of the hall (Figs 26, 59).

Although there was little change in the general layout of the buildings in this period, the halls differed from those of earlier date in that they were constructed without partitions and were also wider in proportion to their length. At the same time the size of the bower was increased and the building partitioned. These changes suggest that the bower was developed to contain the private apartments while the hall was developed for use on festive occasions and for official estate functions (cf Figs 31, 59).

The development of the site during the tenth century is again dated by the pottery recovered from occupational and constructional deposits (see p 143). The dating is confirmed by a coin minted in the reign of Eadgar found on the floor of the bower (see p 147). The tenth-century levels are themselves sealed beneath others of the eleventh century dated from ceramic and numismatic evidence.

Much of the pottery associated with these remains is similar to that of the end of the preceding period, but the second half of the tenth century saw the gradual increase in the use of vessels of harsh shell-tempered ware at the expense of shell-tempered wares (p 134). The other finds included a number of ferrous finds and further artefacts associated with spinning and weaving (pp 178, 191 and Figs 156, 161–2).
Fig 60  Tenth-century halls, phases 1–2, c 950–1000: plans and interpretations
The halls, phases 1 and 2
(Fig 60)

The earlier hall, built shortly before the middle of the tenth century, was replaced by another superimposed upon a similar foundation about 970. Both buildings were difficult to interpret owing to the complexity of the site (Fig 27) and to the inherent difficulties associated with the excavation of superimposed levels on the heavy clay soil, but sufficient remained to show that they were single-aisled buildings of stave construction. Each hall stood on an east-west alignment and was built with the aisle on its northern side. The bower was similarly aligned and lay close to the eastern end.

Hall 1
(Fig 60)

The earlier hall was originally about 42 ft long and 22 ft wide (12.6 x 6.6m) comprising a 'nave' and a single aisle 16 ft (4.8m) and 6 ft (1.8m) wide respectively. The position of the building was defined by the postholes of the south wall and the arcade, and by a timber-trench for the footings of the aisle. The hall was divided into five bays each slightly more than 8 ft (2.6m) in length. The postholes were about 2 ft (0.6m) deep and were excavated to take posts of up to 2 ft (0.6m) in diameter if the feet were untrimmed as at Der Husterknupp (Herrnbrodt 1958, fig 13), or about 13 in (0.38m) square if trimmed as at Cheddar (Rahltz 1979, 151). After the house had been occupied for a period of time the wall of the aisle was rebuilt some 15 in (0.38m) inside that of the original, the position of the new wall being marked by a line of four postholes. The arrangements of the postholes in the later aisle wall suggest that the principal doorway was probably 12 ft (3.6m) from the eastern end of the building. The pottery found in the packing of the postholes and timber slots of the first aisled hall and its associated bower produced an interesting group among the construction deposits. It included five cooking-pots and two bowls in shell-tempered ware, a cooking-pot and a bowl in harsh shell-tempered ware, a cooking-pot in grey sandy ware, a bowl and a lamp in Turkley ware, and a flask or bottle in Stamford ware (p 143, Fig 135).

Hall 2
(Fig 60)

The second hall built in this period was 42 ft (12.6m) long and possibly some 29 ft (8.7m) wide, but the precise width could not be determined as the wall of the aisle, probably built on sill beams, left no trace on the ground. The 'nave' had a clear span of 22 ft (6.6m) and the aisle was probably 6 ft (1.8m) wide, as in the early hall and in that of the eleventh century. The position of the building was clearly defined on the southern side by a timber-trench and on the other by the aisle posts. It was divided into six uneven bays by poorly aligned aisle posts, probably paired with other posts in the wall-trench. As the trench was much disturbed and in places poorly defined, the precise construction could not be determined. The postholes were slightly smaller than those of the earlier building; they were about 18 in (0.46m) deep and were excavated to take posts of up to 18 in (0.46m) in diameter if untrimmed and up to 12-15 in (0.3-0.38m) square if trimmed. The wall trench was about 1 ft 9 in (0.52m) deep and could have held timbers of similar size to those in the postholes. The hall was heated from a large central hearth over 5 ft (1.5m) wide set on the trampled clay floor. There was nothing to indicate the position of the doorways.

The plan of this hall, defined by a timber-trench on one side of the building and by a line of postholes on the other, is closely comparable with the plans of a sequence of three superimposed halls at Raunds, Northamptonshire, and one of slightly later date c 1050-1150 at Netherton in Hampshire (Farbrother nd, fig 3). Only a small group of pottery comprising eight fragmentary vessels was found in the construction levels of the hall (p 143), but the excavation of the build-up of its floors and the immediate surroundings of the building produced the remains of some 27 vessels consisting of cooking-pots, bowls, and pitchers. The fabrics represented in the group are shell-tempered, harsh shell-tempered, grey sandy, and Stamford wares (p 143). A small group of 16 vessels was also found in the construction levels of the adjacent kitchen (p 143, Figs 135-6).

Associated with this period of occupation were metal finds which included knives, shears, keys, and horse shoes (pp 181-4). Among the bone objects there were pins stylistically resembling Scandinavian types from the British Isles, as at York and Dublin, and from Oslo and Heddevy on the Continent (pp 181-92).

Reconstruction of the halls
(Figs 60-65)

The construction of the earlier hall of this period was such that only the principal members of the structure, which were subject to the main thrust of the roof – the posts of the southern wall, the arcade posts, and the members of the wall of the aisle on the northern side of the building – were set in earth-fast foundations. The position of the wall of the aisle was clearly defined by a timber-trench some 15 in (0.38m) deep. Timber impressions in the bottom of the trench show that the wall had been built of staves, but the construction...
Fig 62 Der Husterknupp: remains of stave wall built with principal posts and interrupted sill beams preserved in waterlogged soil (after Herrnbrodt)

differed from that of the long halls of the earlier period in that the walls were strengthened by principal posts set some 9–10ft (2.7–3m) apart, like those at Burg Meer (Fig 61; Herrnbrodt 1967, fig 5a). The staves were probably some 15–18in (0.38–0.46m) wide, like those recorded in the early weaving shed, and the dressed posts were probably of 9 x 12in (0.23 x 0.3m) scantling. No visible trace of the other walls survived, but since the wall of the aisle was of staves it follows that the others would probably have been of similar construction. In the absence of post-trenches for the other three walls it is apparent that the feet of the staves were supported upon interrupted sills set between the principal posts on the southern wall, as in house 3 at Der Husterknupp (Fig 62; Herrnbrodt 1958, fig 13), and on continuous sills at the two ends of the building. Principal posts were probably slotted to the sills on the two corners of the southern side of the building into which the edges of the staves would have been lodged, as at the stave church at Kaupanger (Fig 81; Bjerknes and Liden 1975, fig 24). The corners at the northern side of the building may have been similar to those at Greensted (Fig 46a; Christie et al 1979, fig 4a). The use of interrupted sill beams is well known in north–west Europe from about the year 900 and it gradually replaced the earlier type of building in which all the staves were set in earth-fast foundations (Hauglid 1972). However, the older method was to persist in the construction of important buildings in England into the eleventh century, as at Sulgrave (Davison 1977).

The construction of the walls of the second hall of this period was probably similar in many aspects, but differed in that the footings of all the timbers in the main south wall were set in a timber-trench while all the other walls were built on the ground surface, probably upon a sill beam foundation (Fig 60). Buildings of this type with the main wall set in earth-fast foundations, the aisle posts set in post-pits, and all the other walls constructed upon the surface without either stone or earth-fast foundations were to persist into the late twelfth or early thirteenth century, as at Wintringham, Huntingdonshire (Beresford 1977a, 230–2).

As in many important timber buildings like St Maria Minor, Lund (Fig 63; Ekhoff 1914–16, fig 156), the arcade posts of both halls were poorly aligned, which prohibited the fitting of straight plates. The structural difficulties may have been overcome by the use of reversed assembly or by the use of shorter plates similar to those in the Cherhill Barn, Wiltshire (Fig 64; Rigold 1968). The plates themselves may have been slotted into the principal posts or joined with a stub tenon. The sequence of the buildings at Goltho would suggest that the roof was of Romanesque form with a tie to every pair of rafters. However it is possible that there was a collared rafter roof; in that case wall ties would have been required to prevent the sides of the building from being forced outwards under the thrust of the roof. The joints between the principal posts, plates, and ties could have been assembled by either reversed or normal assembly and the members slotted together like those in the reconstructions of the buildings at Der Husterknupp (Fig 79; Herrnbrodt 1958, fig 13) and Lund (Fig 80; Ekhoff 1914–16, figs 178b). Similar joints are to be found in some thirteenth-century stave churches (Fig 81). There was no definite evidence to suggest whether the roof was gable-ended or hipped, but the infill of such a large gable would not have provided insurmountable problems in a building of stave construction, as at Greensted church, Essex.

The Goltho aisled halls: their predecessors and successors

Aisled houses have a long tradition in north-west Europe dating from the Iron Age, and were constructed according to the availability of building materials, the structural technology of the period, and the social position and requirements of the builder; consequently, excavations have revealed many differing types of structure and it is frequently difficult to find precise parallels or to elucidate the origins of particular structural features. The excavation at the settlement at Ezinge (van Giffen 1936) near Groningen, where differing types of aisled long-house date back to c 400 BC, showed the gradual evolution of what was to become a standard type (J T Smith 1964, 23–4). These early long-houses – buildings in which

Fig 63 Excavation plan of St Maria Minor stave church, Lund, showing the stave walls and the poorly-aligned aisle posts (after Ekhoff)
man and his farm animals lived under a common roof – were well known in the Netherlands and in parts of Germany by the beginning of the first century AD, but were not to be found in Britain at this time (see pp 22–3). However, the similarities between some of the early Romano-British ailed houses and those excavated at Ezinge (van Giffen 1936), Wijchen (Bloemen 1933, 5–7), and Fochteloof (van Giffen 1954) suggest that this type of building was introduced into Britain fully developed from the Continent during the second half of the first century AD (Oelmann 1935, 189; de Maeyer 1937, addenda and corrigenda Blz 125; Hinz 1964; J T Smith 1964, 23–4), though recent excavations at Gorhambury, Herts, possibly indicate an earlier date (Neal 1983, 120).

Although over 40 Romano-British ailed houses have been excavated in Britain, the excavation and recording of many Saxon and Norman sites have produced remarkably few examples of such buildings. Ailed hall-houses have been found at 3 sites occupied before the end of the tenth century, 5 sites of the eleventh century, and over 12 in the twelfth century, after which date they tend to become more plentiful (Wood 1965, 45–8). The ailed halls at the seventh-century royal palace at Yeavering (Hope-Taylor 1977, figs 60, 61) and those of the tenth-century aristocratic sites at Cheddar, Goltho, and Portchester are the earliest to have been excavated in Britain (Rahtz 1979, 136–63; Cunliffe 1976, 41–4, fig 25). Those of the eleventh century comprise Cheddar (Rahtz 1979, 158–77), Westminster (Colvin 1963, 45–7), Goltho, Thetford (Davison 1967a, 191ff, fig 43), the Viking hall at Waltham Abbey (Huggins 1976, 84–93), and the early hall found at the excavations at Fackcombe (Fairbrother 1980, fig 1). The ailed halls of the twelfth century include examples at Cheddar (Rahtz 1979, 170–88), Goltho, Oakham Castle, Leicester Castle, and the Bishop’s Palace at Hereford (Wood 1965, 35–48). The list of known ailed halls indicates that such buildings are only to be found at royal

\[ \text{Fig 64 The Cherhill Barn, Wiltshire: A, ground-plan; B, plan of arcade plates and tie beams, showing how an arcade could be constructed with 'normal assembly' in a building where the posts were very poorly aligned (after Rigold)} \]
palaces and houses of ecclesiastical and secular magnates during the Saxon and Norman periods. Without doubt there must still be many examples which await excavation, but at many sites where there was continuous occupation until the later medieval period the sparse remains of the early timber buildings are likely to have been destroyed or severely damaged by the construction of the stone buildings which replaced them.

The Continent, like Britain, saw the construction of few aisled hall-houses of aristocratic status during the Saxon and early Norman period, but the aisled long-house had a very long tradition in north-west Europe; examples were still being built as late as the nineteenth century, and many of these are still occupied today. Hof Rohlving in Preussisch Struhen, Westphalia, c. 1776–80 is a good example of a late house of this type (Schepers 1960, bid 49; J T Smith 1964, pl 1). The early long-houses varied in size to meet the needs of the owner, but in most buildings the size of the aisles, about 4–5 ft (1.2–1.5 m) wide, and the 6 ft (1.8 m) spacing of the bays remained fairly constant to facilitate the tying of cattle. Long-houses at Ezinge (van Giffen 1936) were up to 90 ft (27 m) long and 24 ft (7.2 m) wide, comprising a nave of about 15 ft (4.5 m) in width and two aisles each of 4 ft 6 in (1.3 m), built with bays set some 6 ft (1.8 m) apart. A house at Tofting (Bantelmann 1955) was about 78 ft (23.4 m) long and 18 ft (5.4 m) wide, and another at Feddersen Wierde (Haarnagel 1958; 1961) was 60 ft (18 m) long and 20 ft (6 m) wide, both buildings having an arrangement of aisles similar to those at the Ezinge house (van Giffen 1936). Recent research shows that in the early Middle Ages the aisled construction in many long-houses was replaced by trussed rafter roofs supported by outside buttresses (Schmidt 1973, 59). The excavation of the later houses at Elsenhof clearly show this development (Bantelmann 1964). The bow-sided houses of this type at Warendorf (Winkelman 1954) demonstrate that it was possible in that period to build a roof with a clear span without the use of internal posts in a building some 23 ft (6.9 m) wide in the middle and about 16–17 ft (4.8–5.1 m) wide at the ends.

It is difficult to interpret the ancestry of the Goltho aisled halls. Like the early hall at Waltham Abbey (Huggins 1976, 84–93), they were built with relatively narrow aisles and close-set bays and seem more reminiscent of the Continental aisled long-houses than of the halls at Cadbury (L Alcock 1972, 117–80), Porchester (Cunliffe 1976, 41–4), and Yeavering (Hope-Taylor 1977, figs 60, 61) and of those well-known examples of the late Saxon and Norman periods in which the aisles were as much as half the width of the nave and the bays were 10–15 ft (3–4.5 m) apart (Wood 1965, 35–48; Sandall 1975). In these circumstances it is tempting to suggest that the construction of the Goltho halls may have been influenced by the Viking settlement in eastern Britain.

Halls with narrow aisles and close-set bays continued to be built at Goltho until the end of the first quarter of the twelfth century, but a late example of this type of hall, built c. 1175, has been excavated at the sub-manor site at Wintringham, Huntingdonshire (Beresford 1977a, 210–11, 230–2). Halls with narrow aisles and widely-spaced bays, however, have a wider distribution with examples occurring as far apart as Faccombe, Netherton, Hampshire (Fairbrother 1978) and High Street/Blackfriargate, Kingston-upon-Hull,
Humbardside (Armstrong 1977). However, in most instances, halls at major sites in Britain after the Norman Conquest were constructed with the bays some 10–15 ft (3–4.5 m) wide (Wood 1965, 35–48). In Norway narrow aisles and close-set bays were exploited in the construction of the stave churches so well known for their superb technical craftsmanship and ornamentation in the twelfth and thirteenth centuries (Hauglid 1970).

There is no apparent reason why an aisled hall should have been adopted at Glotho at this time as very little extra width was gained by the change of construction. It seems as if the change could have had some social significance in that an important thegn may have been expected to have an aisled hall among his possessions. Two drawings in BL Ms Harley, 603 f 57 (Figs 66, 67) may cast a little light upon the problem since they represent the establishment of a thegn and show, amongst other buildings, an aisled hall. The manuscript, a copy of the ninth-century Utrecht Psalter, was written in Canterbury c 1000. The illustrated buildings are of stone and are drawn in the Byzantine tradition. They do not therefore provide firm evidence for a Saxon thegn’s hall, but they may in some ways reflect contemporary buildings with which the artist was familiar (Ralegh Radford et al 1973, 82–3).

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Fig 66 Canterbury psalter: ‘Building a house’, BL Ms Harley 603 (after Page).

Fig 67 Canterbury psalter: ‘The gentleman’s house’, BL MS Harley 603 (after Trail and Mann).
The bowers
(Figs 59, 68)

The remains of five superimposed bowers were excavated to the west of the halls, the earliest of which was probably built towards the end of the ninth century (cf p 42) while the last, built in or about the year 1000, survived into the early eleventh century when it was used in its final years as a kitchen. The remains show the development of the bower as a building constructed to provide substantial private accommodation for the occupant and his family in two or three chambers, under one roof, set apart from the principal hall which was probably reserved for use on festive occasions and for official estate functions. The bowers, built with straight sides, were all about 18ft (5.4m) wide. Their length was indeterminate but the general layout of the footings suggests that they were about 45-50ft (13-15m) long. Their construction was similar to that of the halls of the ninth and tenth centuries: the earlier buildings were constructed of staves set in trenches (see p 38) while those of the later phases were probably built with the feet of the staves supported on interrupted sills set between principal posts in earth-fast footings (see p 63). The end walls of some of the later bowers were built without earth-fast foundations like the halls (see p 63). There was no evidence to indicate the function of the chambers within the bower, but it might be assumed that the accommodation provided a private hall and a chamber, and in some an additional chamber and an attached garderobe.

A garderobe building some 17ft long and 8ft wide (5.1 x 2.4m) stood attached to the south-east corner of one of the bowers, but there was insufficient evidence to show how it had been built. The garderobe pit was 7ft long, 6ft wide, and almost 3ft deep (2.1 x 1.8 x 0.9m). The contents of its fill suggested that it was in use during the late tenth century. A similar garderobe was found attached to the eleventh-century bower (see p 79). The drawing of the thegn's house in the Harley MS may be cited again in this connection since it shows to the left of the hall a similar little building extending from the living quarters of the house which could be interpreted as a garderobe (Fig 62). Pottery excavated from the occupation levels of the bower associated with the first aisled hall was dated by a penny minted in the reign of Edgar having an absolute terminus of c 973 (p 180). Unfortunately the group from this well-dated level contained only the remains of 11 vessels and a lamp.

The weaving sheds
(Figs 54, 59)

The two tenth-century buildings interpreted as the weaving sheds lay superimposed on the remains of that of the earlier structural period on the northern side of the courtyard (see p 55). Their remains were somewhat confused but it was possible to determine the approximate size of the two buildings: the earlier was some 52ft long and 15ft wide (15.6 x 4.5m) and the other measured 60ft by 15ft (18 x 4.5m). They were of stave construction built with their timbers set in a trench foundation some 2ft (0.6m) deep. The walls of the last shed were probably built with principal posts and interrupted sill beams like those of the halls of the period. It was demolished in the late tenth century when the size of the courtyard was increased and the fortified enclosure extended. Much of the pottery which emanated from the occupational deposits in the weaving shed and its adjoining garderobe was associated with the latest occupation of the building. The group comprised the remains of some 25 vessels consisting of cooking-pots, bowls, and a jar. Further spreads of domestic debris from the hall, bower, kitchen, and weaving shed found in the courtyard included the remains of 50 or more vessels. The amount of domestic pottery found in and around the weaving sheds indicates that the building also provided domestic accommodation for the weavers. Although in England there is little positive evidence of the conditions under which the weavers lived, the continental codes are clearer. The Leges Alamannorum laid down fines for the violation of women from the weaving shed: 'If anyone sleep for the first time with a maiden from the weaving-shed let him compound (with her master) for 6 shillings' (MGH Leges, III 161 Caput lxx; cf Lex secunda, lxxii and Lanfrid, lxiv; Ralegh Radford 1957, 37).
The kitchens
(Figs 26, 59)

The remains of two kitchens were found associated with the halls of this structural period: one lay on the eastern side of the courtyard and the other lay close to the south-west corner of the halls. The kitchen on the eastern side of the site was presumably the earlier of the two buildings since it was superimposed on the remains of those of the preceding structural period. Pottery found in the little trench running along its eastern side showed that it was standing until the end of the century. The second kitchen built in the south-west corner of the hall was of similar construction to the second hall, suggesting that they were contemporary. This building also stood until the end of the century. As it would seem unlikely that there were two kitchens standing at the same time, that of the earlier date may have been used for baking or brewing during its last years.

Kitchen 1
(Figs 59, 69)

The kitchen built on the eastern side of the courtyard was 40ft (12m) long and 18ft (5.4m) wide at the northern end and 12ft (3.6m) at the other. The irregularities of the plan of this building seem to be somewhat out of context at the Goltho manor site. Buildings of similar shape are to be found in long-houses on Dartmoor (Beresford 1979, 124-7) and in the Rhinelands (Zippelius 1957, fig 38) where extra width was required at the 'lower end' of the building, for the animals or for storage. However, there was nothing to indicate why such a plan should have been adopted within the fortified enclosure at Goltho.

The position of the building was clearly defined by lines of postholes approximately 2ft (0.6m) deep excavated to hold posts of some 15 x 9in (0.38 x 0.23m) scantling. They were connected by a trench 9-12in (0.23-0.3m) wide at the bottom and about 18in (0.46m) deep. Owing to the natural difficulties of digging heavy clay soil like that at Goltho, it was only the side walls of the southern half of the building which could be recognised from the tenth-century ground level. The remaining parts of the building were not found until all the levels had been excavated down to the undisturbed clay; thus it was not possible to record accurately the line of much of the trench. Access to the building was gained by way of two opposing doorways set in the middle of the lateral walls, the positions of which were clearly marked by breaks in the wall-trench and by the large postholes for the door jambs. Although the floor levels were all destroyed by later developments on the site, evidence of the building's function was provided by the spread of dark ashy soil and fragments of burnt daub emanating from ovens or malting-kilns (Beresford 1977a, 241-5). A trench 3ft (0.9m) wide at the top and about 2ft 6in (0.75m) deep ran along the western front of the building some 2ft (0.6m) away from the wall; it contained fragments of late tenth- or early eleventh-century pottery which dated the demolition of the building. The purpose of the ditch could not be determined: perhaps it was used for the collection of rain-water from the roof, or possibly it may have served as a clay quarry for the reconstruction of the ovens or for the repair of the walls.

Reconstruction of kitchen 1

This building is perhaps one of the more difficult structures to interpret at Goltho since the sections cut through the timber-trench did not show the stratigraphical relationship between the postholes and the trenches in a way sufficient to prove whether the features represented the remains of one or two buildings constructed upon a similar foundation. The interpretation is further complicated by the fact that the footings of the southern wall and all the northern area of the building were not recognised on the tenth-century level. The posts themselves were set too far apart for the trench to have been used to facilitate their excavation. Furthermore the posts were slightly out of alignment with the post-trench, so it might reasonably be assumed that the remains represent a building which was either extensively repaired during its life or rebuilt upon the same foundation. Although there was no certain archaeological evidence to indicate which of the two features was the earlier, it would be reasonable to suggest that the construction of the kitchen defined by the trench footing was of timber and clay, possibly similar to the mid ninth-century bower (p 54) and that the postholes represented a repair or possibly a rebuilding of the walls under the original roof. The size of the postholes suggests that posts of some 15 x 9in (0.38 x 0.23m) scantling were used. Prepared timbers were not often used in buildings of this construction where the posts were completely surrounded by clay but, in this instance, the builders probably utilised timbers salvaged from the rebuilding of the halls.

Kitchen 2
(Figs 26, 59)

The second kitchen lay between the hall and the defences in the south-west corner of the site. Owing to the limited space the edge of the rampart was cut by
the south-west corner of the building. Like the halls, (see pp 62–4, Fig 60), the kitchen was an example of a single-aisled building, the plan of which would suggest that it was contemporary with the halls and built by the same craftsmen. The kitchen was 25ft (7.5m) long, but the precise width could not be determined as the walls of the aisle, built on the surface of the ground, left no visible trace. However, the ‘nave’ had a clear span of 14ft (4.2m). The position of the building was clearly defined on the eastern side by a timber-trench 3ft 6in (1.05m) wide at the top tapering down to about 18in (0.46m) at the bottom and 21in (0.53m) deep, and also by the line of arcade postholes on the eastern side of the building which were about 3ft (0.9m) deep and over 2ft (0.6m) wide at the bottom. The postholes and the slots on the northern side of the building are difficult to interpret, but they possibly represent the remains of two doorways, one each side of the ‘nave’. Much of the floor area was burnt by the lighting of many fires over a long period of time.

The substantial construction of this building and its close proximity to the hall suggest that it was originally built to serve as an important chamber. Although there was nothing to indicate the nature of the infill of the panels between the principal posts, the similarity of the arrangements of the postholes and trenches to those of the hall would suggest that both buildings were of similar construction (see pp 62–4).

Note

1 I am most grateful to Mr Graham Cadman for this information.
5 Period 5: eleventh-century fortified enclosure, c. 1000-1080

The fifth structural period commencing c. 1000 was marked by the reconstruction of all the principal buildings around a courtyard of increased size (Figs 70, 71). In order to accommodate the new buildings the old fortifications were levelled and replaced by others of similar proportions, but enclosing a much larger area. The hall was superimposed on the site of those of the earlier structural period, but it differed from its two predecessors in that the single aisle was built on the southern side of the building away from the courtyard. Although there was no obvious reason for this alteration, it would seem probable that it was effected to improve the appearance of the entrance to the building from the courtyard. The new bower was built close to the western end of the hall and that of the earlier period was reused as a kitchen until its demolition in the second quarter of the century. The kitchen associated with the occupation during the later part of the period lay some 24ft (7.2m) to the south-east of the hall. Two substantial domestic offices stood on the eastern side of the courtyard and two others on the northern side. Much of the fourth

side of the enclosure had been destroyed by the construction of the moat of the motte and bailey castle after the Norman Conquest. A small area lying to the west between the moat and the rampart, outside the area reserved for excavation, was not examined. However postholes, timber-trenches, and a scatter of late Saxon pottery indicated the existence of further buildings in this area. These were revealed whilst seeking the line of the western boundary and during the backfilling of the excavation.

The site of the principal gateway on the northern side of the enclosure was destroyed by the excavation of the moat of the Norman motte and bailey castle (Fig 71), but its approximate position was marked by the two deep ditches draining the roadway leading from the gate to the hall. The remains of the postern gate lying to the south-east were excavated.

The development of the site in the early eleventh century represents either a marked increase in the prosperity of the occupant or a change in ownership. The status of the household is attested not only by the scale of the buildings and their surrounding defences, but also by the increased number of artefacts which were found with these remains. Extensive groups of pottery were found in the courtyard and in the surrounding buildings, especially in the early kitchen

Fig 70 Period 5: late Saxon hall and associated domestic offices c. 1000-1080 (cf Figs 71, 73) (photo: G Beresford)
where the groups were dated by a penny of Cnut. The period saw the continued increase in the use of hard shell-tempered ware fabrics at the expense of the shell-tempered fabrics, an increase in the number of vessels of grey sandy ware and Stamford ware, and also the introduction of splash-glazed wares. Few Torksey vessels were found with the remains associated with the end of this period (p 165). Many of the iron objects were similar in range to those from the near contemporary town of Thetford and may be compared with those named in the Gerefa, an adjunct to the eleventh-century tract on estate procedures, the Rectitudines Singularum Personarum (p 177; Addyman with Goodall 1976, 316–21).

A coin (see p 188) minted in the reign of Cnut, found on the early kitchen floor, and the considerable quantity of pottery (see pp 138–40) found in the structural and occupational deposits dated the remains. These levels completely sealed those of the earlier periods and were themselves sealed beneath the earthworks of the motte and bailey castle constructed in the early years following the Norman Conquest.

The defences
(Figs 70, 72, 73, 74)

The eleventh-century fortifications, which consisted of a rampart and a ditch, enclosed an area, egg-shaped in plan, about 325ft long by about 270ft wide (97.5 x 81m), the remains of which are clearly seen in the air photograph of the castle mound (Figs 11, 71, 72). The ramparts were well preserved on the southern and eastern sides of the enclosure where they stood up to 5ft (1.5m) high at the time of their excavation.

Those on the western side had been levelled, but their positions were clearly defined by the line of the outer ditch which was visible on the ground surface until the field was levelled during the winter of 1970/71. The northern side of the enclosure had been destroyed by the excavation of the late eleventh-century moat and the post-medieval pond (Fig 71). The rampart and ditch were sectioned just to the west of the postern gate; at this point the rampart was 25ft (7.5m) thick and the ditch 18ft (5.4m) wide and 6ft (1.8m) deep, but further away from the gateway on the eastern and western sides the ditch was only some 3–4ft (0.9–1.2m) deep. The ramparts were possibly some 6–7ft (1.8–2.1m) high originally. Since the summit had been eroded away, there was no evidence to indicate the form of the breastwork, but it is likely to have been of timber (Fig 72). A section some 30ft (9m) wide was cut through the southern rampart, but excavation produced no evidence to suggest that the sides of the ramparts had been revetted with either stone or timber; they were probably faced with turf, as suggested for the earlier period (see p 30).

The postern gate
(Fig 71)

The gateway lying away from the village in the south-east corner of the site was probably a postern. It had been widened and much damaged by later occupation, but the existence of a gate in this position is attested by the extra strength of the defences in that corner of the site, wear in the entrance, and a thin spread of stones.

Since the two postholes set 16ft (4.8m) apart on either side of the gateway were both too shallow to support the weight of a heavy gate, they must represent the footings of a fence constructed to close the gap after the end of the structural period. The absence of any contemporary gate postholes suggests that the gatehouse had been constructed upon a sill beam foundation like that excavated at South Cadbury Castle, Somerset (L. Alcock 1970). The thin spread of stones and the slightly worn ground surface show that the original gateway was probably about 12ft (3.6m) wide. The ditch was probably crossed by a bridge at first, but in the final phase the ditch was infilled by the gateway to form a narrow causeway some 12ft (3.6m) wide at the top.

Interpretation of the defences

The Norman Consuetudines et Justicie (cap 4) of 1091 (Haskins 1918, 282), relating to the rights and customs of the duke, indicated that the criteria of fortification in the eleventh century could be the depth of the ditches, the height of the ramparts, and the construction of the palisades. The document stipulated that 'No-one in Normandy might dig a fosse in open country of more than one shoveller's throw in depth nor set there more than one line of palisading and that without battlements or alures.' At Goltho the deeper parts of the ditch close to the postern gate were sufficiently deep to be near the limit of a shoveller's throw. It would, of course, have been impossible to shovel spoil from the bottom of the ditch to the top of the bank without resorting to the practice locally known as 'man-jacking' where a man in the bottom of the ditch shovels the spoil to another standing some feet above who in turn shovels it to another further up the bank. The Goltho defences were very similar to those of the second phase at Plessis-Grimoult, Calvados (Zadora-Rio 1973–4, 182ff), the caput of Grimoul du Plessis in the early eleventh century, where the ditch was some 14ft (4.1m) wide and the rampart some 20ft (7.2m) wide at the base and 6ft (1.8m) high (cf Table 1, p 32).

Pathways

Although the site of the principal gate was destroyed by later developments, the position of the pathway leading southwards from the gate to the hall was clearly marked by the two drainage trenches, each some 2ft 6in (0.75m) in depth. The trenches contained late tenth-century pottery but they definitely belonged to this structural phase and not to that of the tenth century, because the eastern trench cut through the remains of the weaving shed. Their functional life appears to have been short since the same trench was sealed beneath the floor of the northern building and beneath deposits of late eleventh-century pottery. Both trenches were silted up when the motte and
Period 5: Eleventh-century fortified enclosure

Figure 72: Eleventh-century fortifications, section and reconstruction: 1. old soil line; 2. fill of rampart; 3. silt in ditch; 4. fill of ditch; 5. nineteenth-century drain. Reconstruction: soil may have been deposited in the angle between the top edge of the rampart and the breastwork in order to prevent an adversary from gaining a foothold upon the berm.

Figure 73: Period 5: view looking south-west of the eleventh-century defences (cf Fig 72) (photo: G Beresford)
bailey castle was constructed shortly after the Norman Conquest, but the course of the ditches is faintly visible in Figure 70.

A feature of both the tenth- and eleventh-century levels of occupation was the absence of wear of the ground surface around the buildings and within the courtyard. This was particularly noticeable around the site of the eleventh-century hall which stood for 70-80 years before it was demolished and sealed beneath the ramparts of the Norman motte and bailey castle. Heavy showers and particularly long periods of rain during the excavation clearly demonstrated that there must have been some form of laid surface to have preserved the site from excessive wear, but no remains were recognised. However, as wattles and heavier timbers have a long tradition in the construction of paths and trackways in Britain (Interim, 8/2, 16-24) and on the Continent (Herrnbrodt 1967, 62-72), it would be reasonable to postulate that the paths were of this type at Goltho. The eleventh-century Gerefa indicates that it was the duty of a reeve to lay planks between the houses (Addyman with Goodall 1976, 319). The remains of such pathways, especially if the timbers had been salvaged, could easily pass unnoticed during excavation in the heavy clay soil. The absence of stone pathways at Saxon and Norman domestic sites suggests that timber was generally used until the gradual introduction of stone in the thirteenth century, and it would be reasonable to postulate that paths at Goltho were of this material.

The hall
(Figs 75, 76, 77, 83, 84)

The single-aisled hall was built on an east-west alignment and was superimposed on the remains of those of the earlier two structural periods. The position of the building was very clearly marked by lines of post-pits 3ft (0.9m) deep and about 3ft (0.9m) wide at the bottom (Fig 77). The hall excluding the pentice was 38ft long and 24ft wide (11.4 x 7.2m) and consisted of a nave of 18ft (5.4m) and a single aisle of 6ft (1.8m). The hall was divided into four equal bays set 9ft 6in (2.85m) apart. The trenches connecting the wall posts with those of the arcade were dug to facilitate the removal of the posts at the time of the demolition of the building and were not, as originally interpreted, partitions forming small chambers within the aisle (Beresford 1977b, 55). A pentice about 12ft (3.6m) wide stood against the length of the eastern end of the building; its walls had been set in a
trench foundation about 2 ft wide and 1 ft deep (0.6 x 0.3m) in which the impressions of staves were clearly marked. The hall was heated from a central hearth made from a discarded mill stone (see pp 195-6). There was nothing to indicate the positions of the doors and windows.

Reconstruction of the hall
(Figs 82-84)

The stability of the building was to a great extent dependent upon earth-fast posts set in pits 3 ft (0.9m) deep and about 3-4 ft (0.9-1.2m) wide at the bottom, slightly wider than those of the west halls at Cheddar. Owing to the nature of the soil on this site it was not possible to determine the position of the posts within the pits or whether the feet of the posts had been dressed, as at Cheddar (Kahtz 1979, 142, fig 50), or were untrimmed, as at Der Husterknupp (Herrnbrodt 1958, fig 13); the rounded shape of the secondary cuts suggests that the feet may have been untrimmed (Fig 83). However, it would be reasonable to postulate that the posts were of oak, a timber much favoured in the construction of all medieval buildings and readily available at Goltho. English oak enjoys the reputation of lasting well in the ground and posts of some 12 x 12 in (0.3 x 0.3m) scantling could be expected to last well over 100 years (Fig 78; Purslow nd. 1-2). In these circumstances the hall could have stood throughout the period without extensive repair or rebuilding. Some of the post-pits showed signs of recutting, but this may be attributed to the fact that it was frequently necessary to adjust the position of the posts during the construction of the building to conform with the overall plan or with any irregularities in the timber used. It must be emphasised that wide post-pits do not always imply that the posts were thick, since a wide post-pit is easier to dig and facilitates the adjustment of the post to a precise position. The extra width would also permit the removal of any loose soil which might fall as the post was reared into an upright position.

In the absence of any evidence to indicate the construction of the walls between the principal posts, it would seem likely that they were of stave construction built up on interrupted sill-beams as in the earlier period. If the feet of the principal posts in the walls were untrimmed, as at Der Husterknupp (Herrnbrodt 1958, fig 13), the sills would probably have been slotted to the post at the point where the dressed part gave way to the untrimmed bole just

Fig 76 Period 5: detail of the late Saxon hall and bower c 1000-1080 (cf Figs 71, 73) (photo: G Beresford)
above the ground surface. If, however, the posts were dressed down to their feet, the sills must have been halved to either the inner or outer side of the posts. The upper ends of the staves would have been slotted to the underside of a wall plate clamped or slotted to the principal posts, a construction well known in the later stave churches (Figs 79, 80; Ekhoff 1914–16, 443). The staves set upon a sill beam footing could have been of lighter scantling than those of the ninth-century hall (cf Figs 40, 49, 82). However, both types of stave seem to have enjoyed widespread use with sill beams in north-west Europe (Ekhoff 1914–16, 191, 254).

The principal posts

The life of timber set in earth is dependent upon its thickness and not on its cross section as is often supposed. For example a piece of timber 4in (100mm) square would last twice as long as a piece 2in (50mm) square, but a piece of timber of only 2 by 2in (50 x 50mm) scantling would have much the same life expectancy as a piece 2 by 4in (50 x 100mm) (cf Fig 78; Purslow nd, 1–2). The durability of the differing scantling of the timbers used in the construction of the ninth- and eleventh-century halls is clearly reflected in their lives: the earlier hall, built with earth-fast staves probably no more than 3–4in (70–100mm) thick at their edges, had to be rebuilt or at least extensively repaired after a period of approximately 40 years, while the eleventh-century hall, built with heavy earth-fast principal posts, had a life of almost 80 years. Although smaller timber buildings up to 16ft or so (4.8m) wide, like the mid ninth-century kitchen (p 59), could be built without earth-fast footings, larger buildings had to have their principal members set in the earth to provide sufficient stability to support the weight and thrust of the roof. Such buildings continued to be built until the twelfth and thirteenth centuries when more complex framing allowed the building to stand without earth-fast foundations (Hauglid 1970, 10). However, the earth-fast tradition was to persist in the construction of the houses of the peasantry throughout the medieval period and later.

Fig 77 Detail of post-pits for the wall and aisle posts on the south side of the late Saxon hall, viewed from the east: the earlier levels of occupation are clearly visible in the sides of the post-pits which had been cut through them (cf Fig 75) (photo: G Beresford)
The roof
(Figs 83, 84)

In the absence of any archaeological evidence to suggest that the construction of the roof was based upon a ridge piece (see p 27), two types of roof could be considered in a discussion on the reconstruction of this building: first a collared rafter roof with a tie beam to each pair of principal posts and, second, a Romanesque type of roof with a tie beam to every pair of rafters. In timber buildings where the span was over 18–20 ft (5.4–6 m) the stability of a collared rafter roof would have had to depend on some form of wall tie, probably at bay intervals where the beam could be slotted to the principal posts, as suggested in the reconstructions at Der Husterknupp (Figs 79–81; Herrnbrot 1958, fig 73). However, a Romanesque type of roof was probably chosen by the early eleventh-century builders at Goltbo. The construction was widespread in stone churches in north-west Europe from the ninth to twelfth centuries (Brigode 1949, 99–177) and was also used in the earlier stave churches, as at Horn (Krogh and Voss 1961) or Urnes (Ekhoff 1914–16, 191, 254). The argument in favour of a Romanesque-type roof in this period is strengthened by the shape of the post-pits of the second pair of principal posts from the eastern end of the building: that on the southern side of the building was longer from east to west than the other members of the arcade, indicating that it had been slightly lengthened to allow the movement of the post along the building, while that in the north wall had been more roughly enlarged in a westerly direction. In order to facilitate the assembly of the Romanesque trusses on to the wall plate by means of a half joint (Fig 82), it would have been much more convenient for the trusses to be placed between the principal posts. It would have been impossible to fit the trusses along the length of the roof with even and normal spacing between the posts unless the two above mentioned posts had been moved to the west. It is therefore reasonable to argue that the two posts were moved to facilitate the erection of a roof of Romanesque form and to permit the fitting of evenly-spaced trusses as would be expected in a hall of superior workmanship.

The construction of the gable ends of the hall was probably similar to those of the earlier Urnes stave church (Ekhoff 1914–16, 191, 254). Although the gables were wide and probably high, little difficulty would have been encountered in the infilling of the area with staves. Boards which doubtless covered the rafters would have provided ample longitudinal stability to the end rafters thus securing the heavy stave infill of the gable end (see p 48). The boards, as suggested for the earlier halls, were probably clad with shingles.

There was no archaeological evidence to suggest how the smoke from the central hearth passed through the roof. The absence of louvers in contemporary pictorial representations of houses suggest that it may have escaped through openings in the gable ends as in some of the later medieval halls. The Bayeux Tapestry, however, indicates that some houses had louvers and cowls shortly after the Norman Conquest (Stenton 1957, pl 35).
The bower
(Figs 75, 76, 83)

The bower, 23ft long and about 15ft wide (6.9 x 4.5m), was built on a north-south alignment and stood 4ft (1.2m) from the western end of the hall. Although the two buildings stood so close together there was nothing to suggest that they were ever joined together in any way. The size and shape of the post-pits suggest that the two buildings were constructed at the same time. Entrance to the building was gained from the courtyard by way of a single doorway set in the northern end wall, the position of which was clearly marked by the slot of the threshold piece. The floor surface was slightly scorched in two small areas towards the southern side of the bower suggesting
PERIOD 5: ELEVENTH-CENTURY FORTIFIED ENCLOSURE

A garden robe lay attached to the south-west corner of the building, its position clearly marked by the pit 8ft long, 6ft wide, and 5ft deep (2.4 x 1.8 x 1.5m). No remains of its walls survived, but they were probably of stave construction built up on a sill beam foundation. Attached garderobes are at present without parallel in pre-Conquest Britain, but the
drawing of a thegn's house in BL Harley MS 603 f 57 may again be cited in this connection (Fig 67; see p 67).

There was no evidence of a doorway leading from the end of the hall to the side of the bower, nor was there anything to suggest that there had been any form of covered way joining the two buildings. The absence of such connection emphasises the formal nature of the hall and the private character of the bower, as in the earlier period.

Two principal groups of pottery were found with the remains of the late Saxon hall and its associated bower and garderobe. The earlier was found amongst the construction deposits and comprised mainly cooking-pots and bowls in grey sandy, Torksey, and Stamford wares. The second group from the uppermost occupational deposits within the hall, bower, and garderobe clearly reflect the development of the pottery during this period (see p 165). The vessels were of shell-tempered, hard shell-tempered, Stamford, and splash-glazed wares (p 154). Other finds from the hall included five bone gaming pieces and a bone crossbow nut (pp 191-2).

Reconstruction of the bower
(Figs 83, 84)

The sizes and depths of the postholes were so similar to those of the hall as to suggest that the two buildings were of similar design and constructed at the same time.

The eastern building
(Figs 75, 85, 86, 87)

The eastern building, a structure with narrow aisles, about 72ft long and 20ft wide (21.6 x 6m), lay on a north-south alignment on the eastern side of the courtyard. It was divided into five unequal bays set between 11ft (4.5m) apart in the centre of the building and about 16ft (4.8m) at the ends and comprised a nave spanning about 15ft (4.5m) and two narrow aisles each 2ft 6in (0.75m) in width. The position of the building was clearly marked by the wear of the floor and by the pits for the aisle posts which were 9in (0.23m) deep and about 2ft (0.6m) wide at the bottom. The building was entered by way of a single doorway 5ft (1.5m) wide marked by two postholes some 9in (0.23m) deep for jambs of unprepared timber about 9in (0.23m) in diameter, and by fragments of a hand-quern trampled into the threshold. The walls, built on the surface without earth-fast foundations, left no visible trace, but their positions were defined by the wear of the floor (Figs 82, 85). The remains suggest that the walls were of light construction.

The building, although similar in many ways to the tenth-century halls, differed in that the bays were set more widely apart. The narrow aisles were comparable with those of the early hall revealed at the excavation at Waltham Abbey, Essex (Huggins 1976, 84-93; see also Whitwell 1969, 128-35). Buildings in

Fig 82 Reconstruction of the bower wall of the hall c 1000-1080: A, a wall built like that at Hereford in which the lateral stability is provided by Romanesque tresses with a tie to every pair of rafters; B, an alternative reconstruction where the opposing walls are tied with beams set at bay intervals
which the load of the roof is carried upon posts set just inside the wall have a long tradition persisting in vernacular architecture into the post-medieval period (McCourt 1972).

The function of the building cannot be determined, but the width of the doorway and the size of the hearth suggest that it was probably not for domestic occupation. The four pits lying along the centre of the building lay beneath the trampled floor surface and were therefore not associated (Figs 75, 85).

Reconstruction of the eastern building
(Figs 85, 86, 87)

The poor alignment and spacing of the posts, the form of the door jambs, and the light construction of the walls show that the building was not of the same structural complexity as the hall and was probably built with the help of village labour. The strength and stability of the building was almost entirely dependent upon the eight aisle posts set some 1ft 9in–2ft (0.5–0.6m) into the ground. The width of the postholes suggests that the feet of the posts were, if untrimmed, 18–21in (0.46–0.53m) in diameter or, if dressed, 12–14in (0.3–0.35m) square. Such posts would have been sufficiently large to have clasped at their heads both a plate and a tie beam (Fig 79). Their alignment was so poor that it would not have been possible to join a straight plate to their heads, and it would be difficult to substantiate a hypothesis that the feet of the posts had been deliberately placed out of alignment to correspond with the curves of the plates, as an ample supply of good-quality timber must have always been readily available for the construction of the manorial buildings. It would also seem unlikely that the footings were misaligned to compensate for any curves in the feet of the posts. Nevertheless, these apparent structural difficulties could readily be overcome either by reversed assembly (Hewett 1962–3, 265; Olsen and Schmidt 1977, 140–1) or possibly, in this building where the bays were some 11–16ft (3.3–4.8m) apart, by the use of short plates as in the Cherhill Barn, Wiltshire (Fig 64) where the post alignment was similar (Rigold 1968).
The walls, having been built without earth-fast foundations, left no visible trace on the ground to indicate their construction. A stave wall built upon a sill beam foundation could be considered in the reconstruction of this building if it were not for the two small postholes to support the door jambs. In stave buildings the doors were usually hung on the staves whether the footings were earth-fast, as in the ninth-century hall at Goltho (see pp 38-42), or built upon sill beams, as at Hedared stave church (Ekhoff, 1914-16, fig 196). The postholes for the jambs in this eleventh-century building suggest that the door was hung on untrimmed posts, some 6in (0.15m) in diameter, a feature inconsistent with stave construction on any type of timber building dependent upon a sill beam foundation. Had the walls been of wattle and daub their positions would have been clearly defined by the lines of stakeholes left by the wattles, as in the turf houses at Houndtor, Devon (Beresford 1979, 115). Walls built of clay laced with timber, similar to those described in the reconstructions of the middle Saxon houses (see p25-8) and of the mid ninth-century bower, were frequently built without earth-fast foundations from the eleventh century to the end of the medieval period (see p59); other examples at Goltho occur at the manor site c 1125 (see p 106) and in the village (Beresford 1975, 23-4) from the late eleventh century until c 1250. Similar buildings have been excavated at Barton Blount, Derbyshire (Beresford 1975, 24) and Wintringham, Huntingdonshire (Beresford 1977a, 225-34). In most instances the clay disintegrated leaving no trace. This type of construction seems to be most consistent with the excavated remains.

It is likely that the roof was hipped, owing to the difficulties of infilling a gable-end wall in a building where the ridge was high and the wall of light construction. A roof of Romanesque type with its lavish use of timber would seem somewhat out of context in such a relatively narrow building lacking in structural complexity. A collared rafter roof, constructed either with poles or, at best, roughly dressed timbers, would seem the most likely type to have been chosen for the construction of this building. Since the line of the wall was relatively straight and that of the

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**Fig 84** Reconstruction of hall and bower, c 1000–1080: elevations and section
aisle posts uneven, it is evident that unless the arcade plate had been adjusted to correspond with the line of the wall by placing it on top of the tie beams (see pp 63-4 on reversed assembly (Hewett 1961, 33-7; 1962, 260-2)), the rafters of the nave must have been separate from those of the aisle so that they all could have been supported by the arcade plate.

The terminal aisle posts were a considerable distance from the end of the building, showing that the plates must have extended to the end walls to support the outermost rafters (Fig 87). The structural stability must have been dependent upon the use of tie beams probably placed at bay intervals and joined by normal or reversed assembly. The construction of the building suggests that the roof would have been thatched.

Northern building 1
(Fig 75)

The northern building lay to the north of the eastern building and stood on the same alignment. It had been much damaged by the excavation of the twelfth-century moat and only 65ft (19.5m) of the eastern wall survived, together with the front wall of an extension built out at right-angles from the main building about 40ft (12m) into the courtyard.

The building was, without doubt, of similar construction to the eastern building previously described, but differed in that the footings of the walls were set in timber-trenches about 18-21in (0.46-0.53m) deep and in that the aisle posts were set closer to the side. The extension, however, was built without internal posts. The positions of the doorways were clearly marked by gaps in the trenches. That leading into the main building was approximately 9ft (2.7m) wide, suggesting that the building was probably used for storage.

Northern building 2
(Fig 75)

Sparse remains of another domestic office constructed with timber-laced walls stood on the northern side of the courtyard to the east of the gate. The position of the building was marked by a short timber-trench and a line of shallow postholes delineating the southern wall, and by a large hearth 15ft (4.5m) long and up to 8ft (2.4m) wide. Access was gained by way of a single
doorway 4ft (1.2m) wide set in the southern wall, which was marked by the postholes for the jambs and the wear surrounding the threshold. There was nothing to indicate the function of this building.

Since the western end of the building had been superimposed upon the easternmost of the two trenches which drained the pathway leading from the gate to the hall, it is evident that it was of mid eleventh-century origin. This dating is confirmed by the ceramic evidence (p 154).

Another large hearth some 10ft (3m) in diameter lay about 50ft (15m) to the south-east and possibly marked the site of a similar building (Fig 75).

Kitchen 1
(Fig 75)

The kitchen associated with the hall of this period was superimposed on the site of the tenth-century bower and was probably an adaptation of the last of the sequence of these buildings (see p 68). It was not possible to determine its exact size owing to the number of superimposed buildings, but the footings of the side walls, the severe burning of the floor, and the spread of occupational debris indicate that the building was about 18ft wide and over 25ft long (5.4 x 7.5m) (Fig 68). The floor was covered with much pottery, bone, and fragments of burnt daub emanating from the ovens. Among these finds was a coin minted in the reign of Cnut suggesting that the building was demolished in the middle of the century. Outside the building, especially on the northern side, were numerous deposits of midden emanating from the kitchen. The remains of at least 168 vessels were found amongst the occupational deposits associated with the building (p 147).

Fig 86 Eastern building c 1000–1050: plan and interpretation

Fig 87 Eastern building c 1000–1050: reconstruction
The last kitchen to be built in the eleventh-century enclosure lay some 22ft (6.6m) to the south-east of the hall. The building stood on an east-west alignment and was about 18ft long and 15ft wide (5.4 x 4.5m). A small penticote, possibly a stick shed, was built against the eastern wall. The position of the building was clearly defined by a timber-trench 2ft 6in (0.75m) deep and between 15 and 24in (0.38 and 0.61m) wide at the bottom. The excavation of the trench revealed the clear impression of one of the posts of the northern side of the building, the shape of which was marked by the clay filling of the void after its removal. The post was about 10in (0.25m) in diameter and inclined inwards at an angle of about 65° (Fig 88). The very clear outline showed that the inclined angle could only have been produced if the post had been originally set in that position. If it had been pushed inwards at the time of demolition, the band of clay would have shown the swing of the post. A substantial spread of pottery emanated from this building and is included within a group of some 193 vessels associated with the latest occupation of the site before the construction of the motte and bailey castle in the late eleventh century (p 154).

**Reconstruction of kitchen 2**

The inclination of the post in the northern wall suggests that the kitchen was an example of the type of building where the roof rests directly on the ground. Such buildings were constructed from earliest times in north-west Europe (Innocent 1916, 23-7) and the tradition survived in farm buildings into the middle of the present century (Innocent 1916, 23-7; Meirion-Jones 1973). An example of a house of this construction probably dating from the fifteenth or sixteenth century stood until recent times at Scrivelsby, Lincolnshire (Addy 1898, 19-22). The building, popularly known as 'Teapot Hall', measured 19ft (5.7m) in each dimension - length, breadth, and height. In buildings of this type, the slanting poles which form the rafters are usually paired and crossed at their apexes, so forming a fork to support a ridge piece (Innocent 1916, 23-7). Dwarf walls, as in some sunken-floored buildings in Brittany (Meirion-Jones 1978), may have been built in the angle between the feet of the rafters and the floor to obviate the risk of fire.

**Notes**

1. The two postholes were 9in (0.23m) and 18in (0.46m) deep respectively. Gateposts need to be set at least 3ft (0.9m) into the ground to support a modern 10ft (3m) five-barred gate.
2. The slot in the western end wall of the hall shows that they were not partitions. Like the postholes, the slots were partly filled with the clay of the castle ramparts.
3. When digging a post-pit 3ft (1m) or more in depth for the footing of a substantial post, it is usually easier for the digger to work within the pit rather than from the ground surface. This was clearly demonstrated during the course of the Goltho excavations.
6 Period 6: motte and bailey castle, c. 1080–1150

The Domesday Survey records that after the Norman Conquest the three manors in Bullington were granted to the Bishop of Durham, the Earl of Chester, and Ivo Taillebois whose subinfeudated tenants were Nigel,Colsuan, and Odo respectively (pp. 30–40). The tenant who acquired the Goltho manor site constructed a small motte and bailey castle within the late Saxon fortifications at the time of the grant or soon thereafter. Although it is uncertain to what extent the earlier earthworks were incorporated into the new fortifications (if they were at all) their remains certainly seem to have determined the shape and size of the new castle. The castle at Goltho, like many built after the Norman Conquest, was of timber and earth. Although strongly defended for its size, it must have been one of the smallest motte and bailey castles to have been built at this time (Figs 89–91).

The fortifications of the castle were considerably stronger than those which surrounded the halls and domestic offices of the earlier periods. To a man standing upon the bridge about to enter the castle the wide moat, the tall ramparts, the gatehouse raised so high, and the revetted motte, which must have looked to a peasant’s inexperienced eye like a shell keep, would all have appeared an impressive structure of lordly dominance, towering over a conquered community. However, the comparative strength of the fortifications and their impressive appearance differed somewhat from the poor, cramped accommodation within the bailey where there was only enough room for a house of relatively humble plan. The layout of the interior of the bailey indicates that the castle was not a capital messuage, but one in which a steward lived to attend to the affairs of the estate in the absence of a lord whose principal interests lay elsewhere. Further, the high standard of structural craftsmanship, so apparent in the earlier principal buildings, was clearly lacking, reflecting the inferior position of the occupant. The hall would have served as a manorial court, as and when required, and would have provided accommodation for the subinfeudated tenant when he wished to visit Goltho. The severe burning of the hearths and the extensive spread of occupational debris shows that the castle was permanently occupied.

The sixth structural period commenced in the early years following the Norman Conquest, possibly c. 1080, and extended until about 1150 when the small castle was altered to form a castle mound. The period is divided into two phases, the commencement of the

Fig. 90. Period 6, view looking south of the motte and bailey castle c. 1080–1150 (Fig. 89) (photo: CV Middleton)
second being marked by the rebuild of the hall possibly some 40 years after the construction of the castle. Although the later hall was a little larger than the original, its plan shows that the function of the castle probably remained unaltered.

The remains within the motte and bailey castle were exceptionally well stratified since all the late Saxon levels were completely sealed below its earthworks and the bailey itself was completely infilled to form the castle mound. The considerable quantity of pottery recovered from occupational deposits from the late Saxon buildings and that found in the earliest levels within the bailey itself indicate that the castle was built in the late eleventh century (pp 167-8). Nevertheless, the layout of these fortifications suggests that they were not erected during the years immediately following the Conquest, since, with the exception of Hastings itself, the first castles built by the Normans after the Conquest do not appear to have had motes. The earliest documented examples are those built during William's northern campaign of 1086 (Davison 1967b, 211). It is therefore unlikely that a motte would have been included in the fortifications of a very small castle much before this date, and there was no evidence to suggest that the motte and ramparts at Goltbo were not contemporary.

The end of the sixth structural period is clearly dated by the three Stephen pennies (see p 188) found in the bailey.

Owing to the confined area within the bailey ramparts much domestic debris had accumulated in the small yard in front of the hall. The fabric of much of the earlier pottery found with these remains was similar to that from the late Saxon hall, but only the harsh shell-tempered wares and the splash-glazed wares were represented in any quantity in the levels associated with the last phase of occupation dated by the coins to c 1135–54. The finds from these levels also included many ferrous and non-ferrous metal artefacts (pp 171–87).

The plan of the castle
(Figs 89, 90)

The motte and bailey castle was a subrectangular earthwork surrounded by a moat some 40ft (12m) wide and 12–15ft (3.6–4.5m) deep. The defences comprised the ramparts, which were between 50 and 60ft (15 and 18m) wide, and a subcircular motte revetted with timber, stone, and turf which stood on
the north-east corner of the site overlooking the entrance and bailey. The rampart turned inwards in the centre of the eastern side of the earthwork, forming a level platform which supported the end of the bridge and provided a base for a timber ramp leading up the rampart to a gate and thence to the interior (Figs 111, 113).

The excavation of the small bailey, which was only some 60ft (18m) in width, revealed the remains of two single-aisled halls superimposed on similar footings built against the southern rampart. The halls were built over the remains of those of the earlier structural periods, but stood on a slightly different alignment (Fig 27). The remains of the castle had been considerably damaged in the middle of the twelfth century when the bailey was infilled with soil from the motte and from the tops of the ramparts to form a raised castle mound for the construction of the hall and its defences in the last structural period. Nevertheless, sufficient remained to provide much information on the layout and construction of the small motte and bailey castle built in the late eleventh century.

The moat
(Figs 92–94)

The moat was examined on all four sides of the castle: a section 60ft (18m) wide was opened on the eastern side to examine the footings of the bridge and trenches about 6ft (1.8m) in width were mechanically cut on the other three sides to record the sections. The moat was about 40ft (12m) wide and varied between 12 and 15ft (3.6 and 4.5m) in depth. However, the slope of the sides suggests that the moat was about 37ft (11.1m) wide before the weathering of the outer bank. As the moat was cut in heavy boulder clay it held water. The excavation of the water pits within the enclosure suggests that it would have been full in the winter and would have contained at least 6ft (1.8m) of water in the summer. The sections show that the moat contained a deposit of silt about 3ft (0.9m) in thickness which was covered with a thick layer of clay mixed with earth emanating from the fall of the ramparts and from the excavation of the post-medieval pond. These levels were covered with a further deposit of silt.

Fig 92. Detail of the defences on the eastern side of the castle mound before excavation, looking north along the moat towards the church in the background (photo, G Beresford).
Fig 93 Castle defences c 1080–1150: above, reconstruction of the rampart; below, reconstruction of the motte revetment in plan, section, and elevation. 1, old soil line; 2, build-up of rampart; 3, reconstruction of earthwork.

Table 2

<table>
<thead>
<tr>
<th>Pre-Conquest</th>
<th>Width of ditch</th>
<th>Depth of ditch</th>
<th>Width of base of rampart</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cricklade</td>
<td>20ft (6m)</td>
<td>5ft (1.5m)</td>
<td>30ft (9m)</td>
</tr>
<tr>
<td>Tamworth</td>
<td>15ft (4.5m)</td>
<td>5ft (1.5m)</td>
<td>16ft (4.8m)</td>
</tr>
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<td>Wallingford</td>
<td>35ft (10.5m)</td>
<td>Not excavated</td>
<td>35ft (10.5m)</td>
</tr>
<tr>
<td>Fyrkat</td>
<td>22ft (6.6m)</td>
<td>6ft (1.8m)</td>
<td>39ft (11.7m)</td>
</tr>
<tr>
<td>Trelleborg</td>
<td>59ft (17.7m)</td>
<td>6ft (1.8m)</td>
<td>62ft (18.6m)</td>
</tr>
<tr>
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<td>15ft (4.5m)</td>
<td>7ft (2.1m)</td>
<td>Unknown</td>
</tr>
<tr>
<td>Goltcho 3-4</td>
<td>18ft (5.4m)</td>
<td>6ft (1.8m)</td>
<td>25ft (7.5m)</td>
</tr>
<tr>
<td>Goltcho 5</td>
<td>18ft (5.4m)</td>
<td>c 12ft (3.6m)</td>
<td>Motte</td>
</tr>
<tr>
<td>Post-Conquest</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bramer</td>
<td>60ft (18m)</td>
<td>Not excavated</td>
<td>Motte</td>
</tr>
<tr>
<td>Baile Hill, York</td>
<td>65ft (19.5m)</td>
<td>15ft (4.5m)</td>
<td>120ft (36m)</td>
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<tr>
<td>Hastings</td>
<td>50ft (15m)</td>
<td>8ft (2.4m)</td>
<td>25ft (7.5m)</td>
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<tr>
<td>Penhallam</td>
<td>38ft (11.4m)</td>
<td>10ft (3m)</td>
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<tr>
<td>Hen Domen</td>
<td>30ft (9m)</td>
<td>15ft (4.5m)</td>
<td>60ft (18m)</td>
</tr>
<tr>
<td>Goltcho 6</td>
<td>40ft (12m)</td>
<td>15ft (4.5m)</td>
<td>Motte</td>
</tr>
<tr>
<td>Tower of London</td>
<td>30ft (9m)</td>
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<td></td>
</tr>
</tbody>
</table>
The shape and size of moats before and after the Norman Conquest

The moat of the motte and bailey castle at Golttho differed from the ditches surrounding the ringworks of the earlier structural periods in that it was U-shaped rather than V-shaped in section and was also considerably larger, reflecting the development of defences associated with the extensive programme of castle building after the Norman Conquest. The V-shaped ditches which generally predominated in Saxon and Frisian settlements (Olsen and Schmidt 1977, 3, 215) before the mid eleventh century gradually gave way to the large U-shaped moats associated with the earthwork castles of the Norman period, although there were exceptions to the rule. Table 2 gives a few examples of ditches and moats mentioned elsewhere in this text, cut before and after the Norman Conquest from differing types of sites in north-west Europe. Unfortunately, owing to the great size of some post-Conquest moats, few have been completely excavated.

The ramparts

(Figs 92, 93)

The ramparts were built upon the edge of the moat, apparently without the wide berm frequently associated with Viking and Saxon defences (Ralegh Radford 1970). They were about 60ft (18m) thick at their foundation but, owing to the alterations to the site in the mid twelfth century when the bailey was infilled for the construction of the hall of the last structural period, their original height is uncertain. However, the angle of the slope of the back of the ramparts preserved beneath the infill of the bailey and the tip-lines suggests that they were originally no more than 14ft (4.2m) high. The supposition allows for a footwalk and a reasonable batter of the outer side (Fig 93). Careful excavation of a 50ft (15m) section of the rampart on the southern side of the site revealed no evidence of any timber revetment, but the existence of some form of facing is attested by the tip-lines clearly exposed in most of the sections (Figs 93, 105). Without stabilisation of some sort their outer faces would, of
course, have crumbled and fallen within a short period of time. It would therefore be reasonable to postulate that they were faced with turf - as in the construction of defences in the Roman period and as is still used in the construction of field boundaries. In south-west England today the core of the boundary banks is made up from a mixture of clay and topsoil and the facing turves are cut with as much topsoil beneath the roots as can be conveniently lifted with a long-handled shovel. The size of the cut sods varies according to the condition of the turf and depth of topsoil, but a sod some 9in long, 6in high, and 6in thick (0.23 x 0.15 x 0.15m) is considered the norm. The sods when cut are laid grass side outwards, especial care being taken to pack the space behind the turf tightly with soil before proceeding to the next layer. The sods must be tightly packed to prevent their slipping downwards in wet weather or drying out during the summer months. The ramparts would certainly have been completed with a timber breastwork.

The ramparts were carefully excavated to seek a break in their line marking the position of a gateway at ground level and the motte area was examined for a tunnel-like entrance, but none was found. Although it was sometimes possible to gain access to a gateway situated on top of the rampart by way of a flying bridge rising from the outer side of the moat, like that on the motte at Hen Domen (Barker 1969, 23-7), such an entrance could not be considered at Glastho as the bailey was too short to permit the construction of a timber ramp of gradual inclination from such a height. For this reason the gate must have been levelled into the ramparts at a point about halfway up their height, probably at the level to which the ramparts were lowered for the construction of the mid-twelfth-century hall (for a discussion on the gatehouse see pp 92, 94). The motte standing in the north-east corner of the castle was contemporary with the construction of the ramparts.

The bridges
(Figs 94-100)

The position of the bridge before excavation was marked by the level platform on the eastern side of the earthwork and a small gap in the rampart of the late Saxon period, both of which are clearly visible in Figure 11. The gap, however, may be entirely coincidental as there would have been just sufficient room for a narrow trackway running between the early rampart and the outer edge of the moat before the sides eroded. In such an event it is possible that the eleventh-century defences were incorporated into those of the motte and bailey castle, implying that the eleventh-century gate survived into this period and that the western end of the Saxon fortified enclosure may have been retained as an outer bailey to the castle, although such a hypothesis seems rather unlikely.

A section of the moat some 60ft (18m) long was opened to examine the remains of the bridge (Fig 94). Although all the posts had been removed, the positions of at least three consecutive timber bridges were defined by timber-trenches for the footings of the central support. The trenches were situated slightly nearer to the inner bank than the outer and were about 4ft wide and 2ft 6in deep (1.2 x 0.75m); but as their ends were superimposed it was only possible...
to determine the size of that of the last bridge, which was about 12ft (3.6m) wide and clearly marked by the dark silt of its filling. The footings of the inner bank of the moat had been considerably weakened by the construction and rebuilding of the bridges and had had to be revetted with horizontal poles some 9in (0.23m) in diameter. These were held in position by forked timbers firmly embedded in the opposite banks, like the foundations of the tenth-century wooden rampart at Gniezno, Poland (Leciejewicz 1976, 4, 6, pl ii A). In one place slightly to the north of the last bridge, where the clay side of the bank gave way to running sand, the footings were revetted with wattles (Figs 94, 99).

Reconstruction of the bridges
(Figs 95-97)

The bridges were probably about 37ft (11.1m) long. The last was about 12ft (3.6m) wide, but the width of those of the earlier phases could not be determined. They were all of similar construction and were built
with a single support situated slightly to the west of the centre of the moat. The present offset position may however be somewhat deceptive owing to the possible erosion of the outer bank. The use of a timber-trench footing for the central support implies a construction of close-set or contiguous posts set in earth-fast foundations rather than a more complex type of support built up on a sill beam (Rigold 1975).

The post heads were probably slotted to a plate which in turn supported the bridge beams, as at Der Husterknupp (Fig 95; Herrmbrodt 1958, figs 36, 37). There is no evidence to suggest that there was further support (the slot in the outer bank of the moat opposite the bridge was made by the mechanical excavator, Fig 102).

The support of a bridge on a single transverse row of close-set or contiguous posts set in a timber-trench is, as yet, without parallel in moated sites in Britain (Rigold 1975), but the method of construction is well known in timber buildings. The construction of the bridges at Goltho was probably similar to those at Der Husterknupp, but there the widely-spaced posts of the central support had been driven into the ground (Fig 95; Herrmbrodt 1958, figs 36, 37).

The gatehouse (Fig 93)

The excavation revealed no remains of the gatehouse, but the layout of the site suggests that it was built in a raised position some 7-8ft (2-2.4m) above the old ground surface halfway up the rampart, probably on the level to which the earthwork was lowered for the construction of the castle mound in the middle of the twelfth century. The raised position of the gate was without doubt inspired by the stone gate on the western front of Lincoln Castle (Renn 1973, 236, fig 43). The building must have stood in the centre of the rampart in order to provide easy access from the bridge, probably by way of a cord ramp, and from the bailey up a trackway on the inner side of the rampart (Fig 113). The inclination of an approach to a gate in this position would have been approximately 1:3.5 on both sides. Since no remains of the footings of the gatehouse survived it would be reasonable to postulate that the building was of timber and was built upon a sill beam foundation like that of the seventh century gatehouse at South Cadbury Castle, Somerset (L. Alcock 1972, 175-7, pls 77-8, fig 25) or the
Fig 100  Periods 6–7: detail of the timber revetment of the bridge footings, looking south (cf. Fig 94) (photo: C. Beresford)
Brookland belfry, Kent (Gravett 1974). Since the bridge platform was cut out of the sides of the rampart to provide a base for a ramp up to the gatehouse, the entrance had to be slightly turned to maintain the steepness of the defences at the sides of the gateway (Figs 111, 113). A gatehouse set in the ramparts in a raised position would have provided an impressive entrance to the castle, especially if the building was plastered to resemble stone. Since the strength of the defences at Goltho largely depended on the motte, the gatehouse is unlikely to have been elaborate, but without doubt the gate would have been sufficiently high to provide easy access for a man on horseback. Some surviving stone-built gatehouses of this period had first floor chambers, as at Lincoln (Renn 1973, 236, fig 43) or Exeter (Brown 1976, 63, pl 12).

Since much of the bridge platform would have been used to accommodate the ramp built to provide access into the bailey, there would have been insufficient room for a gatehouse able to accommodate the movement of a drawbridge over the moat.

The motte

The origins and construction of mottes in north-west Europe

Recent excavations both in Britain and on the Continent have demonstrated that the motte can be in some instances a composite, only achieving its final form after a long process of structural alteration (Davison 1967b, 207). The excavations at Der Husterknupp (Herrnbrodt 1958, figs 36, 37) have demonstrated how the site evolved from a tenth-century courtyard house (torburg), then, probably as the result of flooding, to a low mound dwelling (haupthburg), and eventually in the twelfth century to a motte and bailey castle. Similarly in Ireland where there are many pre-Norman fortified earthwork enclosures it is not uncommon for a motte to be built within an earlier enclosure or to be placed astride the defences (Dickinson and Waterman 1959; Waterman 1963). In
England, the motte excavated at Castle Neroche, Somerset (Davison 1972), had been added to a pre-existing enclosure. In these circumstances tracing the origins of the motte in north-west Europe is not without complications. Although it is now generally agreed that mottes were introduced into England by the Normans, there is no evidence for their widespread construction on the Continent before the middle of the eleventh century (de Bouard 1967, 25-6; Taylor 1974).

The motte and bailey castle had a particular advantage in that it could be constructed with unskilled labour at relatively little cost. The actual layout was dependent to a great extent upon the site and its environs, the availability of labour, and the needs and resources of the builder. The motte, an artificial or part-natural mound, was usually surrounded by a wet or dry ditch in order to provide material for its construction. Similar ditches were usually associated with the larger enclosure of the bailey (Brown 1976, 55-61). Most mottes were circular or subcircular in plan, and recent research (King 1972) has shown that their diameter was always at least twice their height. Their height varied greatly from about 15ft (4.5m) at sites like Hopton, Shropshire (King 1972), to some 60ft (18m) at major sites like Launceston, Cornwall, built by the Earl of Mortain (Saunders 1964). Excavation of the mottes at Baile Hill, York (Addyman and Priestley 1977, 124), Norwich, and Carisbrooke (Brown 1976, 56) and the illustration of the construction of the motte at Hastings in the Bayeux Tapestry (Stenton 1965, pl 51) show that they were constructed with consolidated layers of material mostly obtained from their surrounding ditches. The sides of many mottes, especially the larger ones, were probably revetted with turf or were left for grass to establish itself where the soil conditions and climate permitted. The sides of the motte built by Geoffrey de Mandeville at South Mimms (then Middlesex but now Hertfordshire; Kent 1964) were revetted with timber, as were those at Winchester (Biddle 1970, 291), Bedford (Baker et al 1979, 51-5), and Aldingham (Davison 1969). Others like Stamford (Mahany 1977, pl 1) and Farnham (M W Thompson 1960) had revetments of stone. The motte at Goltho had a revetment of alternate layers of stone and turf probably laced with timbers set in earth-fast foundations (see pp 101-3).

The motte surmounted by its tower of timber or stone was the most dominant feature in many earthwork castles built during the late eleventh and twelfth centuries and was a symbol of lordship; it is...
significant that the term ‘donjon’ was applied to both in contemporary records (Brown 1976, 60–1). It can be reasonably postulated that when the timber or stone tower was built with its foundations on top of the motte, as in many of the earlier examples, the function of the earthwork was to lend height to the tower as well as to provide a substantial raised fighting platform. Nevertheless, at sites where the tower was built on the old ground surface with the earth piled up at the time of construction around its footings to form the motte, like the examples at Ascot Doilly, Oxfordshire (Jope and Threlfall 1959), Farnham (M W Thompson 1960), and South Mimms, Hertfordshire (Kent 1964), or where the soil was heaped against the tower at some later date as at Lydford, Devon (Saunders 1980), the function of the motte must have been to protect the tower from attacks by fire, ramming, or boring; mining was not generally practised until the end of the thirteenth century (M W Thompson 1960, 88; Oman 1924, 1, 133–4, 2, 50–2). This must surely imply that the most important element of the motte and bailey castle was not the motte itself but the tower which it supported. Although there are the remains of some 723 motte and bailey castles in Britain (King & Alcock 1969), the motte was not the only way to defend an earthwork castle in the Norman period (Davison 1967b, 207). Exeter, Devon (Vachell 1966), Bramber, Sussex (Renn 1973, 155), and Pontesbury, Shropshire (Barker 1961–4) were all defended from a stone gatehouse; at Penmaen, Glamorgan (L Alcock 1966) the gatehouse was of timber.

Mention should be made of the types of timber buildings constructed upon mottes during the late eleventh and early twelfth centuries, in order to cast a little light on the sparse remains found at Goltho, a site where building stone was not readily available. Archaeological evidence, contemporary literary descriptions, and pictorial representations indicate that the motte bore the principal tower of the castle (Brown 1976, 32–9), early examples of which were mostly of timber. Excavations of the motte at Abinger, Surrey (Hope-Taylor 1950) revealed clear remains of a timber tower and the footings of the palisade which enclosed the summit. The mottes shown in the Bayeux Tapestry at Dinan, Dol, Rennes, and Bayeux itself (Stenton 1965, pl 51) are thus represented. By the middle of the twelfth century in areas where stone was readily available towers were frequently built of stone and the timber palisades replaced by the ‘shell-keep’ (Brown 1976, 32) like that at Launceston Castle, Cornwall (Saunders 1964). Since later exam-

Fig 103. Period 6, c 1080–1150: details of the motte footings by the edge of the moat, looking south-west (cf Fig 104) (photo: C Beresford)
Fig 104 Plan and interpretation of the footings of the motte revetment c 1100–1130; for sections see Fig 105
Archaeological evidence and contemporary descriptions show that some towers were built on motes for purely defensive purposes while others were sufficiently large to provide a residence for the lord. Walter the Archdeacon, biographer of Bishop John de Therouanne, writing c. 1130, gives a detailed contemporary description of the layout of a motte (Mortet 1911, 312–15; MGH Scriptores XV, ii, 1146–7). He describes how the bishop was accustomed to stay at Merchem where there was, near the atrium of the church, a fortress (munitio), which we may call a castle (castrum) or municipium, exceedingly high, built after the custom of that land by the lord of the town many years before. For it is the habit of the magnates and nobles of those parts, who spend most of their time fighting and slaughtering their enemies, in order thus to be safer from their opponents and with greater power either to vanquish their equals or suppress their inferiors, to raise a mound (agger) of earth as high as they can and surround it with a ditch as broad and deep as possible. The top of this mound they completely enclose with a palisade of hewn logs bound close together like a wall, with towers set in its
circuit so far as the site permits. In the middle of the space within the palisade they build a residence (domus), or, dominating everything, a keep (tara). Contemmodary descriptions of such houses show that some could be complex in both plan and construction like the 'great and lofty house' built by the carpenter Louis de Bourbourg for Arnold, Lord of Ardres in about 1117. The building was described by Lambert of Ardres (Mortel 1911, 183–5) as follows: 'Later, when peace had been established between Manasses, Count of Guisnes, and Arnold, Lord of Ardres, Arnold built upon the motte (super dunum) at Ardres a timber house which was a marvellous example of the carpenter's craft and excelled materials used in all contemporary houses in Flanders. It was designed and built by a carpenter from Bourbourg called Louis, who fell little short of Daedalus in his skill; for he created an almost impenetrable labyrinth, piling store room upon store room, chamber upon chamber, room upon room, extending the ladders and granaries into the cellars, and building the chapel in a convenient place overlooking all else from high up on the eastern side. He made it of three floors, the topmost storey supported by the second as though suspended in the air.' The account continues with a description of the rooms and their functions.

There is also the contemporary description in which Lawrence Prior of Durham describes the accommodation upon the motte of Durham Castle in the reign of Stephen (Armitage 1912, 147–8): "Not far hence (from the north road into the city) a tumulus of rising earth explains the flatness of the excavated summit, explains the narrow field on the flattened vertex, which the apex of the castle occupies with very pleasing art. On this open space the castle is seated like a queen; from its threatening height, it holds all that it sees as its own. From its gate, the stubborn wall rises with the rising mound, and rising still further, makes towards the comfort (antenna) of the keep. But the keep, compacted together, rises again into thin air, strong within and without, well fitted for its work, for within the ground rises higher by three cubits than without - ground made sound by solid earth. Above this, a stalwart house springs yet higher than the (shell) keep, glittering with splendid beauty in every part; four posts are plain, on which it rests, one post at each strong corner. Each face is girded by a beautiful gallery, which is fixed into the warlike wall. A bridge rising from the chapel (in the bailey) gives a ready ascent to the ramparts, easy to climb, starting from them, a broad way makes round the top of the wall, and this is the usual way to the top of the citadel. The bridge is divided into easy steps, no headlong drop, but an easy slope from the top to the bottom.

Finally there is a mid eleventh-century reference from the Miracula Sancti Benedicti to a timber tower house at the castle of La Cour-Marigny (Mortel 1911, 10) near Montargis, Loiret, which was of two storeys, the ground floor containing a store room, the upper floor containing the solar where the noble lord of the castle lived conversing, eating, and sleeping with his household. Excavations of the mid twelfth-century motte at South Mimms, Hertfordshire (Kent 1964) suggest that the tower at that site was similarly built for domestic occupation.

Although archaeological evidence of the layout of the timber defences on motes is still sparse, excavations at Abinger, in particular, have clearly demonstrated that some timber towers, of narrow width, could only have been built for defensive purposes, and many of them probably could not have survived anything more serious or prolonged than a sortie. The motte at Abinger (Hope-Taylor 1950) was approximately 10ft (3m) high and its timber tower was approximately 12ft (3.6m) square at its base, its position being clearly marked by postholes 3–4ft (0.9–1.2m) in depth. The comparative depth of the postholes indicates that the structure must have been reasonably tall and its small area in plan shows that its vertical extent was more important than its capacity. The timber towers standing upon the mottes at Bayeux, Dinan, Do, and Rennes illustrated in the Bayeux Tapestry (Stenton 1965, pl 51) depict their differing structural complexity, but precise interpretation is difficult owing to the conventions of the design.

The strength of the timber towers seems to have been dependent upon four corner posts. These are clearly illustrated in the representations of the towers in the Bayeux Tapestry (Stenton 1965, pl 51); they are shown in relief in the representation of a besieged castle carved on a late eleventh-century capital from Westminster Hall (now displayed in the Jewel Tower); the four posts are mentioned in the description of Prior Laurence's tower at Durham (Armitage 1912, 147–8); and surviving examples of this type of construction attributed to the twelfth and thirteenth centuries are still to be seen in belfries in Britain (Gravett 1974) and on the Continent (Ekhoff 1914–16). In some instances these pictorial representations, particularly the carving on the Westminster capital, seem to suggest that the ground floors may have been left open between the corner posts (Brown 1976, fig 13). However, this would be extremely difficult to establish from archaeological remains, as it would not always be possible to prove whether or not a wall had been built up on an interrupted sill beam, leaving no visible trace. A tower with an open ground floor was postulated in the reconstructions at Abinger (Hope-Taylor 1950), but the more recent excavations at Der Husterknap and Hoverburg (Herrmbroed 1958, figs 36, 37) demonstrate that the space between the posts could have been infilled with staves.

Excavations at Abinger (Hope-Taylor 1950) revealed an example of a timber tower built with its footings on the summit of the motte. The great height of some of the earlier motes suggests that the timber towers which they once must have borne would have had similar foundations. However, recent excavations have revealed that some timber towers stood on the natural ground level with their basements within the mottes (see pp 103–6). The excavation of the stone tower at Totnes, Devon (Rigold 1954) and the remains of that which lies beneath 'The Observatory Tower', Lincoln, suggest that they were of similar construction. The function of the motte in this type of construction, where the foundations of the tower lie on the old ground surface, was to protect the base of the tower and not to provide extra height, as in some early examples: the building of a tower on the old ground...
surface would have had the further advantage of allowing construction before the complete consolidation of the earthwork.

At Goltho, the remains of the tower itself were destroyed in the mid twelfth century, but its position was clearly marked by the remains of its basement, built from a mixture of wall tiles and a little stone, the foundation of which lay about 1 ft (0.3m) above the level of the old ground surface.

Excavation and interpretation of the motte at Goltho (Figs 90, 91, 93, 101–106, 110, 111, 113)

The motte with the tower which it bore stood in the north-east corner of the castle guarding the entrance to the bailey and dominating the village. It was constructed astride the rampart and had no independent ditch. Although about half of the original height of the motte was destroyed in the mid twelfth century, sufficient remained to provide much information

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Fig 107  Brookland belfry: south elevation of the original tower, as existing (after Gravett)

Fig 108  Base of the twelfth–thirteenth century belfry at Brookland, Kent, looking north (cf Fig 107) (photo: G Beresford)
Period 6: Motte and Bailey Castle

The centre of the motte suffered further damage in the early 1920s when a deep pit was roughly excavated in order to establish the origin of the earthwork, but the attempt seems to have been abandoned soon after the footings of the walls of the tower basement were found. This work, seemingly undertaken by very inexperienced excavators, was not recorded. At the commencement of the excavation the motte stood about 11ft (3.3m) high, slightly higher than the rest of the earthwork, its position being clearly visible in the air photograph (Fig 11). The base of the motte, subcircular in plan and up to about 80ft (24m) in width, was defined by the curved trenches for the footings of the revetment which were clearly revealed after the removal of the castle earthworks (Figs 101, 103, 104).

The remains of the revetment were somewhat difficult to interpret and it was not possible to determine with any degree of certainty whether there had been one or two structural phases. The remains comprised two opposing curved timber-trenches: that on the bailey side of the motte was 2ft 9in (0.82m) deep, 2ft 6in (0.75m) wide at the bottom, and 5ft (1.5m) wide at the top; while that on the outer side was 6ft (1.8m) deep and about 2ft (0.6m) wide at the bottom (Figs 101, 103, 104). The spaces between the ends of the opposing trenches marked the approximate position of the highest part of the rampart where there would have been sufficient depth of soil for the posts or staves for the revetment to have stood either on the old ground surface or at some higher level. The fill of the two trenches contained many rounded and shattered stones, probably collected from the many glacial deposits in the surrounding fields. As their irregular shapes rendered them unsuitable for masonry, it was evident that they emanated from the construction of the revetment rather than from that of the tower. They could have been readily used for this purpose if they had been coursed with layers of turf like the facing of some field boundary banks to be seen in south-west England today. If there had been two structural phases, it would be reasonable to postulate that the first was of staves and the second was of turf and stone. The change to a more substantial revetment is paralleled with the structural sequence found in the excavation of the motte at Farnham Castle, Surrey (M W Thompson 1960). However, if there had been only one phase, which in this instance would seem the most likely, the purpose of the trenches would have been to provide footings for close-set posts to lace the turf and stone revetment, like the function of the posts in the clay and stud houses. Although there was no evidence to indicate the original height of the motte, it is unlikely to have
been much in excess of 18–20ft (5.4–6m) owing to the structural difficulties in the joining of vertical timbers which would have been encountered had the level been raised to a higher point.

Owing to the heavy clay composition of the motte, the remains were difficult to interpret and its very existence was not fully realised until the footings of the revetment were completely revealed after the removal of the earthworks. Since the posts which laced the revetment had to be removed within the bailey to facilitate the construction of the mid twelfth-century castle mound, the side of the motte collapsed and left little trace of its existence above the late Saxon levels of occupation into which the posts were cut. There was no evidence at the commencement of the excavation of the motte and bailey castle in 1972 to suggest that the raised north-east corner of the earthwork represented the remains of a motte (see Fig.11), so the mid twelfth-century fill of the bailey was removed by following the spread of occupational deposits down the inner sides of the ramparts. These levels were lost, of course, on the north-east corner of the bailey where the motte had stood, so, after much trial trenching, it was eventually decided to excavate the corner by ‘dead reckoning’, thus inevitably digging into the south-west side of the motte itself—a miscalculation easily made since the fill of the bailey and the build-up of the motte were of the same material. A spread of stones, the remnants of the collapsed sides of the revetment, was noticed, but could not at the time be interpreted. The function of the deep outer revetment trench could not be determined and a section of the inner revetment trench, although found, was not followed at the time since it was then thought to belong to an earlier period lying beneath the footings of the ramparts. However, with hindsight, close examination of the high level photographs of the bailey (Figs 90, 91) do show very slight remains of the trench extending in a curved south-easterly direction from the corner of a modern pit near the lower left-hand corner of the photograph.

The sides of the motte, if some 18ft (5.4m) in height as postulated, would have had a batter of some 2–4ft (0.6–1.2m), the amount being determined by the distance between the top of the stony infill of the top of the revetment robber trench and the footings. No evidence of horizontal timber lacing was found in the surviving levels of the motte, but it is possible that the posts set in the earth-fast footings could have been tied into the centre of the earthwork close to the summit. If this were so, the remains of such ties would have been destroyed by the mid twelfth-century development. Nevertheless, a revetment of some 3ft (0.9m) in thickness comprising alternate layers of turf
and stone, strengthened by posts set in deep footings, would probably have been sufficiently stable to retain the piled-up soil of the motte without the addition of horizontal members to tie in the sides. The steeply revetted sides show that the top of the motte would have been up to 75ft (22.5m) across measured from north to south.

Without doubt the motte would have been completed with either a timber breastwork or a more complex type of fighting platform like that postulated in the reconstructions at Abinger, Surrey (Hope-Taylor 1950). The breastwork could have been attached to the revetment timbers, or alternatively it could have been set a few feet in from the edge, as at Abinger.

Access to the top of the motte was probably gained by way of steps up the side of the rampart to the wall walks, and thence by further steps to the summit (not illustrated in the reconstructions). The bailey itself, however, was too small to allow the construction of a flying bridge similar to those illustrated in the Bayeux Tapestry (Stenton 1965, pl 51) or to that excavated at Hen Domen, Montgomery (Barlow 1977). There was no evidence to suggest that the motte was approached by way of such a bridge from outside.

The two superimposed halls excavated within the bailey, although smaller than those of the earlier periods, were nevertheless substantial buildings. Their size and the associated spread of domestic debris suggest that the area of occupation was within the bailey and that the motte was reserved for military purposes. It is arguable that a tower on such a motte could have been used to house the private apartments, the camera, of the lord, but in this instance the poor accessibility makes such a suggestion rather unlikely. The size of the summit - some 75ft (22.5m) across, over twice the size of that at Abinger (Hope-Taylor 1950) - might seem exceptionally large for the scale of the castle and for the social position of the builder. But the size of the motte was probably determined by the width of the base of the ramparts over which it was built because its footings would have to have been at least as wide as those of the rampart to facilitate the construction. The motte so constructed with its stone and turf revetment would have had an appearance of great strength. Indeed, from the end of the bridge only the top of the tower would have been visible, giving an illusory impression that it was standing in the centre of a shell-keep (Fig 111). Such an illusion at Goliho was relatively easily achieved, since only a little extra earth would have been required to build up the ramparts to form a wide motte.

The tower
(Figs 106, 107, 110, 113)

The tower was built slightly to the north-east of the centre of the motte, its position clearly marked by the site of its basement (Fig 109), a structure some 9ft (2.7m) square. These footings were probably the remains of the original tower, although it is possible that they could be those of a rebuild at some later date. The remains had been considerably damaged by the pit excavated in the 1920s, but the footings of the eastern wall were well preserved while the positions of the others, although completely robbed away, were marked by the wear of the floor. The foundations were constructed upon the hard packed clay of the build-up of the motte about 2ft (0.6m) above the old ground surface. The walls were built with wall bricks (pp 170-1) mixed with a few selected stones and were bonded with clay. The tiles found in the wall were all damaged, suggesting that they were reused from an earlier building. It was not possible to determine their original size. The wall on the eastern side of the basement stood about 2ft (0.6m) high at the time of its excavation. It was slightly battered, 15in (0.37m) thick, and faced only on one side.
The function of this basement is uncertain: it may have been used as a lock-up or for general storage, but the absence of a well or water pit within the bailey suggests that it may have been a water cistern. Water could have been collected from the roof of the tower or carried in from the moat. The heavy clay backing the walls would certainly have retained water. Such a hypothesis is strengthened by the fact that the floor was raised some 2ft (0.6m) above the old ground surface and that the level of the floor had been worn down 9in (0.22m) below its original level. Further, wells are frequently found in such positions with examples occurring at Farnham, Surrey (M W Thompson 1960) and Lydford, Devon (Saunders 1980). The wall tiles, as well as lining the basement, would have provided considerable support to the tower by lessening the effects of the subsidence of the earthworks. Further support to the tower would have been provided if the walls had been thickened close to the summit of the motte to form a flange like that at Farnham, Surrey (M W Thompson 1960).

The absence of any discarded or fallen masonry within the bailey suggests that the tower was of timber, timber and clay, or cob. Contemporary literary and documentary sources clearly indicate the use of clay in the construction of castles in Scotland (Mackenzie 1933-4), while excavations at Wallingford Castle in Berkshire (Carr 1973) have revealed very substantial remains of cob-walled buildings within the bailey. In some instances this type of wall could have been rendered to resemble stone. However, the use of cob at Goltho seems rather unlikely owing to the scarcity of crushable stone for aggregate in cob construction. It is of interest that neither cob nor clay-lump feature in the vernacular architecture of the district. In these circumstances the construction of the tower was probably either of staves or timber and clay. The footings of the building were, of course,
destroyed when the summit of the motte was lowered in the mid twelfth century, but it would be reasonable to postulate that this timber tower would have stood on a sill beam foundation, unless the structure was sufficiently wide to allow the corner posts to stand in earth-fast foundations clear of the basement masonry – an unlikely supposition owing to the size of the castle (Fig 110). The use of sill beams in the construction of timber towers in the twelfth and thirteenth centuries is well known in north-west Europe. The absence of earth-fast foundations on the motte at Der Husterknupp, Westphalia (Herrmbrödt 1958, figs 36, 37) indicated that the main posts were linked by sill beams supporting a stave wall. Excavations at South Mimms, Hertfordshire (Kent 1964) revealed remains of a timber tower about 35ft (10.5m) square. It was built up on a sill beam on which the timber superstructure was battered inwards at a slope of about 80°. Buildings of this type are well known in belfries which survive from this period in Scandinavia (Ekhoff 1914–16). But the closest parallel is the detached belfry at Brookland on Romney Marsh, Kent (Figs 107, 108). The tower has been recorded by Mr K W E Gravett (1974; 1969) who describes it as being 'basically square with four great canted posts of oak, each 20in (0.51m) square at the bottom tapering to 12in (0.3m) square at the top. These posts are placed 15ft (4.5m) apart, on a square frame of four horizontal timbers, with halved joints where they cross and must be located by some form of peg, although this is not visible. These corner posts are strengthened with a system of lattice braces, which have halved joints where they cross, but have notched-lap joints where they are fitted to the posts.' The principal posts now

Fig 113. Reconstruction of the motte and bailey castle phase 2, c.1125–1150, looking west
stand 25ft (7.5m) high. However, the joints for a higher pair of braces are still clearly visible indicating that the tower was originally higher, but the taper of the tower and that of the corner posts makes a height of more than 30ft (9m) unlikely (Fig 107). All four sides of the tower were similar except for the rearing notches cut on the outer faces on both sides on the north and south sides. It would appear that these two sides were first separately assembled on the ground and then reared into position and the bracing of the east and west sides inserted. The open notched-lap joints fall into the category of the more archaic open form (Hewett 1973, 18) like the example found in a twelfth-century context at Rayleigh Castle, Essex (Francis 1913, 159). All the original timbers are heavily weathered indicating that they were in the open for a long period of time before being enclosed.

The absence of wear, especially in front of the hall, suggests that most of the area must have been covered long periods (p 72). A shallow drain some 2ft wide and 9in deep (0.6 x 0.2m) ran along the back of the second house carrying away the drips from the eaves and the surface water from the bailey. It probably led to a timber conduit or a stitch-drain which carried the water away beneath the rampart to the moat outside, but the area was very confused and the outlet could not be found. The hall was surrounded by much occupational debris including pottery, ferrous and non-ferrous metal artefacts, and two silver pennies and one cut halfpenny minted in the reign of Stephen.

The small size of the bailey suggests that there would have been an outer bailey for the horses and for the storage of corn and other commodities. It is possible that the remnants of the late Saxon enclosure, lying to the west of the site (Figs 4, 11), may have served this function as no other remains survived above ground which could be interpreted as such. Nevertheless, if an enclosure had been surrounded by a substantial timber palisade, its position would not be apparent without extensive excavation of the surrounding area since only the largest archaeological features are visible in the air photographs of Goltho.

The halls, phases 1 and 2
(Figs 114, 116, 117)

The excavation of the southern side of the bailey revealed the remains of two superimposed houses built over the site of those of the late Saxon period. The two halls showed similar signs of prolonged occupation and it would be reasonable to suggest that the earlier building was contemporary with the construction of the castle c 1080 while the other was built c 1125. The houses were both single-aisled buildings, but were smaller and structurally inferior to those of the earlier periods.

Sherd from some 39 vessels were found with the remains of the first house which was sealed beneath the floors of the second, but since much of the contemporary surrounding ground surface had been worn away by the constant removal of mud there were comparatively few finds associated with this phase. However, late in the second phase c 1135-54 much domestic debris accumulated in the kitchen area of the house, in the yard, and on the inner sides of the ramparts. The ceramic finds comprised a group of 135 vessels made up of cooking-pots, bowls, storage jars, flasks, and a pitcher (p 158). Among the non-ferrous metal finds were many fragments of decorative binding strips gilded upon their upper surface, and an openwork mount of gilt and copper alloy with animal decoration representing a lion in combat with a winged creature. The ferrous metal finds included horseshoes, spurs, barrel locks and keys, arrowheads, lance heads, and knives. These finds were datable by three Stephen pennies c 1135-54.

Phase 1
(Figs 114, 116)

The hall of the first structural phase was 46ft (13.8m) long, 20ft (6m) wide in the centre, and slightly narrower at the ends, and comprised a nave and a single aisle approximately 16ft (4.8m) and 4ft (1.2m) wide respectively. The position of the building was clearly defined by the wall-trenches, the postholes of the arcade and of the partitions, and the discolora-
Fig 114 Early twelfth-century halls, phases 1–2, c.1100–1150
tion of the floor surface. The building was divided into six unequal bays ranging between 6ft (1.8m) and 9ft (2.7m) in length. The end bays of the hall were partitioned off at the upper end of the hall to form a small chamber, while that at the opposite end was probably used as a service room. A gap in the post-trench on the northern side of the building close to the partition at the eastern end of the hall marked the position of the principal doorway. There was probably another door set in the opposite wall to give access to the garderobe. No remains of a kitchen were found associated with the hall, but it is evident that there would have been a building of light construction in the bailey which served this function. The sparse remains of such a building could not be expected to have survived through the second structural period in such a confined area (Beresford 1977a, 216-19).

The timber-trenches marking the position of the side walls did not run completely round the building; the footings of the northern wall terminated 3ft (0.9m) before the ends of the building; those of the southern side were marked by two trenches and three postholes covering little more than half its length; the western end of the building was marked by a shallow slot about 6ft (1.8m) long; there were no earth-fast footings at the eastern end (Fig 114). The layout of these features suggests that only the posts which were subjected to the greatest structural stress were set in earth-fast foundations, which seems to be confirmed by the relative depth of the individual features. The holes for the aisle posts were 2ft (0.6m) wide at their base and up to 2ft (0.6m) deep, the wall-trench on the northern side of the house was 1ft 3in (0.37m) wide at the base and 1ft (0.3m) deep, but the wall of the aisle on the southern side of the building was only 9–12in (0.23–0.3m) wide and 6–9in (0.15–0.23m) deep.

The building, without doubt, was constructed from clay laced with vertical timbers as in some of the domestic offices built in the earlier structural periods. The plan is of considerable interest in that it shows that some of the wall posts were set in timber-trenches, while others stood upon the surface of the ground. The use of either earth-fast or sill beam footings, a type of construction practised throughout much of the remaining medieval period in areas where suitable materials were available. In some such buildings, as in that of the following phase, all the wall posts stood upon the ground surface.

Reconstruction of phase 1 hall
(Fig 114)

The irregular layout of the footings precludes the possibility that the hall was of stave construction, as a stave wall would have to have been built up either from a sill beam or from a timber-trench: it would, of course, be impractical to have a mixture of the two types of construction in one wall. The use of timber-trenches indicates that the posts were close set, probably no more than 2ft (0.6m) apart, as wider spacing would have called for the use of postholes. Therefore, in the absence of any evidence to suggest otherwise, it seems that the construction of the walls of this building would have been like those of the ninth-century bower (p 52), that is of clay laced with earth-fast posts.

It is difficult to reconstruct the assembly of the plates, tie beams, and aisle posts in such a building. In
the reconstruction of a similar building of the late twelfth century at Wintringham, Huntingdonshire (Beresford 1977a, 230–2), it was suggested that there had been principal posts set in the timber-trench of the main wall of the building to which the aisle posts were coupled with a tie beam, the longitudinal stability being provided by plates halved to the tops of the ties. At that site it was suggested that the ties were mortised to the posts by a post-head tenon, but it is also possible that, in a building where the stability was dependent upon earth-fast foundations (cf. Fig 79), these joints may have been slotted. However, as the north wall must have been built of clay laced with earth-fast posts, it would probably have been 18–21in (0.46–0.53m) thick and would, therefore, have been sufficiently wide and strong for a plate to have rested upon its top surface without any carpentered joints to the lacing posts as in cob or clay-lump buildings (Beresford 1981a). On the opposite side of the nave the plate would probably have been halved or slotted into the aisle posts, the two plates then being tied together with a tie beam halved to their upper surfaces. This type of construction would have provided reasonable stability in a building where the span of the nave roof was only 16ft (4.8m).

In the absence of any evidence to indicate the use of a ridge piece, a collared rafter roof would seem the most probable in this instance. The excavation of the end walls of the house revealed no clear information to indicate whether the roof was hipped or gable-ended, but the narrow span of the nave and the probability of the ridge of the roof being less than 20ft (6m) above the floor indicates that either construction could have been adopted in this instance.

**Phase 2**
(Figs 114, 115, 117)

The hall built in the second structural phase c 1125 was superimposed on the remains of that constructed c 1080. The building, which was larger than that of the earlier date, included a bakehouse and a substantial attached kitchen in place of the service room. The foot of the rampart on the south-east corner of the bailey was cut back to accommodate the kitchen and bakehouse. The spoil was spread over the site raising the floor levels 9in (0.23m) above those of the earlier building. Although the partitions and some of the aisle posts stood in positions similar to those of the earlier phase, it was a completely new building.

The remains were somewhat sparse as the outside walls were constructed on the surface of the ground without earth-fast foundations. Their positions, however, were clearly defined by the spread of occupational debris, the wear of the surface of the floor and of the yard, and the eaves-trench which ran along the south and west sides (Fig 117). The posts in
the dry interior were set in earth-fast foundations—a feature which was to become increasingly popular on the clay lands in the late twelfth and thirteenth centuries in the construction of vernacular houses (Beresford 1975, 19-20). The building was 55ft long and 23ft wide in the middle (16.5 x 6.9m) and 19ft (5.7m) wide at the ends, the northern end being slightly bow-sided. The hall, a single-aisled building, comprised a hall, an inner chamber, and a kitchen separated from the hall by a cross-passage. A small bakehouse about 13ft long and 11ft wide (3.9 x 3.3m) and a garderobe stood at the south-east corner of the building. Access to the hall was gained by way of a single doorway in the northern wall leading from the bailey into the cross-passage.

The kitchen was 19ft (5.7m) long and extended to the full width of the house. Much of the floor space was covered by the large hearth surrounded by a deep spread of ash. The lines of stakeholes and the absence of wear of the floor surface along the north and south walls probably mark the position of benches. Similar remains were found in the early thirteenth-century kitchen at Penhallam Manor, Cornwall (Beresford 1974, 125-6). Medieval kitchens were usually detached buildings because of the risk of fire (Beresford 1977a, 230-2), and it was not until the later Middle Ages that they became integrated into the main building. The attachment of the kitchen to the hall at this early date may possibly be attributed to the very limited area of occupation within the bailey. Similar circumstances prevailed at Penhallam where the kitchens and other domestic offices were likewise attached (Beresford 1974, 112).

A shallow slot some 3ft 6in long, 15in wide, and 6in deep (1.05 x 0.38 x 0.15m) was cut through the centre of the hall hearth and probably marked the position of a hearth-back similar to that excavated at Garrow Tor, Cornwall (Dudley and Minter 1962-3, 276) or those in Wales (Peat 1944, 123).

The outside walls were built on the surface of the ground without earth-fast foundations. The features by which they were defined showed that they were some 18-21in (0.46-0.53m) thick, but nothing remained to indicate their construction. However, the very uneven surface on which they stood showed that they did not have a sill beam foundation. Accordingly, in the absence of anything to suggest another form of construction it would be reasonable to assume that the walls were of clay tempered with chopped straw and laced with vertical posts standing on the ground surface without earth-fast foundations. The aisle posts stood in postholes which varied from 1ft 9in to 2ft 6in (0.52-0.75m) in width at the bottom and from 9-18in (0.25-0.46m) in depth. The construction of the building was probably similar to that of the earlier phase.

Note

1 A wooden tower with canted corner posts remained as the west tower at Monks Horton church, Kent, until the nineteenth century (Gravett 1974, 46).
Period 7: the mid twelfth-century hall and its defences

The mid twelfth century saw major alterations to the layout of the castle in order to provide suitable domestic accommodation for a family of considerable prosperity, thus restoring the social importance of the Goltho manor to a level similar to that of the late Saxon period. The bailey was infilled with soil from the top of the ramparts and motte to form a raised castle mound about 150ft (45m) long, 130ft (39m) wide, and 7-9ft (2-2.7m) high for the construction of an ailed and possibly clerestoryed hall (Figs 118, 121). The building was comparable in size with the castles at Farnham, Leicester, and Oakham and with the Bishop's Palace at Hereford (Wood 1965, 45), clearly reflecting the great prosperity and importance of the family at this time.

Since there was no evidence to suggest that there was a break in the occupation of the site between the time of the demolition of the house within the bailey and the construction of the castle mound, the commencement of the last structural period may be confidently dated by the three Stephen pennies (p 188) found lying in the uppermost levels in the bailey sealed beneath the soil used to infill it to form the castle mound. This mid twelfth-century date is also consistent with that provided by the ceramic evidence (pp 167-8). The dearth of occupational debris shows that the last period of occupation at the Goltho manor site was of short duration.

The few finds associated with this period comprise the remains of some 50 vessels made up of cooking-pots, bowls, pitchers and jugs (p 164), together with metal finds which include an arrowhead, an auger, and the remains of two barrel locks and a key (pp 182-3).

The defences

The creation of the castle mound by the infilling of the bailey with spoil excavated from the top of the ramparts and the summit of the motte would not only have increased the area of occupation but would also have made this earthwork castle more acceptable for aristocratic occupation. The level to which the earlier fortifications were lowered was probably governed by the height of the original gatehouse (see p 92).

The air photographs of earthworks known as Castle Hill near Welton-le-Marsh, Lincolnshire (Fig 119),

Fig 119 Castle Hill, Hanby Hall, Welton-le-Marsh, Lincolnshire: aerial photograph of the castle mound, looking west (photo: Cambridge University Collection, copyright reserved)
The aisled hall
(Figs 121, 122, 127, 128)

The timber hall stood in the centre of the earthwork on an east-west alignment similar to those of the earlier
structural periods. The building, constructed with an aisle on all four sides, was 63ft long and 41ft wide (19.5 x 12.3m) and comprised a nave spanning 21ft (6.3m) and aisles 10ft (3m) in width, the size being comparable with contemporary halls of ecclesiastical and secular magnates elsewhere (Table 3). The nave was divided into three unequal bays, excluding the end aisles, varying between 13ft and 16ft (3.9 and 4.8m), those at the end of the building being wider than that in the middle. The position of the building was clearly marked by lines of post-pits varying in depth from 15 to 24in (0.38-0.6m). The bottom of the pits for the wall posts varied from 2 to 3ft (0.6-1.2m) in width and were wider than those for the arcade which were between 1ft 6in and 2ft (0.45-0.6m) wide. The differing width could possibly be attributed to the dressing of the feet of the posts. The relatively small diameter of the pits for the arcade compared with the size of the hall suggests that the posts must have been squared down to their base, whereas the feet of those set in the larger pits along the walls were probably left untrimmed (see pp 75-6).

Access to the hall was gained by way of two opposed doorways set in the side walls towards the western end of the building, their positions marked by the postholes for the jambs (Fig 127). The hall was heated from a hearth set slightly to the east of the centre of the building.

The roof had been clad with tiles decorated with a scalloped edge (Fig 152, p 170).

The size of the hall, the complexity of its plan, and the cladding of the roof with decorated tiles all indicate that this building, like that built in the eleventh century, was the work of skilled craftsmen. However, it differed considerably from that built in the late Saxon period in that the post-pits were shallower, which suggests that the stability of the building was more dependent upon its structural complexity than on the support provided by the earth-fast foundations.

Examples of aisled halls with one or two end bays are well known in areas where the aisled tradition had been established (Sandall 1975). Although the length of the end bays was likely to vary in relation to those in the centre of the hall, those at Goltho differed from the conventional hall of this type in that the ends of the hall were unusually small for its size; further, there was a major structural post set between the end arcade posts at each end of the building (Fig 127). The plan is familiar in the Scandinavian stave church, where the

![Fig 121 Period 7, c 1150: view looking south of the castle mound and postholes of the hall (cf Figs 118, 122) (photo: G Beresford)](image-url)
Table 3  Examples of ailed halls

<table>
<thead>
<tr>
<th>Hall and Location</th>
<th>Date (circa)</th>
<th>Size (feet / meters)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheddar, East Hall 1 (Rahtz 1979, 170-7)</td>
<td>c 11th century</td>
<td>110 x 60ft (33 x 18m)</td>
</tr>
<tr>
<td>Westminster Hall (RCHM 1925, 2, 121-3)</td>
<td>c 11th century</td>
<td>239 x 67ft (72 x 20m)</td>
</tr>
<tr>
<td>Goltbo</td>
<td>c 1140</td>
<td>65 x 41ft (19.5 x 12m)</td>
</tr>
<tr>
<td>Leicester Castle (Horn 1958, 9)</td>
<td>c 1150</td>
<td>76 x 51ft (23 x 15m)</td>
</tr>
<tr>
<td>Farnham Castle (VCH Surrey 1911, 2, 599-602)</td>
<td>c 1150–90</td>
<td>66 x 44ft (20 x 13m)</td>
</tr>
<tr>
<td>Bishop's Palace, Hereford (Jones and Smith 1960; Ralegh Radford et al 1973)</td>
<td>c 1160</td>
<td>69 x 48ft (21 x 14m)</td>
</tr>
<tr>
<td>Clarendon Palace (Borenius and Charlton 1936)</td>
<td>c 1176-7</td>
<td>83 x 51ft (25 x 15m)</td>
</tr>
<tr>
<td>Bishop Auckland Castle, Durham (Hodgson 1896)</td>
<td>c 1153–95</td>
<td>85 x 45ft (25.5 x 13m)</td>
</tr>
<tr>
<td>Oakham Castle, Rutland (Turner 1851, 28–31)</td>
<td>c 1190</td>
<td>66 x 44ft (20 x 13m)</td>
</tr>
</tbody>
</table>
buildings are surrounded by aisles and the walls continue upwards to form a clerestory (Hauglid 1970, 111-14). The arrangements of the posts at Goltho suggest that they served a similar function. Nevertheless, the spacing of the aisle posts at Goltho was greater than those of the stave churches and any resemblance must be confined to the surrounding aisles and clerestory. The plan of the hall, with an aisle on all four sides and a major structural post set between the arcade posts at either end of the building, has only one known parallel in Britain, that found by excavation in a late Saxon context at the late Saxon aristocratic homestead at Faccombe, Netherton, Hampshire (Fig 123). This building, some 44ft long and 28ft wide (13.2 x 8.4m), was probably constructed between 850 and 925 (Fairbrother 1980, 220-1; nd, 14-22).

The clerestoried building as a design is of Mediterranean origin and was long used in the construction of the Roman churches (Ralegh Radford et al 1973, 83). The earliest surviving example in Britain is the stone-built church at Brixworth, Northamptonshire (Clapham 1930, pl V, fig 11), built c 700. It seems likely that the style would soon have been adapted for the construction of some secular buildings in timber, although there is no certain archaeological or structural evidence until the middle of the twelfth century. Nevertheless, contemporary artistic representations of secular clerestoried buildings are to be seen in BL Harley MS 603, f57, a copy of the ninth-century Utrecht Psalter, written at St Augustine’s, Canterbury c 1000 (Fig 67). The scene represents a thegn’s house. The buildings illustrated are of stone and belong to the Mediterranean tradition (Ralegh Radford et al 1973, 83); they are therefore not conclusive evidence as to the appearance of a thegn’s timber-built hall. Other pictorial representations of clerestoried halls are to be seen in the Bayeux Tapestry in the scene where Harold is told of the appearance of the comet, and in the illustration of the hall at Dinant (Stenton 1957, 26, pl 35). However, the closest analogy is to be seen in the great hall of the Bishop’s Palace, Hereford (Figs 124-126), one of the grandest and most important timber buildings of the twelfth century surviving in England (Ralegh Radford et al 1973, 78). The palace was largely remodelled by Bishop Bisse (1713-21) and again altered by Bishop Atlay (1863-95), but embedded in the cross-walls and rising above the eighteenth-century ceilings are substantial remains of the framing of the twelfth-century hall of at least three bays measuring some 69ft by 48ft (21 x 14m). Three of the arcade posts survive in whole or in part, but the major portion of the fourth was removed in the nineteenth century. Above the ceilings, parts of the arcade including one complete arch and evidence for the clerestory are to be seen. The existing roof is of early sixteenth-century origin.
Reconstruction of the hall: the outside walls
(Figs 127, 128)

The position of the outside walls was clearly defined by lines of post-pits. It has already been mentioned (p 113) that these pits were larger than those of the arcade to accommodate the wider feet of the wall posts, which were probably left untrimmed to permit the slotting of sill beams at the point where the dressed part of the post gave way to the untrimmed bole just above the surface of the ground, like those preserved at Der Husterknupp (Hermbrodt 1958, pl 8). This type of construction probably persisted as long as posts were set in earth-fast foundations, because of the difficulties inherent in manipulating heavy posts standing in pits into the precise positions necessary to close a tightly-fitting mortice and tenon joint. Further, the detailed examination of the joints at the Bishop's Palace, Hereford, has clearly demonstrated that the mortice and tenon joint was still very sparingly used at this period even in the construction of more complex buildings (Jones and Smith 1960, 73). There was nothing to indicate the height of the outside walls: those at the Bishop's Palace were about 15ft (4.5m) high, but the lighter scantling of the principal posts at Goltho would suggest that they were probably about 10ft (3m) high, sufficient to permit the fitting of a substantial doorway compatible with the importance of the house. Although the plan of the building bore no resemblance to that of the Scandinavian stave churches, except for the surrounding

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Fig 125 Bishop's Palace, Hereford: joint between principal post and arcade arches (after Jones and Smith)

Fig 126 Bishop's Palace, Hereford: joint between arcade arches and plate (after Jones and Smith)
aisle and the possible clerestory, the walls still could
have been infilled with staves. However, there was
nothing to suggest such a construction at the Bishop's
Palace, Hereford (Raleigh Radford et al 1973, 80–1), and
since there is no evidence to suggest its use in major
buildings in the twelfth century in Britain, an infill of
wattle and daub would seem the more probable.

The arcade
(Figs 124–128)
The sizes of the bottom of the post-pits for the arcade
varied from 18 to 24in (0.45–0.6m) in diameter and
were small in comparison with those of the eleventh-
century hall (pp 75–6). This indicates that the posts
must have been dressed down to their feet since there
would have been insufficient room in the ground to
accommodate the untrimmed feet of dressed posts of
substantial scantling. The size of the pits suggests that
the posts were about 12in (0.30m) square or some 15in
(0.38m) in diameter if rounded. The arcade posts were
set between 13 and 16ft (3.9 and 4.8m) apart along the
building and about 10ft (3m) apart at the ends. The
spacing was considerably wider than that of the
eleventh-century hall where the posts were set 9.5ft
(2.8m) apart, and than that of the Scandinavian stave
churches where they stood at intervals of about 5ft
(1.5m) (Hauglid 1970, 111–14). It is not possible to
estimate the height of the posts with any degree of
certainty, but on the assumption that the walls were
about 10ft (3m) in height to allow for an impressive
doorway and that the pitch of the roof was about 50°,
the height of the arcade plate would have been
approximately 22ft (6.6m). The scantling of the posts
suggests that the clerestory was probably no more
than 6–8ft (1.8–2.4m) in height. The layout of the
posts, like those of the eastern halls at Cheddar (Rahzt
1979, fig 61), differed from the later medieval aished
halls and barns in that the arcade and wall posts were
not aligned with one another in such a way as to
permit their being joined together with a tie.
Accordingly, any tie which might have been
between the arcade and the wall must have comprised
a tie beam connecting the arcade posts to the wall
plate.

Braces
The average depth of the post-pits was 18in (0.46m),
about half the depth of those of the early eleventh-
century hall (p 74). The building was considerably
larger than that of the late Saxon period but it must
have been more structurally complex in that shallower
foundations and the wider spacing of the principal
posts were possible. Although the aisle standing on
all four sides of the hall must have added considerable
strength to the building, greater stability was
probably provided by bracing the arcade plate and
tie beams to the arcade posts. The bracing may
have been provided by straight timbers joined by
notched-lap joints (Hewett 1973, 18–20) or by arch
braces similar to those at the Bishop's Palace,
Hereford (Jones and Smith 1960, 73–5), where they
were halved and pegged to the plates and posts. Both
types of brace would have been suitable in the
construction of a timber building in which the
stability of the structure was dependent upon
earth-fast foundations; they could be applied to
the principal members of the framework after erection,
rather than be fitted into mortices as the building was
rising around posts standing in pits, where manipulation
would be difficult, though not impossible.

Tie beams and roof
(Figs 24, 124–128)
Since it may be reasonably assumed that the wall plate
would have been about 10ft (3m) above ground level
(p 116), the arcade plate would have been about 22ft
(6.6m) high if the roof of the aisle had a pitch of about
50°. The apparent slender scantling of the arcade posts
suggests that the clerestory would not have extended
much more than 6–8ft (1.8–2.4m) above the roof of
the aisles. The building was, without doubt, higher than
that of the early eleventh century (pp 74–7), the
difference in height being caused partly by the greater
width of the nave and partly by the two side aisles which
had to be sufficiently high to accommodate a substantial
doorway compatible with the importance of the
house. The greater span of the twelfth-century hall, its
height, and the shallower foundations suggest that it
would have required more substantial strengthening
to give stability across the building than that
postulated in the reconstruction of the late Saxon
building. However, the two detailed examinations of
the surviving twelfth-century timbers in the Bishop's
Palace, Hereford (Jones and Smith 1960, 78–80) clearly
revealed that in that building the longitudinal and
lateral stability were to a great extent dependent upon
heavily-braced plates and ties (Hauglid 1972: J T
Smith 1975–6). It is possible that the construction at
Golkio would have been similar.

A trussed rafter roof would seem the most probable
type to have been adopted in the absence of any
evidence to suggest another form. Three distinct
within this category may be considered in the
discussion of the reconstruction of this building: a
Romanesque roof with a tie to each pair of rafters like
that in the eleventh-century nave at Soignies, Hainault
(Grigde 1949, fig 31); a rafter roof with a tie to every
third pair of rafters like that in the twelfth-century
choir in the same church (ibid, fig 31); or an open
collared rafter roof, possibly strengthened with small
braces beneath the collars, as in the nave of the late
eleventh-century church of St Martin of Tours,
Chipping Ongar, Essex (RCHM 1926, 29). However,
care must be taken not to confuse the two
types of tie mentioned earlier in the book (p 51): in the
first the member is joined to the feet of the rafters and
in the second the member is attached either to the wall
plate or to the junction of the principal post and wall
plate. Accordingly, if the roof of the clerestory was
constructed with a tie attached to every pair of rafters
above a heavily-braced tie beam of the arcade, the ties
would be to some extent duplicated. Although
Romanesque trusses with a tie to every pair of rafters
are to be found with transverse arches on the
Continent in stone churches like that of S. Miniato, Florence (Rivoira 1910, 1, 180–2), such duplication of ties in a timber building, where the structural stresses are different, seems unlikely. Accordingly, if the arcade posts were tied at the post heads across the building with braced tie beams as postulated, a collared rafter roof would seem to have been the most likely type to have been constructed at Goltbo in the mid twelfth century. If, however, there were no braced tie beams spanning the nave of the hall, Romanesque trusses with a tie to every pair of rafters could be considered. The excavation finds indicate that the roof was clad with tiles decorated with scalloped edges (pp 169–70).

Windows

The windows may have been cut through solid slabs of oak, like that surviving at the late Saxon chapel at Deerhurst, Gloucestershire (Middleton 1887, 68). Alternatively they could have been constructed from four carpentered timbers joined together and pegged like those in the church of St Botolph, Hadstock, Essex (Taylor and Taylor 1965, 676; Rodwell 1976). The windows lighting the clerestory may have been small circular openings like those at Kaupanger (Bjerknes and Lidén 1975, fig 11) and other stave churches (Hauglid 1970, 111–14). Although window glass, both
open throughout much of the year. During the winter months they may have been closed with canvas (Turner 1851, 73–82).

The outbuildings
(Figs 118, 121)

The remains of the associated domestic offices were few, owing to the erosion of the sides of the earthwork. Footings of a timber building lay near to the remains of the south-east corner of the hall, but its close proximity to the principal building and its irregular shape suggest that it was not associated with the manorial occupation of the site and was of later date. However, the pottery recovered from its remains indicated that the building was of mid twelfth-century date, and so it was probably built soon after the end of the domestic occupation of the site. The building, 38ft long and 16ft wide (11.4 x 4.8m), was defined by a timber-trench about 9in (0.23m) deep and between 15 and 21in (0.38 and 0.53m) wide at the bottom. The size and shape of the trench suggest that the walls were built of clay laced with close-set posts, like the construction of some of the domestic offices of the earlier periods.

Gullies lying close to the eastern side of the hall possibly mark a timber building, but the remains were too few to elucidate its original function.

The two pits lying to the north of the hall were probably associated with the excavations of the early 1920s.

As in the previous period, an area must have been set aside for the horses and for general storage. Since there would have been insufficient room upon the castle mound, it is apparent that a bailey must have existed for this purpose in the surrounding area. The enclosure was presumably surrounded by a timber palisade or by a wall of timber and clay, as no remains survived above ground.
Dating

The complete excavation of the Glastonbury manor site has revealed a long sequence of superimposed, fortified, aristocratic homesteads dating from c. 850 to the middle of the twelfth century and overlying some Romano-British and middle Saxon farmsteads. The long sequence of occupation has been divided into seven structural periods, the dating of which has been determined to a great extent by; the coins found on the floors of individual buildings or within the associated occupational deposits in periods 1, 4, 5, and 6; the considerable quantity of pottery recovered from all the levels within the manorial enclosure; the ferrous and non-ferrous metal finds in the levels associated with periods 1, 3, 4, 5, and 6; and to some extent the types and estimated life of timber buildings which stood upon the site. The dating was greatly facilitated by the exceptionally clear stratification of the levels of occupation since the halls, and many of the principal domestic offices built between c. 850 and 1000, were superimposed upon similar foundations around three sides of a courtyard and the floors of the later buildings frequently sealed those of earlier origin. These levels in turn were completely sealed beneath the earthworks of the motte and bailey castle built in the late eleventh century, and finally the area of occupation within the bailey was itself sealed beneath 6ft (1.8m) of clay at the time of the construction of the castle mound c. 1150. Although the dating of each structural period is only approximate, four have independent coin dating and others have artefacts whose dates may be derived by comparison with similar finds from other sites in both England and Scandinavia where there is further numismatic evidence. It is possible, however, that the evidence from future excavations in the area may lead to slight modification of the dating of some of the structural periods, especially those which are not dated by coins.

The numismatic evidence, of course, provided the most accurate dating on this site. Although only four levels were so dated, it follows from the clear stratification that the others not so dated were either earlier or later than those which contained the coins. The numismatic evidence helped to date the duration of occupation during the Romano-British period, although all the coins were unstratified (p 188). A penny minted in the reign of Edgar dated the bower associated with the tenth-century hall, and the kitchen which was superimposed upon this building was dated by a Cnut penny c. 1024-30. There was no further numismatic evidence until the twelfth century when three Stephen pennies dated the destruction levels of the Norman bailey.

Much pottery was found associated with all the levels of occupation within the manorial enclosure. The stratified sequence has to some extent been dated by the numismatic evidence from the site and also by close comparison with the pottery from Lincoln, especially from the sites at Flaxengate and Saltergate where similar stratified groups were found with further coin dating (pp 164-8).

The stratified sequence of iron objects from Glastonbury is closely comparable with that from Thetford, Norfolk (p 177), which was occupied over a similar period of time. Much of the material found in the levels sealed beneath the earthworks of the Norman motte and bailey castle could be divided into groups attributable to the ninth and tenth centuries, to the eleventh century, and to the eleventh and twelfth centuries. Further datable groups attributable to the period following the Norman Conquest were found within the bailey. It is significant that the bridle bit of ninth- to tenth-century date was found on top of the path leading into the second of the superimposed bow-sided large halls of the third structural period, since it confirms the early dating of the establishment of the aristocratic homestead at Glastonbury. Three copper alloy brooches (p 171) indicated that the Romano-British hut A was built in the middle of the first century AD. The site was occupied until the early eleventh century, and the dating being confirmed by ceramic and numismatic evidence. However, the non-ferrous metal finds are mostly associated with the Norman occupation of the site, many of which are closely comparable with those from contemporary castle and manor sites in many parts of England, extending from Devon in the south-west to Yorkshire in the north-east (p 176).

Although the remains of the timber buildings and their associated fortifications were few, it is apparent that there were changes in their style during the successive periods with some of these developments having parallels elsewhere in England and on the Continent, where there is further independent dating. First, there is the shape of the two superimposed bow-sided halls of period 3, the form of which, although ancient in origin, was exploited by the aristocracy in the construction of their halls and in their pictorial representation during the ninth and tenth centuries (pp 45-7). Second, the hearth of the second hall is similar to those in Viking Yorke of the early tenth century (p 42). Third, the fourth structural period was marked by the construction of the hall and its domestic offices with principal posts and interrupted sill beams, as in other important houses in England and on the Continent at this time (pp 61-3). Finally, the layout of the earthworks of the motte and bailey castle built in the sixth structural period precludes the possibility of their construction before 1066, since it is now generally agreed that the motte was introduced to England by the Normans (pp 91-100). There is nothing to suggest that the motte had been superimposed upon the ramparts of a late Saxon fortified house.

The halls of periods 3, 4, 5, and 7 were important buildings and were almost certainly built of oak, a timber which must have been readily available throughout the period of occupation. Recent research on the durability of timber has clearly demonstrated that such timbers have a relatively long life even when the footings are set in earth-fast foundations (Fig 78). Accordingly, even the more lightly constructed halls of the Glastonbury sequence could have stood for some 40 to 50 years without major repair. The relatively long life of such buildings is attested by the stave-built hall reconstructed at Trelleborg in 1942 and still standing today (Nerlund 1948). It may therefore be said with some confidence that the approximate dates of each of the seven structural periods set out below, provided...
by numismatic, ceramic, and other evidence, are compatible with the expected life of the individual buildings.

**Period 1: Romano-British settlement, c. 50–200**

Six Romano-British coins ranging in date from the middle of the first century AD to the end of the fourth century were found during the course of the excavation of the Goltho Manor site, but none was found in stratified levels (p. 188). The three phases dating from the middle of the first century AD to c. 200 were accordingly dated by groups of pottery (p. 131) from constructional and occupational deposits. The early dating of the site is confirmed by a copper alloy clasp (pp. 171–2) found with the remains of hut A. The fabric of the excavated pottery is well known in the region and may be closely dated from stratified contexts elsewhere.

The existence and date of a substantial homestead which must once have stood close to the area reserved for excavation from the time of the abandonment of the huts until the end of the Roman occupation of Britain is attested by the spread of occupational and structural debris of the period.

**Period 2: Middle Saxon settlement, c. 800–850**

There was no evidence to suggest that Goltho was occupied at any time between the end of the Roman period in Britain and the establishment of the middle Saxon farmsteads c. 800. It is possible, however, that the land was farmed from another centre of settlement. During this hiatus the remains of the Romano-British settlement were gradually covered by a layer, some 4–6in (100–150mm) in thickness, of light brown soil, much of which, apart from that protected by the footings of the rampart of the first aristocratic homestead, was cleared by the later development of the site. The pottery which dated the middle Saxon settlement was recovered from the footings of the palisade trenches and from occupational deposits in the north-west corner of the excavated site (pp. 137, 164–8).

**Period 3: Ninth-century fortified earthwork enclosure, c. 850–950**

The commencement of the third structural period was clearly marked by the construction of the aristocratic homestead and its associated fortifications. Much of the pottery from the earliest occupational deposits of this period was very similar to that of the earlier date, showing that there was no long period of abandonment between the demolition of the middle Saxon farmstead and the construction of the fortified enclosure (p. 141). The aristocratic buildings completely sealed the remains of the farmstead beneath their floors. During the course of the third structural period the long hall was rebuilt or at least extensively repaired; the floor associated with these alterations sealed the original and was itself eventually sealed beneath the floor level of the hall of the fourth structural period attributed to the middle of the tenth century. Permitting the examination of interesting groups of stratified pottery. The overlying tenth-century levels of the fourth structural period were dated by a coin of the reign of Eadgar and by the pottery from structural and occupational deposits.

The early dating is confirmed by a bridle bit found outside the second hall, the style of which has parallels in Scandinavia in the ninth and tenth centuries. Dating evidence is also provided by the layout of some of the footings of the timber buildings. The hall in both size and plan is very similar to the almost contemporary long hall at the royal palace at Cheddar (Rahtz 1979, 99–107). It is also of interest that the hearth of pebbles in the first hall was replaced at the beginning of the second structural phase by one of clay set within a timber surround at a time when similar hearths were appearing in early tenth-century Viking York (p. 42). Although the Goltho hearth differed in detail from the traditional Viking form, its plan seems to imitate the popular type of the period.

**Period 4: Tenth-century fortified earthwork enclosure, c. 950–1000**

The defences laid out in the mid ninth century remained unaltered throughout the fourth structural period. The buildings were constructed on similar foundations around the same courtyard with the floors of some completely sealing those of earlier origin. The commencement of the period in the middle of the tenth century was marked by the introduction of the single-aisled hall constructed with principal posts and interrupted sill beams. Evidence of this new type of building was found in the hall of the first and second structural phase within this period, and in the bower, the weaving shed, and the second kitchen. There was no clear beginning to the period since the earlier buildings were probably replaced as the necessity arose. Nevertheless, it is likely that the hall, as the most important building, was the first to be constructed in this way.

The interrupted sills themselves are a factor in the dating of the buildings of this structural period since their introduction was occurring at important sites elsewhere in north-west Europe at a similar time (Hauglid 1972). This dating is substantiated by the ceramic evidence and a coin (p. 188) minted in the reign of Eadgar, found on the floor of the bower. The levels of the fourth structural period were sealed beneath those of the fifth period commencing in the early eleventh century, the buildings of which were dated by ceramic evidence and a coin of Cnut.

**Period 5: Eleventh-century fortified earthwork enclosure, c. 1000–1080**

The commencement of the fifth structural period is clearly marked by the construction of all the buildings
around a courtyard of increased size. In order to accommodate the new buildings, the early fortifications were levelled and replaced by others of similar strength enclosing a larger area.

An early eleventh-century date for the commencement of the period was provided by the pottery from the two trenches which ran across the courtyard draining the roadway leading in from the gate to the entrance of the hall. The ditches cut through the footings of the weaving shed and apparently silted up soon after their excavation. A coin minted in the reign of Cnut (p 188) dated the destruction of the early kitchen which stood upon the site of the tenth-century bower and the destruction levels of the hall were dated by pottery of the late Saxon and very early Norman periods.

**Period 6: motte and bailey castle, c 1080–1150**

The commencement of the sixth structural period saw the construction of the small motte and bailey castle, without doubt built by the tenant of one of the lords mentioned in the Domesday Survey on his acquisition of the manor at a time between the Norman Conquest and the Domesday Survey in 1086 (p 85). The earthworks cannot be attributed to an earlier date since there is no evidence to suggest that mottes were constructed in England before 1066 (see pp 94–5).

There were two phases of occupation of the castle, the second of which was marked by the rebuilding of the hall. The pottery and metal objects (pp 159–68) from the deep occupational deposits surrounding these buildings within the bailey are similar to those from contemporary stratified groups elsewhere in the region. The infilling of the bailey for the construction of the castle mound is dated by three Stephen pennies (p 188) to the middle of the twelfth century.

**Period 7: the castle mound, c 1150**

The castle mound was formed from the earthworks of the motte and bailey castle for the construction of a fortified aristocratic residence in the middle of the twelfth century. The dating is confirmed by the pottery associated with the construction and occupation of the aisled hall and, of course, the three coins sealed in the uppermost level of the bailey (pp 164–8). The scarcity of archaeological finds associated with these remains, the absence of wear of the floor levels, and the lack of evidence of severe burning around the hearth all suggest that the period of occupation was of short duration before the manor site was abandoned.
Conclusion: Goltho and the historical setting

Goltcho lies in the ancient kingdom of Lindsey, the area which until recently formed the Parts of Lindsey in the county of Lincoln (Stenton 1947, 36, 37, 48, 49). The kingdom was bounded on the north and east by the Humber and the sea. On the west it included the hills between the Don and the Trent which form the Isle of Axholme and the land surrounding the moors of Hatfield Chase. To the south of the Isle of Axholme, the boundary followed the Trent southward to a point near Torksey where it turned in a south-easterly direction along the Fosse Dyke, the Roman navigation canal, and then, below Lincoln, along the Witham to the tens and to the coast beyond. Little is known of the Lindsey dynasty since none of its kings played an important role in Anglo-Saxon politics (ibid). They ruled Lindsey from an early date, possibly as early as the fifth century, but, apart from the last of the line, a king named Ealdreth who appeared in attendance on Offa, King of Mercia, between 787 and 796, the kings of Lindsey were only names. During the eighth century under two strong Mercian kings, England south of the Humber was developing into a single territory in which the ancient kingdoms of Lindsey, Essex, Kent, and Sussex were no more than provinces.

The middle Saxon settlement at Goltcho was established during the last years of the dynasty of the kings of Lindsey or very soon thereafter. Little is known of the early settlement of this particular area, but evidence of sixth-century occupation nearby is suggested by the archaic place-names: Beckering, Minting, and Barlings which lie some 2.5, 3 and 4 miles (4, 4.8, and 6.4km) respectively from Goltcho. A quantity of pagan Saxon pottery was excavated at Nettleham some nine miles to the north and more was recovered after ploughing at Linwood, a deserted medieval village lying some 6 miles (9.6km) to the north (cf Fig 3).

There is no known documentary evidence to elucidate the origin of the fortified aristocratic homestead at Goltcho in the middle of the ninth century, but it would be reasonable to postulate that, unless the site was of Viking foundation c 877, the tenure was a grant of land to a retainer of one of the Kings of Mercia, probably Berhtwulf, 840-852, or Burgred, 852-874. By the time of Alfred, these estates were being secured by Royal Charter and the term buchland, 'bookland', had come into common use (Stenton 1947, 203, 305-8). A man thus rewarded received the food-rent which the land of his endowment had previously provided to the king – the 'tribute formally due to the kings', as Offa described it to a Kentish follower (Birch 1885-93, 254). The lord would also have had the benefit of the public duty to repair the buildings on royal estates, which would have devolved by the gift of the work on the new lord's hall and associated buildings. He, instead of the king, would also have had the benefit of the ancient cartage services and the entertainment of his servants representing the Forom once granted to the king's fowlers and huntsmen. Nevertheless, the Saxon leases contained no demand for military services like the military tenancies of the period which followed the Norman Conquest. A normal charter of the ninth century is careful to insist that all other royal rights have passed to the new lord, but the king may still exact fyrd-service and work on bridges and fortifications. The early bookland charters generally included a clause stating that the recipient of an estate may alienate it or bequeath it in his will. For example, in 878 Cynewulf, king of Wessex, granted a considerable estate to a certain Bica with the liberty of exchanging, giving, selling, or bequeathing it to any heir of his choice (Birch 1885-93, 225). A division of such a holding among several sons could only lead in the end to the formation of very small estates on each of which a household could scarcely survive. By the time of the Norman Conquest some estates had been divided into small fractions held as manors by thegns who were economically little better than the peasants. However, there were many families who were careful to preserve the integrity of their individual estates: the Domesday Survey shows that some were holding inherited estates in the reign of Edward the Confessor which were large enough to suggest that they could not have been acquired in a single generation (Stenton 1947, 480).

The fortified aristocratic homestead at Goltcho was founded in the middle of the ninth century at a time when much of England was being threatened by Danish raiders. During the 30 years following the raid on Sheppey in 835 there is evidence of at least 12 separate encounters in different parts of the country and the record is certainly incomplete (Stenton 1947, 241). Twice during this period, in 850 and 854, the Danish army took up winter quarters in England, in Thanet on the first occasion and in Sheppey on the second. In 841 there was great destruction in Lindsey, East Anglia, and Kent (ibid, 241). These raids had generally been isolated enterprises but in the year 865 the whole of England was threatened by a great army which landed in East Anglia, prepared to spend many successive years in the exploitation of the countryside. After many engagements and innumerable skirmishes the year 873 saw the departure from England of Burged, King of Mercia, to spend the rest of his life in Rome (ibid, 241). The Danes appointed in his place Ceolwulf, one of his thegns, upon the condition, secured by oaths and hostages, that the kingdom should be at their disposal whenever they might wish to occupy it and that he should hold himself in readiness to serve them with all who would follow him. He then reigned in Mercia as legitimate king, recognised by the church and served by at least some of Burged's men. Fulfilment of the condition was exacted three years later in 877 when the army divided half of the Mercian kingdom among its members and granted the other half to Ceolwulf. The partition of Mercia cannot be closely defined, but the northern area certainly included the medieval shires of Lincoln, Nottingham, Derby, and Leicester (ibid, 251). There followed extensive Danish settlement in the area, which is readily attested by the plethora of place-names with the characteristic Scandinavian terminals -by and -thorpe.

It is not possible to assess how the military campaigns of this period and those of the tenth and early eleventh centuries affected the ecology of the...
manor at Goltho. Buildings of a different structural tradition were introduced to the site in the mid tenth century and the early defences were replaced c. 1000 by others to enclose a larger range of buildings, but since there was no archaeological evidence to suggest that the site had been ravaged in one of the many skirmishes it is probable that these alterations were effect of the desire for better accommodation. However, since there was little change in the general layout of the site from the time of its construction in the middle of the ninth century until c. 1000, it is apparent that the integrity of the estate was maintained. Indeed, it is not beyond the realms of possibility that the head of the family in 873 may have been one of Burgred’s men who served Ceolwulf after the Danes had made him king. In such an event the estate may have remained in the tenure of the same family throughout this period.

The scale of the early fortifications at Goltho, stronger than those of the early tenth-century borough defences at Tamworth (Gould 1967-8; 1968-9) and almost as impressive as those of the first period at Wareham (RCHM 1959, 123-6, fig 47) or Cricklade (Raleigh Radford 1972, 100-3), indicated that they were constructed for serious defence, rather than to create an impressive boundary to set the demesne apart like many of the moated sites constructed during the period extending from about 1250 to 1500. The Norman Consuetudines et Justicie of 1091 (Haskins 1918, 282) clearly demonstrates that the contemporary criteria of fortification in the late eleventh century included: the depth of the ditch, the height of the rampart, and the construction of a palisade with battlements and wall walks. The erection of such fortifications was strictly controlled. For late medieval England applications to crenellate are preserved in the Patent Rolls c. 1256-1483 (Parker 1859, 401-22), from which evidence it is apparent that the great majority of the moated sites of the lesser gentry in this period were not fortified. The ‘islands’ of such enclosures were probably surrounded by a wall or a palisade without wall walks and battlements, or possibly in some instances only by a hedge. The function of such a boundary was little more than as a symbol of lordship, setting the demesne apart from the houses of the peasantry. It is significant that there were no ramparts in this type of moated homestead in the later Middle Ages. Of the 200 known fortified earthwork enclosures in England and Wales (King and Alcock 1969), most were probably erected within the first 100-150 years following the Norman Conquest. Many, especially those constructed by leading members of the aristocracy, were considerably stronger than those of Saxon origin excavated at Goltho. Nevertheless, there were many sites constructed for the occupation of those of slightly lesser rank where the strength of the fortifications was very similar to those erected at Goltho in the ninth and early eleventh centuries.

The Danish raids must have stimulated to some extent the interest of the aristocracy and others of high social position in the construction of private defences in England. At a similar period in the Frankish kingdom (MGH Leges II, 328. 1.20f) fortifications presumably of private character were also being built, possibly in response to the same threat. However, the Vikings were probably not the only threat to the security of the Goltho manor site. The occupant would certainly have wished to be in a strong position to defend what he claimed as his rights should he be required to do so by force. The laws of Alfred (Whitelock 1955, 379) clearly set out the procedure in the event of a dispute when a man had or had not sufficient power to surround his opponent and besiege him in his house. These laws, of course, applied to Wessex, but they demonstrate what was accepted in the form of private warfare in the period.

However, the history of fortified houses may be traced back to an earlier date in England, for an entry in the Anglo-Saxon Chronicle for the year 757 describes a skirmish around the locked gates of a stronghold at Mereum (Whitelock 1961, 30-1).

Goltho and Sulgrave (Davison 1977) are the only two fortified houses of pre-Norman origin to have been identified in England. Without doubt others remain to be excavated where the fortifications may lie concealed beneath the earthworks of the first generation of Norman castles. However, the apparent scarcity of such sites suggests that there were only a few people who were in a position to fortify their halls and those who were in such a position may not have fortified all their principal residences, possibly living in the hope that they could resort to their stronghold in times of unrest.

Although there is no certain documentary evidence to elucidate the origin of the foundation of the manor site at Goltho in the mid ninth century, the quality of the buildings and the associated defences clearly shows that they were built by a man of considerable regional importance. The Anglo-Saxon Chronicle and other contemporary literary sources depict the important role taken by the ealdormen and thegn in the leadership of the army during this period. Military service was a duty which fell upon them as a consequence of their rank and it would have been their personal obligation when called upon by the king to serve in levies of their shires, properly mounted and equipped according to their social position and accompanied by their retainers. They certainly rode to battle on horseback, although it seems probable that they dismounted to fight. The excavation at the Goltho manor site has demonstrated that houses of such men were in some cases fortified some 200 years before the Norman Conquest, and that such fortifications were very similar to many of those constructed all over England and Wales during the late eleventh century and throughout much of the twelfth (King and Alcock 1969). Although there were probably many similarities between the ways of life of aristocratic households of the late Saxon period and of those of similar rank after the Norman Conquest, they differed in that the Norman magnates held their estates upon a military tenancy in which they were required to enfeoff a number of knights for military service in accordance with the size and importance of the holding.

The Norman Conquest

It is not possible to trace the history of the Goltho manor through the years which immediately followed
the Norman Conquest. A remarkable number of Englishmen, both in Lincoln and in the surrounding countryside, retained their lands, some of them, like Colegrim, Alfred of Lincoln, Coslau (Coleswegen), and Northman even increasing their estates by grants of land from William (Freeman 1876, 214-15). Others were able to keep at least part of their estates and live in modest comfort. William, claiming the throne as Edward the Confessor’s selected heir, wished his rule to be accepted by the English people; however, the revolt of 1069 generally led to a series of confiscations which completed the repression of the English in the south and opened up the north to intensive Norman plantation. The period is marked by an extensive programme of castle building as the alien ruling class imposed itself upon the countryside. There were never more castles built in England than during the first century after the Norman Conquest (Brown 1976, 49). By the time of the Domesday Survey in 1086 the three manors in Bullington had been granted to the Bishop of Durham, the Earl of Chester, and Ivo Taillebois and let to their respective subinfeudated tenants or subtenants. The ceramic evidence indicates that it was about this time that the motte and bailey castle was constructed at Goltho within the earlier fortifications.

The defences of the motte and bailey castle were considerably stronger than those which surrounded the halls and domestic offices of the earlier periods, which must have seemed to the native people of the village an impressive spectacle— a structure of lordly dominance. However, the outside appearance differed somewhat from the poor, cramped accommodation within the bailey, where there was only sufficient room for a house of relatively humble plan and construction. The layout of the hall, constructed without the associated domestic offices so familiar in the three earlier structural periods, must indicate that the castle was not a capital messuage, but one in which a steward lived to attend to the affairs of the estate for an absentee lord, though the severe burning of the hearths and the extensive spread of domestic debris within the bailey show that the castle was permanently occupied.

The middle of the twelfth century saw the restoration of the social importance of the Goltho manor site, the change being attested by the building of an imposing fortified house for the occupation of a man of considerable status. The hall, standing on the top of the summit of the castle mound raised for its construction, was of similar proportions to those built in the castles at Farnham, Leicester, and Oakham (p 114), and clearly reflected the great prosperity of its builder. However, the period of its occupation was short and the site was soon abandoned.

The timber buildings, c.850-1150

Although stone was used in the construction of some important churches in England from the early seventh century, this material was seldom used for domestic buildings until after the Norman Conquest, even in areas where it was readily available. Among the few examples of early stone domestic buildings are the eighth- to ninth-century hall at Northampton (J W Williams 1984, 120-6) and the chamber which stood close to the early eleventh-century timber hall at the Sulgrave manor site, Northamptonshire (Davison 1977), but such buildings could not be expected at Goltho owing to the dearth of stone in the area.

The walls of timber buildings in Saxon England vary considerably: there are those built of staves (Christie et al), noted for their lavish use of timber: walls built with regularly-spaced principal posts and panels of wattle and daub also have wide distribution: there were clay walls faced with untrimmed posts some 5-8in (0.13-0.2m) in diameter and there were walls of light construction built of daubed wattles. Many have a long tradition dating back to prehistoric times and some types are still to be found in tribal houses in Africa (K. B Andersen 1977, 77-86, 200-3). Blockhouse construction, so common in north-west Europe, has not as yet been identified in England (Innocent 1916, 108-9).

The excavation of timber buildings, like the stave church of St Maria Minor (Ekhoff 1914-16, fig 157), Der Husterknupp (Herrbrodt 1958, fig 13), Goltho, and Yeavering (Hope-Taylor 1977), where the footings of the timber walls had either been preserved in waterlogged conditions or defined by impressions in the soil, and the recording of remnants of the earliest surviving timber buildings, like the Bishop’s Palace, Hereford (Jones and Smith 1960, Jope and Tonkin 1973), the church of St Andrew, Greensted (Christie et al), and the early timbers in the Scandinavian stave churches at Hemse (Ekhoff 1914-16, 71-138) and Flarning (Krøgh and Voss 1961), clearly indicate that the structural carpentry of the period was very different from that of the late medieval period in that the early buildings were constructed without the complex timber framework generally known as ‘timber framing’. The early buildings were also different from those of later date in that the principal load-bearing members usually stood in earth-fast foundations, although there were a few buildings constructed upon sill beam foundations like the early tenth-century buildings at Coppergate, York (Interim, 6/2, 9-17).

The structural stability of the timber buildings of the Saxon and Norman periods, built without the complex framework so familiar in the later medieval period, was dependent upon earth-fast footings and joints which were halved, slotted, or dovetailed. Although forms of the mortice and tenon joint occurred from prehistoric times, they seem to have been sparingly used in the early Middle Ages in the construction of large timber buildings since the successful use of such joints was dependent upon a certain amount of precise prefabrication. This would have been difficult, although not impossible, to achieve in buildings where the posts were set in earth-fast foundations, owing to the problems which would have been encountered in manoeuvring heavy timbers so placed to precise positions. In the later medieval period most timber buildings rose up from a sill beam foundation, facilitating the adjustment of members both horizontally and vertically as the building was rising. Afterwards the sills could be underpinned to prevent the timbers from warping
(Innocent 1916, 118–9). The stability of major timber buildings, like the aisled hall of the last structural period at Goltho (p 112–9) or the east hall at Cheddar (Rahtz 1979, 178–83), built in the mid twelfth and early thirteenth centuries respectively, still depended upon earth-fast foundations. The tradition was to persist into the late thirteenth and early fourteenth centuries in buildings of relative importance like Fyfield Hall, Essex, but the beginning of the thirteenth century saw the gradual abandonment of such footings in favour of those set upon sill beams or plinths. An early example of such a building is the barley barn at Cressing Temple, Essex (Hewett 1980, 59–63), probably built about 1200.

The excavation of the Goltho manor site revealed the remains of two distinct types of timber buildings, examples of which were found lying side by side in the occupational levels dating from c 850–1075. The archaeological evidence indicated that the principal buildings were all of stave construction and were, without doubt, the work of craftsmen skilled in the art of the construction of major timber buildings for aristocratic occupation. However, the minor domestic offices were of clay laced with timber, like the houses of the peasantry, and were built with less skilled labour. A similar contrast in building traditions was revealed at Yeavering (Hope-Taylor 1977). Both types of building had a very long tradition dating back to prehistoric times, but it was the stave construction which was exploited in the houses of the aristocracy in the Saxon period in many areas. The present evidence in England suggests that stave construction tended to give way to other types of building traditions in the middle of the eleventh century, although the tradition was to continue in Scandinavia in the construction of churches until the thirteenth and fourteenth centuries. Very little is known about the construction of domestic timber buildings for the Norman aristocracy, but present evidence suggests that the infill of the panels between the principal posts would have been of wattle and daub, as the remains at the Bishop's Palace, Hereford, indicate (Jones and Smith 1960; Jope and Tonkin 1973).

The excavation of the long sequence of fortified manor houses at Goltho dating from c 850 to the middle of the twelfth century has provided enough information to allow the interpretation of the remains and to formulate the reconstruction of many of the principal buildings and their surrounding fortifications. Such reconstructions greatly facilitate the understanding of the sometimes sparse excavated remains. Other interpretations and reconstructions are, in some instances, possible, but space in this book does not permit their discussion. Nevertheless, those set out and discussed would seem to be the most compatible with the archaeological remains and with the level of craftsmanship available to the aristocracy of the period. The great size of the buildings and the lavish quantity of timber used precludes the possibility of their reconstruction on the ground at the present time, but it is to be hoped that the discussions set out in this book will provide the basis for further study.

Note

1 I am most grateful to Mr J T Smith for this information.
10 Goltho: the manorial history

R H C Davis

By the thirteenth century the only holders of land recorded in Bullington and Goltho were members of the family of Kyme, which had amassed what was probably the largest group of sub-tenancies in medieval England, amounting to about 30 knights' fees, or the equivalent of a large barony (Farrier 1923–5, 2, 118f; Sanders 1960, 79, 80; Golding 1983). Except for three manors (Erisksley, Hackethorn, and Solby) which they held in chief from the king, all their lands were held as sub-tenancies, and, though this fact makes it difficult to trace them all, we know that they were held from at least ten different lords. In Bullington and Goltho they held a knight's fief from the Bishop of Durham, land for which the service was unknown from the Bishop of Lincoln, and manors which had once belonged to, and were presumably held from, the Earls of Chester and Lincoln-Roumare.1

Most, if not all, of these lands seem to have been acquired in the twelfth century – their tenancy from the Bishop of Durham by 1115/19 and their tenancy from the Bishop of Lincoln by 1166 – that is to say either in or after the very last phase of the manorial site which has been excavated. If we are to understand that site, therefore, we must concentrate on the lords who held the land before them.

This is not as easy as might have been expected, because the name Goltho does not occur in Domesday Book (1086) or the Lindsey Survey (1115–18). The earliest reference to it is a 1220–35 in the Rolls of Hugh of Wells, Bishop of Lincoln, which, in stating the revenues of the perpetual vicarage of Bullington, mentions the hall (curia) of Philip de Kyme in Golthowe (Rotuli Hugonis, 2, 83–4). It must therefore be presumed that the manor (or manors) of Goltho grew out of one or more of the three manors of Bullington recorded in Domesday Book and the Lindsey Survey (DB, 1, 340v, 349v, 351; Foster and Longley 1924, Lines Domesday 3/8, 13/26, 14/57, Lindsey Survey 16/1, 16/2, 16/10). Even so we still have the problem of locating where these manors were.

If we are to do this it will be necessary to list all the possible manorial sites known in the modern Bullington-cum-Goltho and pair them off with the manors of the record. Unfortunately, there are only three manors recorded (A, B, and C), but four possible manorial sites (Bullington Hall, Bullington fortified enclosure, Goltho manor site, and Goltho Hall).

The four sites are shown on Figure 2 and the land holding is summarised in Table 4. The present Bullington Hall is a stone house with a brick front added seemingly about the turn of the eighteenth and nineteenth centuries. According to Sheail's gazetteer (in Beestornd und Hurst 1971, 193) there is the site of a deserted medieval village beside it, but this seems to be a mistake.2 There is no evidence of medieval occupation by the hall, and no serious reason to believe that this site should be considered in the context of the twelfth century or earlier. Thomas Allen, writing in 1833, mentioned a chapel of St James in Bullington (T Allen 1833–4, 2, 64), but though this could in theory have been near the hall, the chapel marked on the Ordnance Survey map on the south side of the A158, more or less opposite the hall, is said to have been Wesleyan Methodist (personal information from Mr Bruntlett, Shepherd's Farm, Goltho), it was demolished some years ago, but its site is still visible, with a yew tree by its churchyard gate.

Bullington fortified enclosure is the site of the great earthwork on the edge of the present parish of Bullington, some 350m south-east of the site of Bullington Priory. It consists of a rampart round three sides of a very rough rectangle; the fourth (or east) side is missing, but it is not known whether this is because it has been destroyed or because it was not completed. The site has never been excavated, but the form and layout of the fortifications suggest that it was most probably built during the period between the Norman Conquest and the late twelfth century. The size of the enclosure would have been large, only slightly smaller than that of Lincoln Castle; the moat is 60ft (18.3m) wide and the rampart, which at places still stands some five or six feet (1.8m) above the level of the interior, is about 60ft (18.3m) wide at its base. It must have been much more imposing than the manorial site at Goltho which is the subject of this report.

This latter, Goltho manor site, is the only one of the four sites to have been excavated. It is in the northern part of the present parish of Goltho, adjacent to the deserted medieval village which has also been excavated. The most prominent landmark on the site is the small red brick church, probably built in the sixteenth century.

The last site is in the southern part of Goltho parish and includes the nineteenth century house now known as Goltho Hall, which is marked as such on the Ordnance Survey maps, and two medieval moats.

Turning to the documentary evidence, both Domesday Book (1086) and the Lindsey Survey (c 1115–18) record three manors. We have called them A, B, and C and have set out the information about them in Table 4. For our purpose the most important fact which the documentary evidence reveals is that Simon, son of William, who was the founder of Bullington Priory, was the sub-tenant of Manor A. We know the site of the priory – according to Mr Bruntlett one piece of its walling was still standing until some years ago – and we know from Simon’s foundation charter that it was situated in part of his park, and that he also gave the nuns part of his wood and lands on the north and east sides of the Priory (Transcripts, 91; also the Confirmation Charter of Henry II, which must be dated 1155, Danelaw Docs, no 1). This all makes perfect sense if we assume that Manor A was at Bullington fortified enclosure.

We are therefore driven to the conclusion that Manor A is to be equated with the modern Bullington, and that Manors B and C should between them constitute Goltho, within whose bounds are both Goltho manor site and Goltho Hall. What is more, since in the period immediately before 1066 Manors B and C were held by the same man, Lambeard, we must conclude that it was he who was the holder of the excavated Goltho manor site, whether this site is to be equated with Manor B or Manor C. This is an

1

2
Table 4 The manors of Bullington

<table>
<thead>
<tr>
<th>Manor A</th>
<th>Manor B</th>
<th>Manor C</th>
</tr>
</thead>
<tbody>
<tr>
<td>1066 (TRE)</td>
<td>Aluric</td>
<td>Lambe 'carl</td>
</tr>
<tr>
<td>1086</td>
<td>Bishop of Durham</td>
<td>Earl Hugh of Chester</td>
</tr>
<tr>
<td>Sub-tenant, Nigel, his man</td>
<td>Sub-tenant, Colsuan, the earl's man</td>
<td>Sub-tenant, Odo, Ivo's man</td>
</tr>
<tr>
<td>1115-</td>
<td>Bishop of Durham</td>
<td>Earl Richard of Chester</td>
</tr>
<tr>
<td>1118</td>
<td>1 carucate L 16/1</td>
<td>6 bovates L 16/2</td>
</tr>
<tr>
<td>Sub-tenant, William, son of Anschetel</td>
<td>Sub-tenant, Robert, son of Humphrey</td>
<td>No sub-tenant named</td>
</tr>
<tr>
<td>1129</td>
<td>Simon, son of William, founds a Gilbertine priory in his park at Bullington, amongst its endowments being the church of Bullington. His grandson, Simon III de Kyme, still has his hall at Bullington in 1206.</td>
<td>Ranulf Mischin, Earl of Chester, 1120-1129 (Earl Richard having been drowned in the White Ship, 25 Nov 1120)</td>
</tr>
<tr>
<td>1129-53</td>
<td>Ranulf de Gernons, Earl of Chester</td>
<td>1129-35 The Countess Lucy in her widowhood</td>
</tr>
<tr>
<td>1153-62 in the king's hands, the earldom's Lincolnshire lands being administered (1158-61) by Simon, son of William</td>
<td>1142-51 William de Roumare, Earl of Lincoln, acquires the land of Odo's son, Walter de Bennworth, in Bullington</td>
<td></td>
</tr>
<tr>
<td>1174-8</td>
<td>Earl Hugh of Chester deprived</td>
<td>1161-6 Roumare lands in the king's hands, after the death of William and until his grandson (William III) comes of age.</td>
</tr>
<tr>
<td>1181</td>
<td>Earl Hugh of Chester dsp</td>
<td>1198 William III de Roumare dsp</td>
</tr>
</tbody>
</table>

Important conclusion because Lambe 'carl was not a man of any great significance; he seems to have been a thegn of good, but not exceptional, standing. He held a total of 7 carucates and 2½ bovates of land in Lincolnshire - 4 carucates in Lissington, 1½ carucates in Farforth, 6 bovates in Hemingby, and the rest (8½ bovates) in Bullington (DB, 1, 339v, 349v, 351; Foster and Longley 1924, Lines Domesday 2/11, 13/22, 26, 31, 14/57. 'Lambe ' is a typical Domesday abbreviation for Lambe 'carl). Such a holding was not insignificant - it would probably have represented something like 800-900 acres of assessed arable land - but it suggests that the owner was not so much an aristocrat as a well-to-do farmer. But that was in 1065. We do not know who the previous owners were. It is quite possible that in the tenth century the site had been owned and developed by a richer man or aristocrat, and had subsequently 'gone down' as it was sold or let to lesser men.

The post-Conquest holders of Manors B and C were much more important people, Earl Hugh of Chester in Manor B and Ivo de Taillebois in Manor C. Ivo, however, must have held Manor C not in his own right but in that of his wife Lucy, because in the Lindsey Survey (c 1115-18) we find it in the hands of her third husband, Ranulf Mischin, who in 1120 succeeded his cousin as Earl (comes) of Chester, thus making his wife Lucy a countess (comitissa) (Complete Peerage, 7, Appendix J, 743-6). At first sight it might look as if this succession must inevitably have led to the reunion of the two manors but, according to the accepted laws of feudal inheritance, the union would only have been temporary, and would have ceased on the death of Ranulf Mischin. The general principle was that a man's land passed to his eldest son, but if he had no sons it would be divided among his daughters who in due course would pass the inheritance on to their children (Pollock and Maitland 1966, 2, 407-20). Thus an heiress who married several times would bring to each successive husband a life interest in her lands while she was alive, but when she died her lands would be inherited entirely by her eldest son. Lucy's eldest son was William de Roumare, the child of her second marriage, and therefore it was he who should have succeeded to Manor C, while Manor B, which belonged to Ranulf Mischin in his own right, would have passed on his death (c 1129) with the earldom of Chester to his eldest son, Ranulf de
Gernons. This, at any rate, would have been the theory of the matter, though there would always have been a chance that King Henry I, who certainly did intervene in this particular case, might have disposed of the matter differently. We know that after Ranulf Mischin's succession to the earldom, William de Roumare revolted against the king and was not pacified until he had recovered most of his inheritance (OV 6, 332-4, 380). We know that after Ranulf Ranulf Mischin's death the Countess Lucy made some agreement with the king about her dowry, for which Ranulf de Gernons paid 500 marks or more (PR 31 Henry I, 110). The debt could originally have been bigger than 500 marks if part of it had been paid in the previous year or years. There are also grounds for thinking that she secured one-third of her inheritance in Lincolnshire as if she were a widow, and that she subsequently passed this on to Ranulf de Gernons (the son of her last marriage) while William de Roumare, as her eldest son, received two-thirds (Complete Peerage, 7, Appendix J, 745-6, based on PR 11 Henry II, i.e. 1169, 37-8).

In which third of the inheritance would Manor B have been? The evidence suggests strongly that it passed to William de Roumare and was in his hands at some point between 1142 and 1151. In a charter of that date, William de Roumare gave Walter de Bennworth land in Little Steeping and Halton Hulgate in return for Walter's land in Bullington.1 Walter de Bennworth was the son and heir of Odo de Bennworth, and in 1130 (as Walter son of Odo) was still paying the king for having obtained justice (recto) from the Countess (Lucy) of Chester concerning his inheritance—a statement which shows that he and his father had been her tenants.2 There can be little doubt that this land in Bullington was Manor C which in 1086 had been held by Odo under Ivo de Taillebois, Lucy's first husband; and the most obvious interpretation of William de Roumare's charter is that he was giving Walter alternative lands in order that he himself could take Manor C into his demesne.

After that, there is no further information until the middle of the next century, by which time the whole of Goltho seems to have been held by the family of Kyme. How they acquired the manor we cannot say, though there would have been one opportunity in 1161 (or just before) when William de Roumare died and was succeeded (his son having predeceased him) by his grandson who was a minor and ward of the king until 1166. Another opportunity would have come in 1198 when this grandson died without issue (Complete Peerage, 7, 669). None of this, however, gives any clue as to whether this Manor C would have been sited at the Goltho manor site or by Goltho Hall.

There is even less information about Manor B, since the lands of the Earlom of Chester in Lincolnshire are particularly ill-documented; even the Earl's return for the 1166 inquest on knight-service being missing. There might be a clue in the name of Colusan,3 the Domesday sub-tenant, because he was an important man and a relative of the Countess Lucy, while his land descended through his daughter to the family of de la Haie which also held the constabulary of Lincoln Castle.4 But unfortunately he does not seem to have held this manor for long, because by the time of the Lindsey Survey he had been replaced by Robert, son of Humphrey, of whom nothing is known. On the other hand, the history of the Earls of Chester suggests various occasions when they could have lost a manor such as this. One possibility would have been in the civil war of Stephen's reign, particularly during the period 1145-53; Simon, son of William, was a prominent vassal of the earl, but his son, Philip de Kyme, was the steward of one of his great rivals, Gilbert de Gant, whom King Stephen had created Earl of Lincoln in opposition to William de Roumare. A second and even more tempting possibility would have been in the period after the death of Earl Ranulf de Gernons (16 Dec 1153) and before his son and heir came of age (1162). During those nine years his lands would have been in royal custody, and we know that from 1158 to 1161 one of the two men 'farming' them for the king was Simon, son of William. Being both a leading vassal of the earl and a keen servant of the king, he would have been in a position to reward himself for his faithful service to either of them, or both.5 Further opportunities could also have occurred during the years 1174-8 when Earl Hugh was deprived of his lands because of his participation in the revolt of 1173, or in the years immediately after his death in 1181, when his son was a minor (Farrer 1923-5, 2, 7-9).

Taken together, these facts suggest that the most likely hypothesis would be that Manors B and C were taken over by Simon, son of William (d 1162), or his son, Philip de Kyme, during the period 1158-66, while Simon was administering the lands of the Earlom of Chester and the lands of William de Roumare were also in royal custody.6 This would fit in well with the archaeological evidence from the Goltho manor site which suggests that that manorial hall was abandoned somewhere about the middle of the century, because as soon as Manors B and C had been united, one of their manorial halls would have become redundant.

It is disappointing that we cannot say which of the two manors had its hall on the excavated site, but nonetheless one fact of significance emerges from the manorial history. Before the Norman Conquest the two manors had been one, held by the thegn Lambe (earl). He, as already stated, must have been a thegn of good but not exceptional standing, and the Goltho manor site, because of its proven age, must have been his manorial centre. After the Norman Conquest his manor was divided into two but when, after about 100 years, it was reunited, the Anglo-Saxon manorial centre (Goltho manor site), closely confined as it was by the village, no longer proved attractive to its new lord. He preferred a site (presumably by Goltho Hall) where there was more space and opportunity for lordly activities.

It should perhaps be added that my identification of the excavated site as either Manor B or C is strongly opposed by Dr C J Wales who, as mentioned by Beresford (1982, 13-36, 171-41, considered it to be Manor A. The principal advantage of his identification was that it explained the large scale of the Anglo-Saxon buildings involved, by reference to the exceptional wealth of the pre-Conquest holder, Alric, whose father seems to have held as many as 42
manors in central Lincolnshire.

Eventually only archaeology can reveal how exceptional or unexceptional were the pre-Conquest manorial buildings, but in the meantime it may be useful to point out those parts of my argument which, since at present they rest on probability rather than proof, could most easily be overturned by the discovery of new evidence.

The historical argument I have advanced depends on the undoubted fact that the founder of Bullington Priory (shortly before 1155) was Simon, son of William, who is known to have been the sub-tenant of Manor A. I have therefore concluded that Bullington Priory lay within the territory of that manor. It could be argued, however, that though Simon, son of William, is known to have held Manor A before 1155, he might conceivably have held one of the other manors also, in which case Bullington Priory need not have been situated in Manor A.

An apparent attraction of this argument is the fact that by some date in the thirteenth century (probably by c. 1209-35) the descendants of Simon, son of William, who took the family name of Kyme, had almost certainly gained possession of all three manors. Could they possibly have acquired B or C before 1154? It is certain that neither was in the hands of the family at the time of the Lindsey Survey (1115-18), and I have shown that it is likely that William de Roumare held one of the two (probably Manor B) at some date before 1142-51. I have shown also that it is a natural supposition (but no more) that the Earl of Chester held Manor C until his death in December 1153. But since there is no proof of the ownership of either manor in Stephen's reign, it is always possible that Simon, son of William, could have acquired one manor or the other during the civil war of Stephen's reign. He was a prominent vassal of the Earl of Chester, and the Earl could conceivably (though there is no evidence for it) have given him the tenancy of Manor C. I consider this very improbable, partly because there are more obvious opportunities for the transfer at later dates, but mainly because it is unlikely that Simon would have failed to mention his overlord in the Priory's foundation charter, if he had received the land from him so recently. Nonetheless, there is always the possibility that new evidence may be found.

My argument also depends on the belief that Bullington fortified enclosure was a manorial site which was in occupation in the eleventh and twelfth centuries. This belief can be proved or disproved only by excavation. If excavation should confirm the belief, it would be very difficult to deny the suggestion that the site, being so close to Bullington Priory, must be Manor A. But if excavation were to show that the fortified enclosure was not even occupied in the eleventh or twelfth centuries, it would be necessary to rethink the whole manorial geography of Bullington-cum-Coltho.

Notes

1. BF 1920-31, ii 1062 (1242-3) where the service to the Bishop of Lincoln is variously described as one quarter or one fifth of a knight. In 1212 (BF i.151) the service was said not to be known. In 1161 Simon son of William was responsible to the Bishop for one knight (the 4 marks owed being excused by the King) (PR 7 Henry II, 17), but the lands held by Simon from the bishop were not confined to Bullington but were also in Wragby and Langton. His service to the Bishop of Durham was of one knight in 1242-3 (BF ii.1062). There is also reference to the hall (aula) of Simon de Kyme at Bullington in 1206 (ELAR 1926 no 1451) but there is no indication to which of his fiets this belonged.

2. I owe this correction to Mr Guy Beresford who has inspected the records of the Medieval Village Research Group.

3. Danelaw Docs, no 500. The date cannot be earlier than 1142 because William is styled Earl of Lincoln, nor later than 1151 when his son William died, for his son confirmed the transaction in Danelaw Docs, no 501. For the identification of Walter as son and heir of Odo de Bennworth, see Sington 161, 48-50 and 261-3.

4. PR 31 Henry I, 114. In 1166 Roger de Bennworth and William de Roumare owed the service of 3 knights in Lincolnshire (Red Bk, i.377). It is also clear that William de Roumare was his lord at Donnington (Holland) where he gave a mill to Bullington Priory (Transcripts, p 95, no 13).

5. For Colsuan and his relationship to the Countess Lucy, see Hil 1961, 95 and also Danelaw Docs, no 507, 508, 910, in which a nephew of hers claims Colsuan and Ivo as his uncles. The Ivo in question must be lvo de Taillebois, who held lands in Miningsby and East Kirkby in 1086 (DB, i, 351, 351v, Foster and Longley 1924, Lincs Domesday 14/67, 14/82).

6. Robert de la Haie cannot be equated with Robert son of Humphrey, because we know that his father was Ranulf and his grandson Richard (Round 1894, no 923). Robert de la Haie married Colsuan's daughter, Munia (Hill 1961, 88, 95). It might be thought that the Lindsey Survey's Robertus filii Hufridi was an error for Robertus de Haia, but this is hardly likely. The twelfth-century MS of the Lindsey Survey (BL Cotton MS C c. f. 21), though itself presumably a copy, is quite clear, and since the name of Robert de Haia occurs several times in other parts of the Survey, it is difficult to imagine that the scribe could have misread it on this one occasion.

7. Farrer 1923-5, 2, 118-19. Simon was farming the Earl's lands from Easter 1158 to Michaelmas 1161, being joined in 1160 by Roger of Mold (Mohaut), the Earl's steward (PR 4 Henry II, 186, 5 Henry II, 63, 6 Henry II, 7, and 7 Henry II, 35).

8. Subsequent reference to the lords of Kyme in Goltina are in Rotuli Hundredorum, i, 365 (1275), 1,372 (1276). Placita de Quo Warranto, 397, records the Kyme manor in Bullington in 1281. Calendarium Inquisitionum ad quod damnum, 222, records Philip de Kyme's manor at Goltino in 1307-8.
The finds

It should be noted that much of the work on these specialist reports was carried out several years ago, and interpretations given here may in some cases have been modified by later research.

Roman pottery

Glyn Coppock

The Roman pottery from the site which was not derived from residual contexts could be associated with three huts which ranged in date from the first century AD to the latter part of the second. It came principally from construction deposits, the packing of slots and postholes, with the exception of the latest group presented below, which is made up mainly of occupation deposits associated with hut C. In the following report fabric descriptions have been simplified, but all significant aspects of fabric and form are listed.

Group GR 1
(Fig 129, nos 1–8)

This group was derived from the packing of the hut A construction trench and the associated partition slot within it, and comprised a total of 15 vessels made up of 5 cooking-pots in shell-filled wares, 7 cooking-pots in grey wares, and 3 flagons in a soft cream fabric. All these vessels can be dated to within the latter half of the first century AD, and most probably to the final quarter.

1. 2 Cooking-pots in a handmade, grey to grey-brown shell-filled fabric, from which the tempering has leached out totally.
2. 3 Pierced lug from a cooking-pot in a grey-brown shell-filled fabric.
3. 4 Cooking-pots in fine grey sand-tempered fabric. 5 has partial oxidisation of its surfaces and is burnished all over the outer surface.
4. 6 Cooking-pot rim in a fine grey ware with partially oxidised surfaces.
5. 7 Flagon in a soft, slightly sandy, pinkish cream fabric with sporadic inclusions of crushed tile grogging.
6. 8 Neck of a flagon in a soft white fabric, grogged with crushed tile. Five further non-lifting body sherds from this vessel occurred in this group.

Group GR 2
(Figs 129, 130, nos 9–33)

This deposit was recovered from the construction deposits of hut B and was made up of a total of 32 vessels. These comprised 19 grey ware cooking-pots, 9 bowls in grey ware, a hunt-cup and a mortarium of Nene valley manufacture, a flagon, and a fragment of a central Gaulish samian platter (Drag 18 or 18/31) with a lead rivet. The hunt-cup would suggest a terminal date for this deposit towards the middle years of the second century AD, a date confirmed by the small scrap of samian ware, which incidentally was the only piece of samian ware from the area excavated from a stratified context.

9–19 Cooking-pot rims in grey ware, all sand-tempered. 10 had burnished decoration on the outer surface of the rim.
10. 20 Cooking-pot base in a sand-tempered grey ware.
21. 21 Cooking-pot base in a handmade dark grey sandy ware.
22. 22 Applied lug handle from a cooking-pot in a sand-tempered orange ware.
23–29 Bowl rim in sand-tempered grey ware. 23, 25, and 29 have burnished wavy line or lattice decoration on the outer surface of the vessel.
30. 30 Cooking-pot rim in fine grey ware.
31. 31 Lower body of a cooking-pot in fine grey ware with burnished lattice decoration on the outer surface of the vessel.
32. 32 Bowl rim in fine grey ware.
33. 33 Hunt-cup of Nene Valley manufacture, with a buff body and full orange slip on inner and outer surfaces. The surviving decoration is shown expanded.

Group GR 3
(Fig 130, nos 34–51)

The pottery forming this group came from the occupation of hut C and was made up of a total of 21 vessels, consisting of 11 cooking-pots and 6 bowls in grey wares and 3 cooking-pots and a jar in fine grey ware. Stratigraphically hut C was later than hut B, and the pottery from it belonged to the later years of the second century. A spread of later sherds and building materials, which included several fragments of tegulae, indicated that there was later settlement nearby but that the Romano-British settlement below the site of the Saxon manor ceased by 1 AD 200.

34–42 Cooking-pot rims in sand-tempered grey wares.
34–42 Bowl rims in sand-tempered grey wares.
35–42 Cooking-pot rims in fine grey ware.
36. 48, 49 Body sherd from a cooking-pot in fine grey ware with knife-cut decoration.
49. 50 Base of a small jar in fine grey ware.
Fig. 129 Roman pottery (1:4)
Fig 130  Roman pottery (1:4)
Saxon and early medieval pottery

Glyn Coppock

Excavation of the manor site produced an extensive series of well-stratified groups ranging from perhaps the beginning of the ninth century to the middle years of the twelfth century, apparently representing an unbroken sequence of occupation throughout that period. The importance of the pottery is twofold. First, it represents the pottery used in a single household, and demonstrates not only the availability of pottery throughout the occupation of the site but also the relative incidence of form to fabric which gives some indication of vessel usage. Second, the pottery from Goltho represents an unbroken sequence of pottery development from the closing years of the middle Saxon period until well after the Norman Conquest, helping to establish an accurate chronology for wares of this period in eastern England generally.

The pottery was predominantly stratified and related to individual buildings within the manor complex, and for study has been broken down into six distinct periods (Table 5) each of which represents a substantial reconstruction of the manor itself.

The dates given in Table 5 are only approximate and are given for guidance. Three of the phases have independent coin dating, but generally speaking the sequence of pottery groups presented here is a relative one with particular fixed points. Close comparison with late Saxon groups from Lincoln, especially from Flaxengate' and Saltergate (Coppock 1980, 45–112), has enabled the suggested date-sequence to be checked against similar relative sequences where there was further coin-dating evidence, suggesting that the dating given here is reasonably accurate.

The pottery was studied by group, and groups were sorted by fabric into the minimum number of vessels represented. Where possible, residual sherds were returned to the earliest context that contained a particular vessel. It should be noted that, while this was a simple operation with easily recognised fabrics, it was virtually impossible to identify residual material among the great bulk of the shell-filled fabrics unless the sherd had a recognisable feature such as distinctive rouletting or an unusual rim form.

In consequence, the counting of minimum vessel numbers in the later stages of the site's development took no account of featureless body and base sherds, a substantial proportion of which probably were residual. With that proviso, a full analysis of fabric and vessel-type distribution within the development of the site was made and is presented below. The study of the pottery was facilitated by the small number of distinct fabrics represented on the site, six in all. They are defined below, with a short discussion of their major features. Each fabric type is essentially a grouping of related fabrics. Less common fabrics are described where they occur in the text.

A Shell-tempered ware

A soft, fairly smooth fabric which can either be oxidised or reduced, tempered with finely-crushed oyster and mussel shell, occasionally with a little fine quartz as well. The degree of shell-tempering varies, as do the fineness of the inclusions and the hardness of the ware. Examination of a sequence of stratified examples suggests that the earliest pieces have the finest shell inclusions and often have a greasy or 'soapy' feel, not unlike the fine St Neots ware. Vessels tend to be handmade by coiling, but all vessels in this ware are at least finished on a turntable, and coiling is not simply a sign of early date. In general, the later the vessel, the coarser and sparser the inclusions, and the harder the fabric, perhaps resulting from improved methods of firing. Earlier pieces are more likely to be reduced, whilst oxidation is the general rule with later examples. The earliest recorded sherds are in fact oxidised. Colour varies greatly, from black through grey to brown and even pale orange. The core is always reduced. Glaze has only been noted on this ware in exceptional circumstances, and at Flaxengate 1972–76 only there

<p>| Table 5 |</p>
<table>
<thead>
<tr>
<th>Period</th>
<th>Structures</th>
<th>Date</th>
<th>Coins</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Aisled hall</td>
<td>c 1150</td>
<td>3 Stephen pennies</td>
</tr>
<tr>
<td>6</td>
<td>Motte and bailey: hall 2</td>
<td>c 1125–50</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Motte and bailey: hall 1</td>
<td>c 1080–1125</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Eleventh-century ringwork</td>
<td>c 1000–1080</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Tenth-century fortified enclosure: phase 2</td>
<td>c 975–1000</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Fortified enclosure: phase 1</td>
<td>c 950–975</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Long hall of two phases</td>
<td>c 850–950</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Middle Saxon houses: phase 2</td>
<td>c 800–850</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Middle Saxon houses: phase 1</td>
<td>c 800–850</td>
<td></td>
</tr>
</tbody>
</table>

Cnut penny

Edgar penny
occurs a handful of sherds with what is apparently intentional splashed-glazing. Decoration is normally by rouletting, the style and quality of which varies noticeably by date (Coppock 1980, 140). Applied thumb-impressed strips are rare, occurring principally on storage jars, as also is incised decoration. The Silver Street kiln was producing a limited range of vessels in shell-tempered ware in the early tenth century, but judging by the volume of this ware recovered both in Lincoln and on surrounding rural sites, many more kilns remain to be found. The standard forms are cooking-pots, bowls, storage jars, lamps, and skillets, but more exotic forms, including a cucurbit, are occasionally recorded (Coppock 1980, 49, fig 11).

**B  Harsh shell-tempered ware**

A fairly hard, slightly sandy-textured, shell-filled fabric of the same general class as shell-tempered ware. The principal difference lies in the nature of the shell inclusions, which tend to be more finely crushed and sorted, and are normally denser, with the general appearance of the Normanby-le-Wold shell-tempered wares. There is invariably a small quantity of finely-crushed quartz present, which might occur naturally in the clay. Surface colour varies from grey through buff to reddish-orange, and the core is normally dark grey. No vessels show any evidence of glazing, and decoration is limited to finger-tipping; there is a distinct variant of this fabric which occurs in an oxidised state, although it is identical to the main fabric in all other respects. In colour it is generally a creamy-orange, but in order that no confusion of nomenclature should arise, it will be referred to as 'oxidised grey sandy ware'. This variant clearly belongs to the later part of the ware's currency. The forms occurring in grey sandy ware are of standard 'Thetford' type, with cooking-pots, bowls, skillets, storage jars, potters, pitchers, and lamps being recorded.

**D  Torksey ware**

This is a reduced grey ware of Thetford-type and closely comparable with grey sandy ware. The fabric tends to have dark grey or black surfaces and core, but is immediately recognisable by a reddish-brown margin which can be seen on the broken edge of the majority of sherds in this ware. Vessels tend to be thick-walled, and seem to be almost entirely wheel-thrown. The fabric is hard, and tempered with colourless quartz. Kilns producing this ware have been excavated at Torksey (Barley 1964, 1968), although the date range of Torksey ware products recovered at Goltho is considerably wider than that of the known kilns, suggesting that the early production site still awaits discovery. The forms which occur commonly in Torksey ware are cooking-pots, bowls, skillets, and storage jars, but at Goltho only cooking-pots and bowls occurred in significant quantities.

**C  Grey sandy ware**

This ware is a hard, reduced, sand-tempered ware in the Thetford ware tradition which normally appears to be wheel-thrown. It is usually black or grey in colour throughout, and is often recorded with a metallic sheen and firing cracks, caused by high kiln temperatures, which result in the ware being exceptionally hard, if a little brittle. Distortion is not uncommon. Grey sandy ware has an apparent similarity to Torksey ware, which is generally coarser and thicker-walled, but two characteristics of Torksey ware do not occur with this fabric.

The brown margin, so typical of Torksey, does not occur in grey sandy ware at all, which should indicate a quite different firing technique, and the colours of the quartz inclusions are pale grey, white, and brown, unlike the almost colourless tempering in Torksey ware, which suggests a distinct source. No kilns are recorded in Lincoln producing this ware, though O'Neill recovered apparent wasters in grey sandy ware from the site of the Old City School (Coppock 1971, 17, fig 1) and some extremely distorted sherds were recovered from Flaxengate 1945-48 (Coppock 1973, 88-9), suggesting that there might be kilns in this general area. Decoration is normally in the form of rouletted bands, principally on the shoulders of cooking-pots and occasionally on bowls, and some vessels have incised or burnished wavy line decoration. Plastic decoration occurs only on the larger vessels such as storage jars. Rims are often relieved with finger-tipping. There is a distinct variant of this fabric which occurs in an oxidised state, although it is identical to the main fabric in all other respects. In colour it is generally a creamy-orange, but in order that no confusion of nomenclature should arise, it will be referred to as 'oxidised grey sandy ware'. This variant clearly belongs to the later part of the ware's currency. The forms occurring in grey sandy ware are of standard 'Thetford' type, with cooking-pots, bowls, skillets, storage jars, potters, pitchers, and lamps being recorded.

**E  Stamford ware**

This fabric is typically a hard, sand-free, white ware, but has several variations all of which have been defined by Kilmurry (1977, 52-5) and need not be specified here. Because of the fabric variations and the apparent chronological significance of the different types, Stamford ware vessels are more fully described in the text.
Table 6

<table>
<thead>
<tr>
<th>Group</th>
<th>Period</th>
<th>Type*</th>
<th>Illustrations</th>
<th>Site context nos</th>
</tr>
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<tbody>
<tr>
<td>GM 1</td>
<td>2:1</td>
<td>C</td>
<td>1-15</td>
<td>980, 987, 988, 992, 995, 1074</td>
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<tr>
<td>GM 2</td>
<td>2:2</td>
<td>O</td>
<td>16-48</td>
<td>955</td>
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<td>GM 3</td>
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<td>960, 962, 1014</td>
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<tr>
<td>GM 5</td>
<td>3</td>
<td>C</td>
<td>61-66</td>
<td>952, 953</td>
</tr>
<tr>
<td>GM 6</td>
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<td>O</td>
<td>67-90</td>
<td>964, 1005, 1009, 1015, 1063</td>
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<tr>
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<td>O</td>
<td>91-113</td>
<td>959, 1018, 1052</td>
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<tr>
<td>GM 8</td>
<td>4:1</td>
<td>C</td>
<td>114-123</td>
<td>957, 1003, 1006, 1012, 1016, 1020</td>
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<td>4:1</td>
<td>O</td>
<td>124-129</td>
<td>1013</td>
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<tr>
<td>GM 10</td>
<td>4:2</td>
<td>C</td>
<td>130-136</td>
<td>997, 998, 1001, 1007, 1035</td>
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<tr>
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<td>C</td>
<td>137-140</td>
<td>926, 927</td>
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<tr>
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<td>O</td>
<td>141-164</td>
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<tr>
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<td>O</td>
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<td>O</td>
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<td>918, 944</td>
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<td>O</td>
<td>334-351</td>
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<td>O</td>
<td>481-543</td>
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<td>C</td>
<td>544-546</td>
<td>1036</td>
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<tr>
<td>GM 24</td>
<td>6:1</td>
<td>O</td>
<td>547-550</td>
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<tr>
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<td>O</td>
<td>555-636</td>
<td>841, 844, 845, 848, 849, 851, 852, 853, 892</td>
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<td>GM 27</td>
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<td>O</td>
<td>637-666</td>
<td>800, 814, 831, 803, 804, 809, 806, 828, 832, 834</td>
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</tbody>
</table>

* C Construction deposit;  O Occupation deposit
F  Splash-glazed ware

This is a hard, wheel-thrown, finely sand-tempered, pale orange to orange-buff ware, often with a grey core, and in some cases internally reduced surfaces. The type-name of this ware demonstrates its most obvious aspect, the glazing of vessels by the application of powdered galena to the wet surface of the pot. Firing produces a small ring of glaze around a central ‘crater’ in the surface of the vessel, giving the impression that the glaze was actually splashed on (Coppack 1986, 169). The glaze patches, being of impure galena, tend to be a yellowish-green in colour, with a more positive green in later vessels. No kilns producing this fabric have been noted in Lincoln or its surrounding area, but when considered with its linear successor orange sandy ware it would seem that this ware is of Lincoln production and not from Nottingham in this instance, as once supposed. Jugs, cooking-pots, bowls, and lamps are recorded in this ware (Coppack 1973, 88, 93).

The pottery from the manor site is presented in a chronological series of discrete groups. Table 6 correlates the group number with the phase it derives from and indicates whether it is from a construction or occupation deposit; it also gives figure numbers, and site context numbers which relate the pottery presented here to the unpublished site archive. All vessels are drawn at ¼ scale.

Group GM1
(Fig 131)

The primary packing of 6 of the 14 post-pits that made up the line of the second phase of property boundary within the pre-manorial settlement produced a group of 21 vessels consisting of 10 cooking-pots and 2 bowls in shell-tempered ware, a single cooking-pot and bowl in harsh shell-tempered ware, a cooking-pot and bowl in grey sandy ware, a cooking-pot and bowl in Torksey ware, 2 jars in Maxey-type ware, and a cooking-pot in an unidentified fabric.

Vessels 1, 3, 8, 11 were found together, as were 2, 5, 10, and 7, 12, 14, 15. No vessels from different post-pits fitted but there is no reason to suppose that the whole group does not constitute a contemporary deposit.

1-4  Cooking-pot rims in shell-tempered ware.
5, 6  Shoulder sherds from cooking-pots in shell-tempered ware, showing diamond and square-notch rouletting.
7    Bowl rim in shell-tempered ware.
8    Cooking-pot rim in harsh shell-tempered ware.
9    Bowl rim in harsh shell-tempered ware.
10   Cooking-pot rim in grey sandy ware, apparently of coiled construction.
11   Bowl rim in grey sandy ware.
12   Cooking-pot rim and base in Torksey ware.
13   Bowl rim in Torksey ware.
14   Jar or cooking-pot rim in brown-buff, finely shell-filled Maxey-type ware.
15   Cooking-pot in a hard, pale grey fabric with a dark grey core, densely tempered with finely crushed fossil shell.

Group GM2
(Figs 132–133)

This group was derived from an area of occupation within and around house 2 which immediately preceded the construction of the first manorial phase. In all, 68 vessels were represented, comprising 34 cooking-pots and 15 bowls in shell-tempered ware, 6 cooking-pots and 4 bowls in harsh shell-tempered ware, 3 cooking-pots and 2 bowls in grey sandy ware, a single bowl in Torksey ware, and a cooking-pot and two pitchers in Stamford ware. Stratigraphically, this deposit is later than Group GM 1, and is sealed by deposits associated with Group GM 3.

16–17  Bowl rims of Maxey type with pierced triangular lugs in shell-tempered ware.
18–25  Cooking-pot rims in shell-tempered ware. 18 has diamond-notch and 19 has square-notch rouletting.
26–34  Bowl rims in shell-tempered ware, 29, 30 and 34 have square-notch rouletting, 32 and 33 have diamond-notch rouletting, and 31 retains its tubular pouring spout.
35–38  Cooking-pot rims in harsh shell-tempered ware. All except 38 have finger-tip impressed decoration on the outer edge of the rim.
39–42  Bowl rims in harsh shell-tempered ware.
43–45  Cooking-pots in grey sandy ware.
46    Bowl rim in grey sandy ware.
47    Bowl rim in Torksey ware.
48    Cooking-pot rim in Stamford ware.

Group GM3
(Fig 133)

Derived from the construction deposits of the long hall, particularly its clay floor, associated post-pits, and the cobbled path outside the hall doorway, this group was made up of a maximum of 15 vessels, all cooking-pots of shell-tempered ware.

49–54  Cooking-pot rims in shell-tempered ware. 49 has regular square-notch rouletting.

Group GM4
(Fig 133)

This group was found in association with the construction of the early kitchen associated with the long hall, and is thus broadly contemporary with the
Fig 131  Saxon and early medieval pottery (1:4)
Fig 132  Saxon and early medieval pottery (1:4)
Fig 133 Saxon and early medieval pottery (1:4)
preceding group. It was made up of 7 vessels of which 6 were drawn: 4 cooking-pots in shell-tempered ware, a bowl in shell-tempered ware, a bowl in harsh shell-tempered ware, and 2 cooking-pots in grey sandy ware.

Group GM5
(Fig 133)

This deposit was excavated from the construction deposits of the weaving shed and associated with its original construction. The group was derived from deposits on its floor surface and the associated garderobe pit, and it represents the latest occupation of this hall. The group was made up of 3 cooking-pots and 3 bowls in harsh shell-tempered ware, 2 cooking-pots in grey sandy ware, 2 pitcher in Stamford ware, and an ewer of eastern Mediterranean origin. Much of this vessel was recovered from later deposits in the area of the weaving shed where it occurred residually. This deposit is again approximately contemporary with Group GM3.

61 Cooking-pot rim in shell-tempered ware.
62 Inturned bowl rim fragment, diameter unknown, in shell-tempered ware.
63-64 Bowl rim in harsh shell-tempered ware.
65 Cooking-pot base in grey sandy ware.
66 Upper part of a jug or ewer; a base angle sherd demonstrates a sagging base. Further Islamic material has been recorded in Lincoln (Adams 1979).

Group GM6
(Fig 133)

This group is derived from the occupation of the long hall, predominantly from deposits on its floor surface and the associated garderobe pit, and it represents the latest occupation of this hall. The group consisted of sherds from 8 cooking-pots and 3 bowls in shell-tempered ware, 10 cooking-pots and bowls in harsh shell-tempered ware, 2 cooking-pots and a bowl in grey sandy ware, 2 cooking-pots in Torksey ware, a jar in Maxey-type ware, and a pitcher in Stamford ware.

67-74 Cooking-pot rims in shell-tempered ware. 71 has the unusual feature of finger-tip impressed decoration on the outer margin of the rim.
75 Shoulder sherd from a cooking-pot with square-notch rouletting in shell-tempered ware.
76-78 Bowl rims in shell-tempered ware.
79, 80 Cooking-pot rims in harsh shell-tempered ware.

Group GM7
(Fig 134)

The occupation of the weaving shed and adjacent garderobe produced a group of at least 25 vessels, with sherds from both deposits fitting and thus demonstrating their contemporaneity. As with the deposit from the long hall floors, this deposit of pottery probably dates from the latest occupation of the building. However the likelihood is that, since the weaving shed survived the demolition of the long hall, this group is slightly later in date than Group GM6. The group comprised sherds representing 8 cooking-pots and 3 bowls in shell-tempered ware, 7 cooking-pots and 3 bowls in harsh shell-tempered ware, 2 cooking-pots and a storage jar in grey sandy ware, and a cooking-pot in Torksey ware.

81-87 Bowl rims in harsh shell-tempered ware. Both 86 and 87 were too fragmentary to allow measurement of the rim diameter.
88 Jar rim in a reddish brown, shell-filled Maxey-type ware. The jar is slightly later in date than Group GM6. The group comprised sherds representing 8 cooking-pots and 3 bowls in shell-tempered ware, 7 cooking-pots and 3 bowls in harsh shell-tempered ware, 2 cooking-pots and a storage jar in grey sandy ware, and a cooking-pot in Torksey ware.

91-97 Shoulder sherds from cooking-pots in shell-tempered ware with fine square-notch rouletting.
100-102 Bowl rims in shell-tempered ware. 100 has square-notch rouletting on the upper surface of the rim, while 101 has diamond-notch rouletting.
103 Fragment from the foot of a pedestal lamp in shell-tempered ware.
104-106 Cooking-pot rims in harsh shell-tempered ware.
107-110 Bowl rims in harsh shell-tempered ware.
111 Upper part of a cooking-pot in grey sandy ware, with square-notch rouletting on the shoulder.
112 Upper part of a large storage jar in grey sandy ware, with handles both on the rim and below and with applied banding on the body.

Associated with the occupation of the long hall and weaving shed was a quantity of domestic rubbish including pottery spread across the yard. None of this material is illustrated as it duplicates the pottery presented with the groups above. In all, there was a minimum vessel count of 52, comprising 18 cooking-pots and 14 bowls in shell-tempered ware, 10 cooking-pots and 3 bowls in harsh shell-tempered
Fig 134 Saxon and early medieval pottery (1:4)
Group GM8
(Fig 135)

The construction of the first aisled hall and its associated bowers produced a discrete group of 13 vessels from clear construction deposits, the packing of both slots and postholes. Of these, sherds represented 5 cooking-pots and 2 bowls in shell-tempered ware, a cooking-pot and a bowl in harsh shell-tempered ware, a cooking-pot in grey sandy ware, a bowl and a lamp in Torksey ware, and a flasket or bottle in Stamford ware.

114–116  Cooking-pot rims in shell-tempered ware. 114 and 115 have finely executed diamond-notch rouletting, while 116 has square-notch rouletting.
117, 118  Bowl rims in shell-tempered ware.
119  Cooking-pot rim in harsh shell-tempered ware.
120  Cooking-pot rim in grey sandy ware.
121  Bowl rim in Torksey ware.
122  Fragment of bowl from a pedestal lamp in Torksey ware.
123  7 sherds from the shoulder of a bottle or flask in Stamford ware, with an external pale yellow-green glaze over a soft, sand-free, off-white surface.

Group GM9
(Fig 135)

This group is derived from an occupation deposit on the floor of the bower associated with the first aisled hall. With the pottery was a coin, a penny of Eadgar, establishing a terminal date of c. 973, unless it was an abnormal survival (p. 188). With such a good association, this group, which in all probability belongs to the later years of occupation of this phase, was made of sherds representing a maximum of 11 vessels, and was thus disappointingly small. Present were 6 cooking-pots, a bowl, a lamp in shell-tempered ware, a bowl in harsh shell-tempered ware, and two cooking-pots, in Stamford ware.

124, 125  Cooking-pot rims in shell-tempered ware.
126  Shoulder and neck of a cooking-pot in shell-tempered ware, with no evidence of rouletting.
127, 128  Bowl rims in shell-tempered ware.
129  Rim of a lamp bowl in shell-tempered ware.

Group GM10
(Fig 135)

The building of the second aisled hall, overlapping

with the previous group in date, produced a small group of pottery from construction deposits consisting of a maximum of 8 fragmentary vessels. Present were four cooking-pots in shell-tempered ware, and three cooking-pots and a bowl in harsh shell-tempered ware.

130–133  Cooking-pot rims in shell-tempered ware.
134  Shoulder sherd from a cooking-pot in shell-tempered ware with square-notch rouletting.
135  Cooking-pot rim in harsh shell-tempered ware.
136  Bowl rim, diameter not known, in harsh shell-tempered ware.

Group GM11
(Fig 135)

The construction of the kitchen associated with the second aisled hall produced a group of 4 vessels derived from the packing of its post-pits, consisting of a bowl in shell-tempered ware, 2 bowls in harsh shell-tempered ware, and a cooking-pot rim in Torksey ware.

137  Bowl rim in shell-tempered ware.
138, 139  Bowl rims in harsh shell-tempered ware.
140  Cooking-pots in a hard, dark grey, sandy fabric but with red-brown surfaces, which is very similar to Torksey ware, although this particular rim-form is not otherwise recorded in that fabric.

Group GM12
(Figs 135, 136)

Occupation deposits within the second aisled hall produced a good pottery group of some 27 vessels, comprising 5 cooking-pots and 2 bowls in shell-tempered ware. 11 cooking-pots and 3 bowls in harsh shell-tempered ware, 4 cooking-pots in grey sandy ware, and 2 pitchers in Stamford ware.

141–145  Cooking-pot rims in shell-tempered ware. 141, 142, and 143 have square-notch rouletting.
146, 147  Bowl rims in shell-tempered ware.
148–156  Cooking-pot rims in harsh shell-tempered ware.
157–159  Bowl rims in harsh shell-tempered ware.
160–163  Cooking-pot rims in grey sandy ware.
164, a, b  Sherds from the waist and lower body of a pitcher in Stamford ware with a patchy yellow-green glaze over a fine off-white body. Further non-fitting sherds from this vessel were recovered from this deposit and from residual contexts.
Fig 135 Saxon and early medieval pottery (1:4)
Fig 136  Saxon and early medieval pottery (1:4)
Fig 137 Saxon and early medieval pottery (1:4)
Group GM 13
(Fig 136)

This group came from an occupation deposit within the kitchen of the second ailed hall and comprised a maximum total of 16 vessels, each with sherds representing 3 cooking-pots and a bowl in shell-tempered ware, 5 cooking-pots and 5 bowls in harsh shell-tempered ware, and 2 pitchers in Stamford ware.

165-167  Cooking-pot rims in shell-tempered ware.
168  Bowl rim with square-notch rouletting in shell-tempered ware.
169-172  Cooking-pot rims in harsh shell-tempered ware.
173-176  Bowl rims in harsh shell-tempered ware. 175 and 176 are of unknown diameter.
177  Pitcher rim with slight trace of a handle scar in pale orange-to-cream Stamford ware. There is no glaze on the sherd.

Group GM 14
(Figs 136, 137)

The construction deposits associated with the building of the late Saxon hall and with the reconstruction of the bower produced a substantial group of at least 37 vessels, each made up of sherds of: 15 cooking-pots and 5 bowls in shell-tempered ware, 7 cooking-pots and a bowl in grey sandy ware, 3 bowls in Torksey ware, 4 pitchers and a lamp in Stamford ware, and a single sherd from a cooking-pot in splash-glazed ware which may have been introduced into a post-pipe during demolition.

178-193  Cooking-pot rims in shell-tempered ware. 178 has the unusual motif of finger-tip decoration on the rim, 184 has square-notch rouletting, and 193 has diamond-notch rouletting on the rim.
194-201  Bowl rims in shell-tempered ware. 194 has square-notch rouletting on the rim, and 196 retains its pouring spout.
202  Base of a pedestal lamp in shell-tempered ware.
203, 204  Cooking-pot rims in harsh shell-tempered ware.
215-222  Bowl rims in harsh shell-tempered ware. 217 has a single pierced lug remaining.
223  Cooking-pot rim in grey sandy ware.
224  Bowl rim in grey sandy ware.
225-227  Bowl rims in Torksey ware.
228  Body sherd from a pitcher in grey-buff, hard, slightly sandy Stamford ware with a thin yellow-green glaze on both surfaces.
229  Pitcher rim in cream-buff Stamford ware with pale orange outer surfaces and a thin colourless glaze on the outer surfaces. There are the scars of 2 handles on the edge of the rim.

230a, b  Large fragment of the rim and spout of a pitcher and a non-fitting handle from the same vessel, in smooth, off-white Stamford ware with a patchy bluish-green glaze on the outer surface.
231  Pitcher rim in off-white, fine Stamford ware with a thin colourless glaze on the outer surface.
232  Fragment of a pitcher in off-white, smooth Stamford ware with a crazed blue-green glaze on the outer surface. The sherd includes the thumb-impressed base of a handle.
233  Handle from a pitcher in pale orange-cream, smooth Stamford ware with a patchy clear glaze.

Group GM 15
(Figs 138-140)

An extensive group of at least 164 vessels was recovered from within the kitchen of the reorganised late Saxon hall and its associated midden. Many vessels were made up of fitting sherds indicative of a contemporary deposit. Found within the same deposit on the kitchen floor was a penny of Cnut probably deposited in the second quarter of the eleventh century, and towards the end of the use of the kitchen (p 188). The pottery is all of roughly contemporary date. The group comprised 46 cooking-pots, a lid, 23 bowls, a costrel, and a lamp in shell-tempered ware, 41 cooking-pots and 33 bowls in harsh shell-tempered ware, 9 cooking-pots and 4 bowls in grey sandy ware, and 2 cooking-pots and a bowl in Torksey ware. There were also 2 cooking pots in an unidentified grey ware.

234-259  Cooking-pot rims in shell-tempered ware. 251 has square-notch rouletting on the shoulder, whilst 254 has similar rouletting on both shoulders and the upper surface of the rim.
260  Cooking-pot lid in shell-tempered ware.
261-273  Bowl rims in shell-tempered ware. 266, 267, 272, and 273 have square-notch rouletting on the rim, whilst the fragmentary 268 has diamond-notch rouletting. 269 and 270 both retain pouring spouts.
274  Costrel in shell-tempered ware.
275  Fragment of a pedestal lamp in shell-tempered ware.
276-282  Cooking-pot rims in harsh shell-tempered ware.
283-296  Bowl rims in harsh shell-tempered ware.
297-299  Cooking-pot rims in grey sandy ware.
300  Cooking-pot base in grey sandy ware.
301  Bowl rim in grey sandy ware.
302, 303  Cooking-pot rim in Torksey ware.
304, 305  Bowl rims in Torksey ware.
306  Cooking-pot rim in pale grey, finely sand-tempered Stamford ware. Burned and discoloured.
Fig 138  Saxon and early medieval pottery (1:4)
Fig 139  Saxon and early medieval pottery (1:4)
Fig 140  Saxon and early medieval pottery (1:4)
Neck of a flask in very pale grey, slightly sandy Stamford ware with a yellow green glaze on both surfaces.

Rim of a pitcher in cream to off-white, smooth Stamford ware with a thin yellow glaze on the outer surface.

Handle from a pitcher in pale orangeto-cream, smooth Stamford ware with a clear lead glaze.

Bowl rims in smooth, off-white Stamford ware. 311 has diamond-notch rouletting beneath a pale yellow-green glaze.


A group of 29 vessels comprising 7 cooking-pots and a bowl in shell-tempered ware, 9 cooking-pots and 7 bowls in harsh shell-tempered ware, 3 cooking-pots and a bowl in grey sandy ware, and a single cooking-pot in Torksey ware was derived from the occupation within the late Saxon hall and from the associated garderobe.

Cooking-pot rims in shell-tempered ware.

Bowl rim in shell-tempered ware.

Cooking-pot rims in harsh shell-tempered ware. 322 has finger-impressed decoration on the outer rim margin.

Bowl rims in harsh shell-tempered ware.

Cooking-pot rims in grey sandy ware.

Bowl rim in grey sandy ware.

The occupation of the eastern building produced a group of 25 vessels in a context which is apparently contemporary with the previous group. This deposit comprised sherds from 3 cooking-pots and 2 bowls in shell-tempered ware, 12 cooking-pots and 5 bowls in harsh shell-tempered ware, a cooking-pot and a pitcher in Stamford ware, and a jug in Lincoln splash-glazed ware. This last vessel may well be intrusive and was represented by a single sherd.

Cooking-pots in shell-tempered ware. 336 has square-notch rouletting.

Bowl rims in shell-tempered ware. The diameter of 337 could not be calculated.

Cooking-pot rims in harsh shell-tempered ware.

Bowl rims in harsh shell-tempered ware.

Base sherd from a cooking-pot in hard, cream-buff, finely tempered Stamford ware.

Shoulder sherd from a pitcher in a hard, cream coloured Stamford ware with a patchy yellow to green glaze on the outer surface of the vessel.

A considerable quantity of rubbish was excavated on the surface of the yards around the late Saxon hall that could be associated with its earlier phase, and which must have built up during the first half of the tenth century. In all, sherds were recovered representing some 84 cooking-pots, 17 bowls, 2 lamps, and 2 storage jars in shell-tempered ware, 47 cooking-pots and 81 bowls in harsh shell-tempered ware, 18 cooking-pots, 8 bowls, and a lamp in grey sandy ware, 2 cooking-pots and 5 bowls in Torksey ware, and a cooking-pot and 9 pitchers in Stamford ware. The group comprised 277 vessels which ought to give an accurate cross-section of the pottery types current at that stage in the site's development. For present purposes, a single deposit from the central area of the site is given here as a sample, consisting of 129 vessels made up of 51 cooking-pots, 3 bowls, a storage jar, and a lamp in shell-tempered ware, 17 cooking-pots and 29 bowls in harsh shell-tempered ware, 8 cooking-pots, 7 bowls, and a lamp in grey sandy ware, 2 cooking-pots and 5 bowls in Torksey ware, and 4 pitchers in Stamford ware.

Cooking-pot rims in shell-tempered ware. 353 has diamond-notch rouletting. 351 has square-notch rouletting.

Bowl rims in shell-tempered ware. 363 has diamond-notch rouletting on the outer surface of the rim and 364 retains a pouring spout and is unusual for its small diameter.

Handle from a storage jar in shell-tempered ware.

Base of a pedestal lamp in shell-tempered ware.

Cooking-pot rims in harsh shell-tempered ware.

Bowl rims in harsh shell-tempered ware.

Cooking-pot rims in grey sandy ware.

Bowl rims in grey sandy ware. 388 has the scar of a pouring spout and 390 has finger-tip decoration on the outer rim flange.

Base of a pedestal lamp in grey sandy ware.

Cooking-pot rims with finger-impressed flanges in Torksey ware.

Bowl rim in Torksey ware.

Pitcher rim with a single surviving strap-handle in slightly sandy, orange-cream Stamford ware with a patchy yellow glaze on the outer surface.

Body sherd from a pitcher in pale orange-cream Stamford ware.
Fig 141 Saxon and early medieval pottery (1:4)
Fig 142 Saxon and early medieval pottery (1:4)
Stamford ware, and 5 jugs in splash-glazed ware.

Group GM19
(Fig 142)

This group derived from the contemporary construction deposits of the northern and north-eastern buildings and the kitchen associated with the later use of the late Saxon hall in the second half of the eleventh century. A total of 35 vessels was represented, comprising 7 cooking-pots, 2 bowls, and a pedestal lamp in shell-tempered ware, 9 cooking-pots and 12 bowls in harsh shell-tempered ware, a cooking-pot and a bowl in grey sandy ware, a bowl in Torksey ware, and a jug in splash-glazed ware.

Cooking-pot rims in shell-tempered ware.
Bowl rim with a fragmentary pouring spout in shell-tempered ware, with square-notch rouletting on the upper surface of the rim.
Fragment of a pedestal lamp in shell-tempered ware.
Cooking-pot rims in harsh shell-tempered ware.
Bowl rims in harsh shell-tempered ware.
Cooking-pot rim in grey sandy ware.
Bowl rim in grey sandy ware.
Base of a jug in splash-glazed ware with a band of comb-incised decoration.

Group GM20
(Fig 143)

The pottery which comprised this group came from the latest occupation deposits associated with the late Saxon hall: from its floor, from the floor of the bower, and from the filling of the associated garderobe pit. In all, a minimum of 72 vessels were recorded, made up of 10 cooking-pots, 7 bowls, and a lamp in shell-tempered ware, 25 cooking-pots and 19 bowls in harsh shell-tempered ware, 3 cooking-pots and a bowl in grey sandy ware, a cooking-pot and 2 pitchers in Stamford ware, and 5 jugs in splash-glazed ware.

Cooking-pot rims in shell-tempered ware.
Bowl rims in shell-tempered ware.
Bowl rims in shell-tempered ware.
Bowl in grey sandy ware.
Base of a pedestal lamp in shell-tempered ware.
Cooking-pot rims in harsh shell-tempered ware.

Group GM21
(Fig 143)

This group was found in the kitchen associated with the late Saxon hall, and like the group above came from the latest occupation of the building. All together, a minimum of 17 vessels were recovered: 9 cooking-pots and 7 bowls in harsh shell-tempered ware, and a jug in splash-glazed ware.

Cooking-pot rims in harsh shell-tempered ware.
Bowl rims in harsh shell-tempered ware.
Jug rim in splash-glazed ware.

Group GM22
(Figs 144, 145)

The yards around the late Saxon hall and its associated buildings produced a large deposit of domestic refuse including the remains of some 193 pottery vessels, the great bulk of which appeared to belong to the later eleventh century and were therefore associated with the latest occupation of the late Saxon hall. The group was made up of 6 cooking-pots, 6 bowls, and 3 lamps in shell-tempered ware, 81 cooking-pots and 65 bowls in harsh shell-tempered ware, 5 cooking-pots and 2 bowls in grey sandy ware, a cooking-pot and 2 bowls in Torksey ware, a cooking-pot and 9 pitchers in Stamford ware, and 11 jugs and a bowl in splash-glazed ware.

Cooking-pot rims in shell-tempered ware.
Bowl rims in shell-tempered ware.
Has diamond-notch rouletting on the upper surface of the rim.
Lamps in shell-tempered ware.
Cooking-pot rims in harsh shell-tempered ware.
Bowl rims in harsh shell-tempered ware.
Cooking-pot rim in grey sandy ware.
Bowl rim in grey sandy ware.
Bowl rim in Torksey ware.
Lower body and base of a cooking-pot in fine off-white Stamford ware with a thin, clear lead glaze over deep stamped or rouletted decoration on the outer surface.
Fig 143 Saxon and early medieval pottery (1:4)
Fig 144 Saxon and early medieval pottery (1:4)
GROUP GM TWENTY-TWO (cont)

Fig 145 Saxon and early medieval pottery (1:4)
531, 532 Pitcher rims in Stamford ware, both in a cream or off-white, sand-free fabric. 532 has a patchy clear lead glaze.

533 Jug rim in fine, off-white Stanford ware with a thin bluish-green lead glaze on the outer surface.

534 Body of a pitcher in off-white to cream Stanford ware with a light yellow lead glaze on the outer surface, which also runs down onto the base.

535 Base of a pitcher in fine, cream Stanford ware with a pale orange outer surface which has traces of a very thin clear lead glaze.

536-538 Jug rims in splash-glazed ware.

539 Jug neck in splash-glazed ware.

540-542 Strap-handle fragments from jugs in splash-glazed ware.

543 Bowl in splash-glazed ware.

Group GM 23
(Fig 146)

Associated with the construction of the motte and bailey castle and the first hall within it was a small group of 7 vessels, comprising a bowl in shell-tempered ware, 2 cooking-pots and a bowl in harsh shell-tempered ware, a cooking-pot and a bowl in grey sandy ware, and a pitcher in Stamford ware.

544 Bowl rim with square-notch rouletting in shell-tempered ware.

545 Cooking-pot rim in grey sandy ware.

546 Lower wall sherds from a pitcher in fine light-grey Stanford ware with a fine apple-green glaze on both surfaces.

Group GM 24
(Fig 146)

The remaining occupation debris on the floor of the first motte and bailey hall produced sherds from 32 vessels made up of a cooking-pot and a bowl in shell-tempered ware, 11 cooking-pots and 9 bowls in harsh shell-tempered ware, 2 cooking-pots in grey sandy ware, a cooking-pot in Torksey ware, 4 pitchers in Stamford ware, and 3 jugs in splash-glazed ware. Most vessels were represented by body or base sherds.

547 Bowl rim in shell-tempered ware.

548-550 Bowl rims in harsh shell-tempered ware.

Group GM 25
(Fig 146)

The rebuilding of the hall within the bailey was associated with sherds representing a total of 6 vessels: 3 cooking-pots and 2 bowls in harsh shell-tempered ware, and a bowl in oxidised grey sandy ware.

551, 552 Cooking-pot rims in harsh shell-tempered ware.

553 Bowl rim in harsh shell-tempered ware.

554 Bowl rim in oxidised grey sandy ware.

Group GM 26
(Figs 146–149)

The later occupation of the motte and bailey, presumably associated with the second hall within it, was represented by a major rubbish deposit on both the surface of the bailey and the hall floor. Sherds from both locations fitted, suggesting broad contemporaneity of deposit. In total, a minimum of 135 vessels were recovered, comprising 5 cooking-pots, 2 bowls, and a storage jar in shell-tempered ware, 66 cooking-pots and 25 bowls in harsh shell-tempered ware, a storage jar in grey sandy ware, a cooking-pot in Torksey ware, a pitcher and a lamp in Stamford ware, 2 cooking-pots, a flask, and 29 jugs in splash-glazed ware, and an imported flask from the Low Countries. Three pennies of Stephen, coins 4–6, were associated with this group.

555-558 Cooking-pot rims in shell-tempered ware.

559 Bowl rim in shell-tempered ware.

560 Body sherd from a storage jar in shell-tempered ware.

561 Cooking-pot in harsh shell-tempered ware.

562-590 Cooking-pot rims in harsh shell-tempered ware.

591 Body sherd from a cooking pot with an applied horseshoe motif which is unique in harsh shell-tempered ware. Bowl in harsh shell-tempered ware.

592 Bowl rims in harsh shell-tempered ware.

593-607 Body sherd from a storage jar in grey sandy ware.

608 Jugs in splash-glazed ware.

609, 610 Jug rims in splash-glazed ware.

611-622 Jug base in splash-glazed ware.

623 Jug or storage jar in splash-glazed ware.

624 Handle fragments from jugs in splash-glazed ware.

625-628 Spouted flask in splash-glazed ware.

629 Jug rims in Nottingham splash-glazed ware.

630-633 Neck of jug in Nottingham splash-glazed ware.

634 Upper part of a jug in a hard, finely sand-tempered, pale orange fabric with a pale grey core. The lower body is coiled but the upper neck and rim have been thrown on. On the outer surface is a partly fused yellow-green splash-glaze.
Fig 146 Saxon and early medieval pottery (1:4)
Fig 147  Saxon and early medieval pottery (1:4)
Fig 148 Saxon and early medieval pottery (1:4)
Fig 149 Saxon and early medieval pottery (1:4)
Fig 150 Saxon and early medieval pottery (1:4)
Flask or bottle in a hard, slightly sandy, off-white fabric with a pale grey core. There is a pale yellow glaze over rouletted decoration on the outer surface. A Brunssum product of the mid-twelfth century.

**Group GM27**

(Fig 150)

The final, short, occupation of the manor site left a group of 50 vessels associated with the hall and outbuilding on the castle mound. The smallness of the group would suggest that the period of occupation was extremely limited or that the site had been kept exceptionally clean. This last group comprised 17 cooking-pots and 11 bowls in harsh shell-tempered ware, a cooking-pot in grey sandy ware, a pitcher in Stamford ware, 18 jugs in splash-glazed ware, and 2 jugs in Nottingham splash-glazed ware (Coppack 1980, 169).

**Discussion of the pottery sequence, its significance and dating**

A total of 1549 stratified and related vessels from the site have been studied in detail, and are presented above, phase by phase. Essentially, they are presented in a relative sequence based on the development phases of the manor site itself. None of the pottery can be dated absolutely, but from a comparison with other dated groups from elsewhere in Lincolnshire, and by using the few fixed points provided by stratified and associated coins on this site, it is possible to support the dating given in Table 6 above. The pottery from Goltho, though, should not be seen simply as a tool to date the structural sequence, but as a proportion of the rubbish associated with a single household of quality. The pottery sherds found in both construction and occupation contexts represent a sample of the pottery that was in everyday use on the manor site, and hence the very proportions of vessel and fabric types are of significance to the understanding of the pottery as a whole. The very fact that so few vessels were restorable would indicate that most of the occupation debris was cleared regularly from the enclosure, leaving only a tithing of the pottery actually used on the site to be found in excavation. In the case of occupation deposits within buildings, it seems most likely that they belong to the latest occupation of a particular structure before its demolition or reconstruction, and do not consist of rubbish which built up throughout the occupation of the building.

Clearly the limited range of fabrics found on the site makes the study of the pottery relatively simple, and the ceramics of this period in Lincolnshire have already been analysed and defined (Coppack 1980, 135-54). In all there are six principal fabrics, none of which need come from a source outside the historic county of Lincolnshire. Indeed three of these, shell-tempered ware, grey sandy ware, and splash-glazed ware, are generally held to be Lincoln products, and two others come from well-defined industries at Torksey, on the east bank of the Trent, and at Stamford. The source of harsh shell-tempered ware is not known in the middle to late Saxon period, but it can be safely presumed to come from the central Lincolnshire claylands where its principal distribution lies (Healey 1975, gazetteer). It may well be related to the Maxey-type wares of Lincolnshire best typified by the Normanby-le-Wold pottery series of apparent middle Saxon date (Whitwell 1968, 39; Addyman and Whitwell 1970). The major fabrics throughout the occupation of the manor site were shell-tempered ware and harsh shell-tempered ware, the incidence of splash-glazed ware being a post-Conquest feature. The remaining wares, whilst being apparent in almost every group, were never individually important. Both Torksey ware and Stanford ware were widely traded in the East Midlands region and further afield, and their lack of substance at Goltho, when compared with the incidence of what were by comparison coarse wares, may well show that they were never as important a part of the late Saxon ceramic assemblage in this part of England as has been assumed. The same general conclusions can be drawn from a study of contemporary groups in Lincoln (Coppack 1980, groups 11-16, pp 45-54, figs 3-18). The relative incidence of fabrics and vessel types is analysed in Figure 151, where the percentage of each of the defined fabrics is given phase by phase.

The earliest groups, which are from pre-manorial contexts, and the groups associated with the construction of the long hall phase, show that the principal early fabric was shell-tempered ware, which made up 35 to 70% of the pottery recorded. Maxey-type wares and harsh shell-tempered ware were also present, but in comparatively small amounts. It remained the principal fabric on the site until the construction of the second ailed hall in period 4, phase 2, in or about the last quarter of the tenth century. It ceased to feature as a significant fabric from about the time of the Norman conquest, last appearing in any quantity in the occupation deposits associated with the earlier use of the late Saxon hall. It does not feature at all in the final phase of occupation, and its sporadic occurrence throughout period 6 may well indicate residuality. In essence, it is the principal late Saxon fabric produced in Lincoln, and the vessels from...
Fig 151. Fabric and vessel-type occurrence shown phase by phase; the phase groups are made up as follows: A, GM1; B, GM2; C, GM3-5; D, GM6-7; E, GM8; F, GM9; G, GM0, 11; H, GM12, 13; I, GM14; J, GM15-18; K, GM19; L, GM20-22; M, GM23; N, GM24; O, GM25; P, GM26; Q, GM27
period 3 can be closely paralleled in the products of the Silver Street kiln there. The demise of this fabric at Goltho towards the middle of the eleventh century is not without significance. Shell-tempered ware in Lincoln last occurs in any amount in groups of the last quarter of the eleventh century (Coppack 1980, 44, 139), but the degree of residuality on intensively developed urban sites in the city is such that it is not possible to fix a precise point at which the ware ceased to be produced. It now seems likely that shell-tempered ware went out of production towards the middle of the century.

In comparison, harsh shell-tempered ware, perhaps a more local product, only began to feature in the ceramic assemblage from the construction of the first long hall in period 3, apparently in the later ninth century, although it was present from the earliest post-Roman settlement of the site to its desertion. It was the main fabric for utility ware at the manor throughout the later tenth and eleventh centuries, eventually replacing shell-tempered ware as the principal coarse ware in everyday use. Its origin in the middle Saxon Nornamby-le-Wold type fabrics of Lincolnshire has been suggested (Coppack 1980, 142; Russell and Moorhouse 1971, 23–4) but, while there is a clear similarity in fabric, this yet remains to be proved beyond doubt. The range of vessels in harsh shell-tempered ware is limited to cooking-pots and bowls, without the specialist forms produced in Lincoln throughout the late Saxon period. There are no lamps or bowls with pouring lips or spouts, no storage jars, and perhaps most significantly, no surface decoration recorded except for thumb-impression on the rims of both bowls and cooking pots, which is generally more common in the later groups. The rouletting, so typical of shell-tempered ware, does not feature at all. In all aspects it is a less developed fabric producing inferior vessel-types. The quantities used at Goltho would suggest that it served local needs better than the utility wares intended for an urban market. The nature of the whole pottery sequence from the site is indicative of kitchen rather than table wares, and it must be realised that a major household of this date did not depend on the potter alone for its utility and table wares. The pottery described here was ancillary to the products of the cooper, turner, and metal smith, and was chosen for its function rather than its aesthetic appeal.

The late Saxon fine wares, grey sandy ware, Torksey ware, and Stamford ware, feature as only minor elements throughout the sequence, but are nonetheless of great significance. Grey sandy ware, apparently a Lincoln product, occurs in the earliest deposits described above, and is present throughout the sequence. There are never more than 13 vessels in this fabric in a group (Group CM, 15 above, and those out of a total of 168 pots). As in Lincoln, it occurs in the same range of forms as shell-tempered ware until the eleventh century, when an oxidised form occurs. It is normally only recorded in later contexts as storage jars (Coppack 1980, 147–8), as is the case at Goltho. The cooking-pot base in the latest group may well be residual. Certainly, the bulk of the grey sandy ware recovered from the excavation belongs to contexts of the tenth century and earlier, which is also the case in Lincoln (Coppack 1980, 44). In the eleventh century, it has been observed to change drastically, first becoming an orange, oxidised fabric, and then changing form and reappearing as splash-glazed ware (Coppack 1980, 149), a change which can clearly be seen at Goltho. This important change is roughly contemporary with the demise of shell-tempered ware, and there may be some connection between the two phenomena. The occurrence of Torksey ware throughout the series is perhaps more remarkable than it would at first seem. The pottery from the kiln site itself dates only from the later part of the Goltho series, starting perhaps in the late tenth century or even later. The fact that it first appears at Goltho in period 2 and continues to feature throughout the tenth century in contexts which are secure would suggest a much earlier origin for the fabric than the kiln site would indicate. Indeed, it must run in parallel with grey sandy ware, but probably extends into the twelfth century from evidence at both Flaxen gate and Saltergate in Lincoln. The forms present at Goltho very much follow those of grey sandy ware, with cooking-pots and bowls featuring throughout the series. The third fine ware, Stamford ware, is the one fabric which was particularly used as a table ware. Although a small number of cooking-pots and bowls are recorded, the principal form encountered at this site is the pitcher. There may have been a considerable rate of survival, for the fabric sequence noted here differs from the apparent chronological sequence defined for Stamford (Kilmurry 1977, 59–60).

An analysis of the occurrence of vessel forms has been attempted in Figure 151, where the percentage occurrence of major forms is given by phase. Clearly, the cooking-pot form is the most widely used up to the twelfth century, but there is a marked falling off at the end of the sequence. Bowls feature next in order of occurrence, with a slight increase in numbers in period 5, but again with a marked decrease from the eleventh century to the close of the series. Other forms, particularly lamps, storage jars, and Stamford ware pitchers, represent only a small but necessary proportion of each phase group throughout the sequence, and remain reasonably static, which is perhaps understandable as the need for such specialised forms in small quantities must have been constant in spite of other changes in the ceramic spectrum. The only major phenomenon apparent from the graph is the appearance of the jug form in the middle years of the eleventh century, and it is this which seemingly caused the rapid decline of cooking-pots and perhaps also of bowls at the end of the series. The appearance of the jug is coupled with the development of splash-glazed ware which can be seen as the end of the late Saxon pottery tradition in the East Midlands and the start of proper medieval forms and fabrics. A subtle change from the 'Thetford' type forms of shell-tempered ware, grey sandy ware, and Torksey ware to more truly medieval forms can be seen from the final occupation of period 5, through the pottery associated with the period 6 motte and bailey castle, to the fully developed forms of period 7. This period, which has so far eluded study in Lincoln where the same wares are to be found, though in perhaps differing proportions, is critical to the
The understanding of later medieval wares in eastern England generally. The great value of the Goltho site is that it firmly places the ceramics of a late Saxon and Norman manor in context with the pottery of the period of transition.

The dating of the pottery from Goltho is still somewhat speculative, but by comparison with groups from Lincoln, particularly the major series of groups from Saltlegate and Flaxengate, and from elsewhere in the country, and by the use of the three deposits which produced stratified coins, a reasonable dating sequence as set out above can be established. In no way can these dates be absolute. The remarkably conservative pottery styles of the late Saxon period make typological comparison difficult, but certain close parallels can be drawn which help to fix the approximate dates for individual groups. Until a number of similar sites have been excavated, the precise dating of such pottery and its fuller understanding will not be possible.

The most important date to establish is that for the earliest post-Roman pottery of periods 2:1 and 2:2 for which a date early in the ninth century is suggested. This is based on the apparent dating of a group of pottery from the fillings of a series of ditches on an occupation site at Barrow on Humber, South Humberside, where cooking-pots and bowls in shell-tempered ware and harz shell-tempered ware were found associated with Ipswich ware vessels including a stamped pitcher, and which were indirectly related to two coins, pennies of Alfred and Burgred. These coins could not be considered stratified but suggest the period of occupation to which the pottery deposit belonged, from the late eighth century into the first half of the ninth century. Thus there is no reason to suspect that the date for group GM 1 is too early, for the two principal fabrics recorded there can be closely paralleled at Barrow on Humber in similar forms. In Lincoln, shell-tempered ware has been recorded in much earlier deposits at Saltlegate, associated with the final occupation of a late Roman building. A radiocarbon date of 1170 BP ± 90 (HAR-863), which gives a date of AD 780, was obtained from a burial which was cut through the destruction levels of this building, and which must be somewhat later in date than the occupation. The occurrence of Maxey-type ware in the earliest group here and the copying of Maxey-type forms in shell-tempered ware also argue for an early date, and can be paralleled in a group from Holmes' Grain Warehouse in Lincoln which is very early in the Lincoln sequence. Sadly, harz shell-tempered ware is rare in Lincoln before the later tenth century and it is therefore not possible to confirm its early date there. Its origins in the middle Saxon period by derivation from the Normanby-le-Wold finely shell-filled fabric remain likely but as yet unproved, and the Normanby material can only be dated by comparison with Assemblage III at Maxey which itself remains undated, but which in the excavator's unpublished opinion could be as late as the ninth century (Addyman 1964, 47-58, figs 12-14).

The late ninth- and early tenth-century deposits at Goltho can be realistically dated by comparison with the shell-tempered ware and grey sandy ware at Flaxengate, Lincoln, where there is the further aid of coin associations. The critical factor here is the inclusion of shell-tempered ware of Silver Street kiln type, which is easily identified by its surface appearance derived from the clamp method of firing used there. The examples recorded at Goltho can be closely compared with those found in the kiln waste deposits, and these forms also occur in dated groups at Flaxengate. The Silver Street version of shell-tempered ware is generally contemporary with the occupation of the first manorial phase which includes the long hall and weaving shed. The dating of period 5 is conveniently bracketed between a penny of Eadgar associated with period 4:1 and a penny of Cnut from the early phase of the late Saxon hall. The wares associated with the aisled halls and the early phase of the late Saxon hall can be closely compared with contemporary groups from Saltlegate (Coppack 1980, group L9, 51, fig 12) and Flaxengate. Lincoln (ibid., group L9, 51, fig 12).

The critical factors controlling the dating of the later occupation of the late Saxon hall, and indeed its reorganisation, are the rapid decline of shell-tempered ware and the introduction of splash-glazed ware. No group in Lincoln which has produced splash-glazed ware has been datable to deposition before 1151, when three quids were found in construction levels of the Observatory Tower motte at Lincoln Castle (Reynolds 1975, 201-5). Typologically earlier vessels are recorded, but few groups of the later eleventh century have yet been identified. However, the decline of shell-tempered ware has been observed in the first half of the eleventh century, and the likelihood is that grey sandy ware in its oxidised form, which is well represented in contexts of the early to mid eleventh century in Lincoln (Coppack 1973, 89), merges into splash-glazed ware towards the middle of the century. There is no evidence to show that splash-glazed ware jugs are any earlier than the Norman Conquest either in Lincoln or at Goltho. The construction of the ringwork castle is later than the introduction of splash-glazed ware jugs which were found in deposits associated with the latest occupation of the late Saxon hall, and which were securely sealed below the ringwork banks. However, there is no way in which a date for its construction can be based on the pottery because the construction groups were too small to permit meaningful analysis. The destruction of the motte and bailey castle in the mid twelfth century is well attested by three pennies of Stephen in the latest occupation debris of period 6:1 and by close comparison with mid twelfth century vessel forms in Lincoln at both Broadgate (Adams 1977, 18-20, figs 8, 9) and Flaxengate (Coppack 1980, 52-3, fig 16). The final occupation of the site in period 7 can be bracketed between the dated destruction of the motte and bailey and the appearance of Lincoln orange sandy ware, which first appears in the final quarter of the twelfth century as attested by closely-dated groups from the Old Bishop's Palace in Lincoln (Chapman et al 1975, 15-18, fig 6), but which is unrecorded in period 7 here. Its eventual displacement of splash-glazed ware did not occur until early in the thirteenth century but it would be surprising if at least one vessel was not present among the 18 Lincoln-produced jugs found at
Goltho. The two Nottingham imports compare closely with mid-twelfth-century vessels in that town (Coppack 1980, 174, fig 63).

The pottery from Goltho is unique in the east Midlands in that it can be related to a single household, is well-stratified and in large groups, and spans a critical period of ceramic development. It must not be seen in a vacuum but should provide the basis for further research, perhaps in other parts of eastern England, where no rural equivalent of a major urban pottery sequence has yet been recorded.

The pottery groups, including all illustrated pottery, working notes, analysis cards, and stratigraphic information are lodged with the City and County Museum, Lincoln.

The writer wishes to acknowledge considerable assistance and advice from the following people who have made available both unpublished material and opinions, or have advised on the general research that has led to the production of this report: Dr Lauren Adams, Dr P V Addyman, Professor M W Barley, Dr P W Dixon, Dr C C Hayfield, J G Hurst, Dr J B Whitwell, Mrs Rosemary Woodland, and C S B Young. The opinions expressed remain those of the writer.

**Contexts of pottery groups**

<table>
<thead>
<tr>
<th>Period</th>
<th>Context</th>
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<tbody>
<tr>
<td>1</td>
<td>Period 2:1 980 Palisade</td>
</tr>
<tr>
<td>1</td>
<td>987 Palisade</td>
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<tr>
<td>1</td>
<td>988 Palisade</td>
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<tr>
<td>1</td>
<td>992 Palisade</td>
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<tr>
<td>1</td>
<td>996 Palisade</td>
</tr>
<tr>
<td>1</td>
<td>1074 Palisade</td>
</tr>
<tr>
<td>2</td>
<td>Period 2:3 955 Area north-west of excavation</td>
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<tr>
<td>3</td>
<td>Period 3 1022 Removal of long hall floor</td>
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<tr>
<td>3</td>
<td>1070 Misc posthole north-west of kitchen</td>
</tr>
<tr>
<td>3</td>
<td>1011 Misc posthole in long hall</td>
</tr>
<tr>
<td>3</td>
<td>973 Path leading to long hall</td>
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<tr>
<td>4</td>
<td>Period 3 960 Slot of third kitchen, cutting early kitchen floor</td>
</tr>
<tr>
<td>4</td>
<td>962 Posthole north-east of ninth-tenth-century bowers</td>
</tr>
<tr>
<td>4</td>
<td>1014 Posthole south of early kitchen</td>
</tr>
<tr>
<td>5</td>
<td>Period 3 952 South timber-trench of weaving shed</td>
</tr>
<tr>
<td>5</td>
<td>953 North timber-trench of weaving shed</td>
</tr>
<tr>
<td>6</td>
<td>Period 3 962 Long hall floor</td>
</tr>
<tr>
<td>6</td>
<td>1005 West end of long hall</td>
</tr>
<tr>
<td>6</td>
<td>1009 East end of long hall</td>
</tr>
<tr>
<td>6</td>
<td>1015 Floor of lower end of long hall</td>
</tr>
<tr>
<td>6</td>
<td>1063 Gardnerobe</td>
</tr>
<tr>
<td>7</td>
<td>Period 3 959 Weaving shed floor</td>
</tr>
<tr>
<td>7</td>
<td>1018 Gardnerobe by weaving shed</td>
</tr>
<tr>
<td>7</td>
<td>1052 Weaving shed floor</td>
</tr>
<tr>
<td>8</td>
<td>Period 4:1 957 Timber slot of aisled hall</td>
</tr>
<tr>
<td>8</td>
<td>1003 Posthole of first aisled hall</td>
</tr>
<tr>
<td>8</td>
<td>1006 Posthole of first aisled hall</td>
</tr>
<tr>
<td>8</td>
<td>1012 Posthole of first aisled hall</td>
</tr>
<tr>
<td>8</td>
<td>1016 Posthole in bower</td>
</tr>
<tr>
<td>9</td>
<td>Period 4:1 1013 Bower floor (Eadgar penny)</td>
</tr>
<tr>
<td>10</td>
<td>Period 4:2 997 Posthole of second aisled hall</td>
</tr>
<tr>
<td>10</td>
<td>999 Timber slot of second aisled hall</td>
</tr>
<tr>
<td>11</td>
<td>Period 4:2 926 Posthole of late tenth-century kitchen</td>
</tr>
<tr>
<td>11</td>
<td>927 South timber-trench of weaving shed</td>
</tr>
<tr>
<td>12</td>
<td>Period 4:2 956 Floor levels of aisled hall</td>
</tr>
<tr>
<td>13</td>
<td>Period 4:2 887 Shallow pit</td>
</tr>
<tr>
<td>14</td>
<td>Period 5 885 Posthole of hall</td>
</tr>
<tr>
<td>14</td>
<td>887 Posthole of hall</td>
</tr>
<tr>
<td>14</td>
<td>888 Posthole of hall</td>
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<tr>
<td>14</td>
<td>889 Posthole of hall</td>
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<td>14</td>
<td>890 Posthole of hall</td>
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<td>14</td>
<td>895 Posthole of hall</td>
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<td>14</td>
<td>902 Posthole of hall</td>
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<td>14</td>
<td>908 Posthole of hall</td>
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<tr>
<td>14</td>
<td>910 Posthole of hall</td>
</tr>
<tr>
<td>14</td>
<td>912 Posthole of hall</td>
</tr>
<tr>
<td>15</td>
<td>Period 5 937 Early eleventh-century domestic building</td>
</tr>
<tr>
<td>15</td>
<td>940 Top scraping over early eleventh-century kitchen</td>
</tr>
<tr>
<td>15</td>
<td>948 Early eleventh-century kitchen midden area</td>
</tr>
<tr>
<td>16</td>
<td>Period 5 947 Early eleventh-century kitchen area</td>
</tr>
<tr>
<td>16</td>
<td>951 Fill of south post-trench of bower</td>
</tr>
<tr>
<td>17</td>
<td>Period 5 964 Level slightly below 967</td>
</tr>
<tr>
<td>17</td>
<td>918 Gardnerobe by kitchen</td>
</tr>
<tr>
<td>17</td>
<td>944 Final scraping of hall floor</td>
</tr>
<tr>
<td>18</td>
<td>Period 5 983 Eastern building area</td>
</tr>
<tr>
<td>18</td>
<td>914 Gully east of eleventh-century kitchen</td>
</tr>
<tr>
<td>19</td>
<td>Period 5 946 Yard in front of hall</td>
</tr>
<tr>
<td>19</td>
<td>947 Beneath hall floor</td>
</tr>
<tr>
<td>20</td>
<td>Period 5 876 Northern building</td>
</tr>
<tr>
<td>20</td>
<td>884 Entrance to northern building</td>
</tr>
<tr>
<td>20</td>
<td>916 Post-trench of last kitchen</td>
</tr>
<tr>
<td>21</td>
<td>Period 5 950 Post-trench of northern building</td>
</tr>
<tr>
<td>21</td>
<td>871 Area surrounding hall</td>
</tr>
<tr>
<td>21</td>
<td>901 Bower garderobe</td>
</tr>
<tr>
<td>22</td>
<td>Period 5 878 Last kitchen area</td>
</tr>
<tr>
<td>22</td>
<td>869 Courtyard in front of hall</td>
</tr>
<tr>
<td>22</td>
<td>870 Area east of hall</td>
</tr>
<tr>
<td>22</td>
<td>872 Area close to gate</td>
</tr>
<tr>
<td>22</td>
<td>875 South-east corner of courtyard</td>
</tr>
</tbody>
</table>
| 22     | 877 Top level over early eleventh-
Notes

1 Currently being studied by Dr Lauren Adams and Mrs Jane Young who have made their unpublished opinions available.

2 Information supplied by Mrs Jane Young, Trust for Lincolnshire Archaeology. The pottery is from context F76, BEX at Flaxengate.

3 Information from Professor M W Barley and R C Alvey.

4 Identified by Hans Janssen who also supplied confirmation of dating.

5 The writer is indebted to the excavator, Professor J S Wacher, and his sometime research assistant, Mrs Rosemary Woodland, who provided a series of sherd types which are partially dating to the thirteenth century has been identified.

6 Confirmation of the late dating and vessels found in this fabric comes from West Parade, Lincoln, where Miss Christina Colyer made the pottery available for study.

7 Information from Dr Lauren Adams.

8 Also information supplied by Miss C M Mahany relating to stratified deposits from unpublished excavations at Stamford Castle.

9 Dr C C Hayfield, 'The pottery', in the forthcoming report on excavations on the St Chad's site. The writer has handled this important material.

10 Information supplied by Dr J B Whitwell of the Humberside County Archaeological Unit.

11 Information supplied by the excavator, N M Reynolds.

12 Information supplied by Dr Lauren Adams.

13 Information supplied by Dr Lauren Adams and Mrs Jane Young.

14 To date, few groups which can be ascribed to the later seventeenth century have been excavated in the city. The publication of the Flaxengate sequence may well identify groups of this period.

15 The pottery from the early Lincoln pit groups 5 and 13 should now be redated to the later part of the thirteenth century.

Roofing tiles and bricks

Laurence Keen

Roofing tiles

(Fig 152)

Nos 1–3 are a sample from the footings and surrounds of the hall, period 7. c 1150. Tile 1 has round peg holes, tile 2 has two square peg holes. On tile 2 the end that would have been seen was knife-trimmed before firing to produce a simple geometric decoration. The fabric with flint fragments is buff and has a well oxidised surface and reduced core. The underside has a sandy surface indicating that the tile was dried on sand before firing. Tile 3 is a section of ridge tile.

Bricks

1 Reddish friable fabric. Maximum width 120mm, 46mm thick, length 160mm (not complete).

2 Width 105mm (not complete), 45mm thick, length 170mm (not complete).

On each brick one long side is scored with shallow grooves about 3mm deep. Both these surfaces are reduced.

Discussion

Roofing tiles

The archaeological evidence suggests that these tiles belong to the mid twelfth-century hall. This dating makes these earthenware tiles extremely important items since their use at an early date demonstrates the sophistication of the building. Generally, tiles appear to have become common in the thirteenth century.
particularly in towns, as a result of the fires which so often occurred in thatched buildings.

The 1212 building regulations for London required that roofs should be covered only with tile, shingles, boards, lead, or plastered straw (Salzman 1952, 223). It has been suggested that the Tyler Hill factory near Canterbury was producing roof tiles by the late twelfth century (Norton and Horton 1981, 78). A charter of 1177–9 or 1186–8 concerning shops in Canterbury refers to tiles in such a way that earthenware roof tiles are implied (Urry 1967, 416–17). These excavated examples, however, are the only ones of a mid twelfth-century date to have come to light.

Bricks

The two bricks were used in the lining of the undercroft of the tower on the motte. They belong, therefore, to the period 1075–1100. Such dating is of great interest since it demonstrates that the manufacture of bricks in England is a much older industry than has been supposed. It also removes any doubts about the dating of similar material from Oxford and Norwich which has been hindered by the possibility that the material was Romano-British. Professor Martyn Jope’s 1952 excavations under the castle at Oxford discovered a number of pieces of red brick 35mm thick. They were associated with late Saxon material in pits beneath the castle mound constructed between 1066 and 1071 (Jope 1952–3, 99–100). In Norwich, excavations in 1952 on the site of the seventeenth-century lodge of the Grammar School in Palace Street found four pits containing late Saxon style pottery. Pit 1 contained pieces of hard-fired red brick 35–38mm thick, made, like the Oxford bricks, in a sanded tray and finished off by smoothing across the top (Jope 1952, 319).

The manufacture of bricks in the eleventh century, however, should cause little surprise now that it can be shown that decorated tiles, some of red earthen-
ware, were being made in the second quarter of the eleventh century or shortly after, or possibly in the tenth century (Gem and Keen 1981, 20–6). Such decorated tiles from Peterborough, St Albans, and St. Edmunds may serve to demonstrate manufacturing centres in eastern England which the Geltas evidence now complements.

Objects of copper alloy and lead

Alison R Goodall, with a contribution by D F Mackreth

Romano-British brooches
(Fig 153)

D F Mackreth

1 The pin, now missing, was hinged. Its axis bar, housed in wings with a plain front, seems to lie in a sheet metal tube inserted into the mould before casting. The back of the wings has a step top and bottom with a swell between. The bow is humped well over the wings and its back surface is carried under and offset from the wings by a step. The bow is plain and its foot is broken. The break reveals that the catch-plate was inserted into the mould before casting.

2 The chord of the spring, now missing, was held by a rearward-facing hook behind the head of the bow. Each wing is plain but for a groove at the end. Only the stub of the hook now survives but it was a continuation of a small crest, with a concavity in its top profile, on the head of the bow which, itself, is similar to the last, even to the stepped extension under the wings. The foot is also broken and it is possible that the catch-plate was similarly formed.

3 What survives of the brooch shows that it had no fewer than 20 coils. The spring was held by a rearward-facing hook a vestige of which can be seen on the now separated chord. The wing on the right is longer than the wing on the left and it is unlikely that the latter had been finished with a pierced plate as there is no room in the spring for an axis bar such as would be necessary for the Polden Hill spring-fixing system. Each wing has two flutes with a sharp arris on each side and then a bordering beaded moulding thus yielding a pair in the middle. There is a plain moulding at the end. The bow is slightly humped and the hook behind is carried onto the head as a skeuomorph of the hook of the Colchester type. The bow has a flat back and a flute down each of the other sides, and the forward corners carry a longitudinal moulding set off from the flutes by arrises. The brooch was once tinned or silvered. The foot of the bow, along with most of the catch-plate, is missing.

The three brooches are derivative types of the Colchester brooch (Hawkes and Hull 1947, 309) and belong to two of the main sub-types as defined by the method of holding the pin. Brooch 1 has no close dated parallels known to the writer. Attention may be drawn, however, to the features it has in common with brooch 2, and to a lesser extent with brooch 3: long wings in proportion to the overall length of the bow; the humped head of the bow. The finish is also as careful as that on brooch 2, but the elaboration of brooch 3 prevents a similar assessment from being made. As for brooch 2, a fairly close parallel comes from Bagendon where it was dated c. AD 43–50; another from the same site was dated c. AD 50–60 (Clifford 1961, 172, fig 31:4 and 2). A plain example, apart from a small skeuomorph hook, from Hod Hill was lost before c. AD 50 (Brailsford 1962, 7, fig 6, cl 13; Richmond et al. 1968, 117–19). None of these has such long wings, but it is difficult to argue that this has much chronological significance.

A brooch from Colchester which has very much the same bow design as brooch 3, but without the flutes down the sides and with slightly simpler wings, is dated c. AD 49–61 (Hawkes and Hull 1947, 311, n1, pl XCl. 46). But the best parallels come from a derivative which has another spring-fixing device, the Polden Hill type. One comes from Silchester (Hildyard Collection 132; I am grateful to Lady Pauline Richmond-Brown for allowing me to examine the collection) and the other comes from Cirencester (Corinium Museum B363), both undated.

While the rear hook method of holding the spring cannot be shown to have come into being before the Roman Conquest, its invention must be very close to that date as the examples given show. The end date of manufacture of the method, which was inefficient, is inconsistent: before c. AD 65. That is, the specimens finding their way into the ground were arriving there, in the main, before then and this should represent the date when the brooches using the method were passing out of use. Therefore, the innumerable of manufacture should have come to an end before c. AD 65, perhaps some five years or so earlier. The Silchester and Corinium parallels for brooch 3 may represent the same workshop adopting a more satisfactory way of securing the spring. Brooch 1 has no good independent dating and it is its general conformity with brooch 2 which suggests that its dating may be similar.

One, if not two, of these brooches displays interesting points in the way in which it was made. Brooch 1 seems to have had a rolled sheet tube placed in the mould prior to casting. The purpose would seem to have been to cut down on the amount of finishing the brooch would need once it had been removed from its mould.

Brooches 1–3 were found in the timber-trench of hut A.
Fig 153 Copper alloy
Medieval copper alloy
(Figs 153–155)

Alison R Goodall

D-shaped buckle frame with radial incisions on the bow and possible traces of gilding.

Heavy strap-end with decorated terminal. The incomplete upper end is split to enclose the end of the strap; there is one rivet. The form of this strap end is unusual.

Narrow buckle-plate or strap-end with white metal plating. The upper surface is moulded and has incised lines bordering the long edges. Two rivets secured the object to a leather strap, a fragment of which survives.

Part of a simple buckle-plate of sheet metal.

Penannular brooch with rolled terminals and traced zigzag decoration on its upper surface. The incomplete pin is made from a flat strip of metal which has been rolled at the tip and formed into a point. Two similar brooches were found in early to mid-twelfth-century levels at Castle Acre Castle, Norfolk (A R Goodall 1982, 239, fig. 44: 29–30), the Goltih mount coming from the bailey of much the same period.

Fragment of a slender penannular ear- or finger-ring, approximately 19mm in diameter. The complete end tapers to a point. Rings such as this occur quite commonly on late Saxon sites like Thetford (A R Goodall 1984a, 69, fig. 110, 17, 20, 21). The pointed ends make them more likely to be earrings than finger-rings. Not illustrated.

Bar or mount with two iron rivets and the broken hole for a third. The upper surface is decorated with two animal heads in relief, facing towards the ends of the bar, and a central setting containing a pale blue-green stone or glass. One rivet passes through one of the animal heads and is probably therefore secondary. The purpose of the mount is unknown. The use of a glass setting can be paralleled on a strap-distributor from the Viking grave of Cronk Moar (Bersu and Wilson 1966, 72–5, fig. 43, pl. XVII), which is thought to be of insular rather than continental origin.

Openwork mount of gilt copper alloy with animal decoration. A rectangular loop has been riveted onto the back of the mount and the gilding and engraving of the decorated surface continue over the tops of the rivets indicating that the loop was part of the original design. There are also four pairs of small holes around the edge of the mount.

The animals of the decoration may be compared with those appearing in the borders of the Bayeaux Tapestry. The Bayeux lions have similar curling manes and their tails pass down between their hind legs and then up on to their backs; some however have their heads turned backwards to bite their own tails. The Goltih mount is biting the head of a winged creature whose tail clasps one of the lion’s hind feet in the manner of another pair of jaws. The winged creatures of the Bayeux Tapestry most commonly have knotted tails which divide into three tufts at the end (Stenton 1957, pl. 1, 19, 20, 27). Similar animals to these are also found on textiles and manuscripts of the eleventh century (ibid. 27) and the Goltih mount may therefore be slightly older than its early twelfth-century context. I am grateful to D. Tweddle for discussing the affinities of this object.

Two fragments of an openwork decorative mount with a rectangular loop on the back.

Studs with gilded quatrefoil heads. The head of no 13 is damaged and the shank is missing. Another stud similar to no 13 was found in topsoil.

Stud with domed head decorated with traced zigzag lines. Not illustrated.

Stud with plain domed head and possible gilding. The long subrectangular-sectioned shank has a blunted end.

The use of the studs, nos 13–16, is uncertain. Where the shanks survive they are c. 26–30mm in length and do not taper to a sharp point. This suggests that they were intended to be inserted into a prepared hole, probably in wood.

Bar or mount with perforated ornamental terminals. Probably a casket fitting.

Fragments of decorative binding strip with gilding on their upper surfaces. Only nos 18, 21, 22, 24, 28–34, and 37 are illustrated. All come from the early twelfth-century bailey. Most of the strips are of two distinct types. The first type (nos 18–27) has a series of closely-spaced elongated perforations along its length which gives rise to regular expansions or lobes. The lengths of perforated strip are interspersed with lengths of narrower, plain, D-sectioned strip. Some of the strips meet in wheel-shaped roundels with raised central bosses, nos 18–20. No 19 is similar to no 18 (Fig 154), but in the case of no 20 the strips appear to meet the roundel at right angles to each other: this piece is however in a very fragmentary condition. No 27 has a perforated terminal of lobed triangular shape. The strips have varying dimensions: no 24, for instance, has a maximum width of 7mm compared with just over 5mm for the majority of the fragments of this type. This may suggest that they did not come from one object or that they came from different parts of the same object.

The second type of strip is represented by nos 32–56. These are approximately 2.5–3.5mm in width and have a D-shaped section. At intervals along their length there are expanded and raised bosses, some of which are perforated to take pins or rivets. No 41 retains one of its pins. No 33 shows how the strips can divide and rejoin.
Fig 155 Copper alloy
Nos 28–31 all have perforated terminals similar to that on no 27; no 28 retains one boss and is thus from the second type of strip, while the others are of indeterminate type. No 57 is a length of broader strip with groups of parallel incised lines between the elongated perforations. Nos 58–60 are fragments of narrow strip with faint gadderooning or beading on their upper surfaces; no 59 has a plain perforated terminal.

The exact purpose of the strips is unknown but they must have formed an ornamental binding on objects which were of appreciable size and probably flat, since the strips do not show any deliberate angling. They were probably mounted on wood or on objects of composite construction. A number of the Goltho pieces, all of the first type of strip, were found among a mass of tiny fragments of wood and what appear to be bone plates; these may all, therefore, have come from the same object.

Similar strips occur commonly on castle and manorial sites of the twelfth and thirteenth centuries, notably Ascot Dooly, Oxfordshire (Hope and Threlfall 1959, 267, fig. 21), Framlingham, Suffolk (Knocker 1956, 80, fig 11, 3), Ipswich (West 1963, 276, fig. 56, 1–5), Castle Neroche, Somerset (Davison 1972, 41, fig 17), and Castle Acre Castle, Norfolk (A R Goodall 1982, 235–6, figs 43, 44), and they have been discussed in relation to examples from Burton-in-Lonsdale, North Yorkshire (Moorhouse 1971, 96). At Goltho and Castle Acre they form a very large proportion of the copper alloy finds.

61–64 Strips with dome-headed rivets. No 64 is not illustrated. No 61 is a narrow, lobed strip with a collar moulding between each of the elongated lobes; at the intact end is a zoomorphic head with a perforated terminal projecting from its mouth. Nos 62 and 64 have lozenge-shaped terminals while that of no 63 is rounded. On nos 63 and 64 the strip is expanded where the rivets are inserted. Only nos 61 and 64 retain any gilding.

Again the purpose of these strips is not known. Nos 63 and 64 are reminiscent of the ‘octopus’ mounts found for instance at Baile Hill, York (Addyman and Priestley 1977, 142, 145, fig 11, 82), and Lydford Castle, Devon (A R Goodall 1980, 164–5). The up-turned terminal of no 64 suggests that it was pulled forcibly from its backing. ‘Octopuses’ are presumably related to the more common gilt strips: fragments of strip also occur at Baile Hill and Lydford although the finds are not associated at these sites.

65 Probably a bell, hexagonal in section and with the bottom edge rolled inwards. The suspension loop is broken. Some ferrous corrosion inside may indicate that there was originally an iron clapper.

66 End-plate from a barrel padlock of sheet metal. The two openings show that it had a bolt with two spines. More complete padlocks of iron (pp 182–3) show how this object would have functioned.

67 Binding, presumably from a wooden rod, with a rivet passing through to hold it in place. The two projecting ‘claws’ may originally have been joined to form a loop.

68 Rectangular-sectioned object tapering to a point at one end, the other end blunter. Possibly a small punch.

69 Object with spatulate ends, perhaps used as a spatula.

70 Perforated weight.

71 Pin shank, length 55mm. Not illustrated.

72 Fine wire, length 36mm. Not illustrated.

73 Rectangular plate, 39 x 11mm, with a rivet-hole at each end.

Contexts of copper alloy objects

1–3 Timber-trench of hut A. Period 1, c AD 50

4,70 In floor and ovens of early eleventh-century kitchen, built on site of tenth-century bower. Period 5, c 1000–1080

5 Top scraping of early eleventh-century kitchen, built on site of tenth-century bower. Period 5, c 1000–1080

6 East of kitchen. Period 5, c 1000–1080

7,8,12–64,67 Bailey. Period 6, c 1080–1150

9 Soil above weaving sheds. Periods 4–5, late tenth–early eleventh century

10 Area north of Saxon houses (yard). Periods 4–5, late tenth–early eleventh century

11 On kitchen floor of early twelfth-century hall in bailey. Period 6, c 1125–1150

65 Post-trench cutting ninth-century kitchen floor. Period 4, c 950–975

66 Tenth-century hall floor. Period 4, c 975–1000

69 South of tenth-century halls. Period 4, c 950–1000

71,72 Spread of occupational debris north-west of late Saxon hall. Period 5, c 1000–1080

73 Post-trench in early house in bailey. Period 6, c 1080–1125

Object of lead

1 Perforated weight, from clay floor of kitchen. Period 3, c 850–950.
Objects of iron

Ian H Goodall, with a contribution by Blanche Ellis

The range of iron objects found at Goltbro may with interest be compared with those listed or implied in the Gerefa, an adjunct to the eleventh-century tract on estate procedures, the Rectitudines Singularum Personarum, which purports to tell a reeve how to run an estate (Addyman and Goodall 1976, 316-21). Of those ‘many tools for the homestead and . . . implements for the buildings’ which the sagacious reeve was enjoined to provide, those of iron which are known from Goltbro include an adze, awl, auger, sickle, weeding hook, wool-comb or heckle teeth, shears, including sheep shears, and a needle. The various items of building and household ironwork are covered by the admonition that he ‘keep the house in order (and) set it to rights.’ A final observation recounts that the reeve should never neglect anything that may prove useful, ‘not even a mousetrap, nor even, what is less, a peg for a hasp’. No wooden mousetraps or pegs were found, but an iron hasp was.

Among the most significant comparable groups of excavated material are those from the near-contemporary town of Thetford in Norfolk (I H Goodall 1984a) and from Coppergate, York (Hall 1984, 94-116; Ottaway forthcoming).

Most iron objects have been X-rayed, few conserved, and their detailed interpretation and illustration are based on the X-radiographs. I should like to thank Patrick Ottaway for his comments on the objects.
Metalworking tool
(Fig 156)

1 Cross-pane hammer head with burred face and rectangular eye. Such hand hammers, though frequently used for general work at the anvil, were also used by woodworkers.

Woodworking tools
(Fig 156)

2 Adze with burred poll, lugged eye, and narrow, curved, gently expanding blade. Adzes were used for shaping and trimming timber, the precise use determining the form and shape of the blade. When old wood was reworked, the poll was used in conjunction with a punch to drive in nails which could not be extracted, sinking their heads below the surface to be adzed. Adzes similar in form to that from Goltho include one of earlier date from Thetford (I H Goodall 1984a, 77, fig 117.11) and a contemporary one from Castle Acre Castle, Norfolk (I H Goodall 1982, 227, fig 38.1).

3, 4 Auger bits, no 3 just the lanceolate terminal, no 4 a spoon bit complete but for the tip of the terminal. Auger bits were used to drill holes in timber, their terminals fitting into transverse wooden handles. The lanceolate terminals of nos 3 and 4 are examples of the commonest medieval form. The holes to be drilled varied in size, as is reflected in the size of bits; no 3 is of medium size, but no 4, capable of drilling a hole one inch in diameter, is amongst the largest medieval bits known. It is comparable with one from Clough Castle, Co Down (Waterman 1954, 135-7, fig 11.1), and could have been used for drilling holes in structural timbers, or as a preliminary stage in the cutting of mortices.

5, 6 Claw hammers, the woodworker's basic hammer used for driving in and extracting nails. No 5 has a burred face and sharply down-curved claw, no 6 a lugged eye and part of the iron-impregnated wooden handle.

Textile manufacturing and clothworking tools
(Fig 156)

7-24 Teeth from wool-combs or heckles used respectively to prepare wool and flax fibres for spinning (some not illustrated). The teeth are of rounded and rectangular section, without specially formed heads; complete examples (nos 11, 12, 13, 14, 21, 15) are 88, 94, 97, 98, 98, and 100mm long; incomplete examples are between 63 and 111mm in length. Of the 16 teeth, 9 come from contexts of periods 3 and 4 when the weaving shed was in use, confirming that the earlier process of spinning was also taking place on the site. None was found in the weaving shed, although three came from the soil over the demolished building and one from the adjacent courtyard. Four, however, came from the floor levels of buildings, three in halls, one in a bower, indicating where combing might have been taking place. Five teeth are from later contexts; they could be residual, but need not be.

When in use the teeth were set in rows in a comb consisting of a wooden block with a handle, the block sometimes strengthened by sheet iron binding as examples for Thetford (I H Goodall 1984a, 79, fig 119.20, 21) and Coppergate, York (Hall 1984, 98, fig 107) indicate. The binding was not always present, however, as a comb from Harold, Bedfordshire demonstrates (Everson and Everson 1970, 39, fig 121-1k).

Shearboard hook or harbick, the arms originally straight with hooked ends. Traces of non-ferrous plating survive, particularly in the paired grooves on the central fingerhold. Shearboard hooks were used to secure cloth to a croppin g board in readiness for shearing, one of the finishing processes for cloth. A misericord at Brampton, Cambridgeshire (Carus-Wilson 1957, 106, pl Xv) shows the process under way, with the cloth held by a pair of hooks. Other shearboard hooks of iron and copper alloy are known from Winchester (D J Keene and I H Goodall forthcoming, BS 197, BS 297, BS 1190, BS 3466); another of copper alloy was found at Exeter (A R Goodall 1984b, 345, fig 193.177).

Leatherworking tools
(Fig 156)

26 Needle with distorted, circular-sectioned shank, flattened head, and round eye. The needle may have been used for sewing textiles or leather, its size perhaps better suited for the latter.

27, 28 Awls for piercing leather, both of square section and retaining traces of former wooden handles.

Agricultural and horticultural tools
(Fig 156)

29 Tanged spud for weeding.
30, 31 Weeds hooks with clenched tangs and broken, crescent-shaped blades. This is the most common type of post-Conquest weehook; one of late Saxon date is known from St Neots (Addyman 1972-3, 93-4, fig 19.26), and that from Thetford (I H Goodall 1984a, 81, fig 121.47) may be of this date. Illuminated manuscripts show such weehooks being used in conjunction with a forked wooden stick or crotch (Higgs 1965, 8, pl 13a); the clenched tang was a safeguard on a tool for the latter.
Fig 158 Iron
which was used with a vigorous pulling action.

Sickle blade with thickened back.

Stoneworking tools (Fig 156)

33 Double-ended pick, similar but slighter than one from King’s Lynn, Norfolk (I H Goodall 1977a, 295, fig 134.39) and capable of dressing millstones or pecking holes in stone slates.

Knives and shears (Fig 157)

34-63 Knives, all but a few blade fragments (nos 38-51) having whittle tangs which were inserted into handles. They have been grouped by blade shape: no 34 has a rising back which angles down to the tip; nos 35-51 have backs and cutting edges which are parallel before both converge to the tip, whereas nos 52-63 have blades which taper evenly from tang to tip. Most appear to have had tangs which were no longer than their blades. However, nos 35, 36, and 52-56 have, or had, tangs longer than their blades which all have cutting edges heavily sharpened to an elongated S-curve. These two features belong to a characteristic Viking-age knife type recognised generally in Norway (I P Petersen 1951, 518, figs 107-10) as well as on such Continental sites as Birka (Arbman 1940-3, taf 181-2) and Trelleborg (Nerlund 1948, pl XXVIII), and in England at Thetford (I H Goodall 1984a, 81-3, figs 124.84-89, 125.90-92a, 96-102). York (Waterman 1959b, 73, fig 7.4-11), and elsewhere. The Goltho knives of this type are from tenth- to eleventh-century contexts, in contrast to the wider date range of the shorter-tanged knives, some of which also have cutting edges shaped by sharpening. No 54, which has a clenched tang tip, retains traces of a former wooden handle, as do several other knives. No blade has a cutler’s mark or decorative groove on the blade.

The uses to which the knives were put can only be surmised. Many must have been for domestic or personal use, whether for eating with or for other household use. Others may have been used in one of the crafts known to have been undertaken on the site.

64, 65 Knives, both incomplete and with whittle tangs and a series of heater-shaped copper alloy plates set at the junction of blade and tang. The plates, originally separated by others of organic material now decayed, occur on such eleventh- to thirteenth-century knives as those from Winchester (I H Goodall forthcoming, BS 7833) and Duffield Castle, Derbyshire (Cox 1887, 173 and figure). The plates are essentially decorative, and are precursors of the shoulder plates applied to later knives, almost invariably those with scale tangs.

Cleaver with back burred by hammering and solid iron handle with two shallow depressions near the end. The substantial handle is typical of other cleavers, including one from Weoley Castle, Warwick (Oswald 1962-3, 132, fig 51.16), which also has a burred back.

Knife with substantial blade and tang with three iron rivets. The knife is unusual since riveted tangs ceased to be used after the Roman period and were probably not reintroduced on knives until the thirteenth century.

Shears, all the blades having plain tops. The looped bows of nos 68-70, characteristic of post-Conquest shears, confirm the popularity of this form at an earlier date, as already indicated by examples from Thetford and elsewhere (I H Goodall 1984a, 87, fig 126.105-10). Shears 68-72 could have had both domestic and industrial uses, including cutting cloth; no 73, in contrast, has a broader blade and may be from a pair of sheep shears.

Building ironwork and fittings (Fig 158)

74-84 Staples, most broken. No 84 is not illustrated. Nos 74-77 are U-shaped, and nos 78-84 are rectangular, some retaining inturmed arms. No 84, similar to no 83, is 60 x 24mm. U-shaped staples were used to hold fittings such as chains and hasps in place, and were also used in conjunction with hasps to secure doors and gates. Some of the rectangular staples may have been used similarly, or have held timbers together, although two like nos 82 and 83, but slightly smaller, were found acting as belt-loops on a seventh-century burial at Yeavering, Northumberland (Hope-Taylor 1977, 74, fig 87.2).

85 Wallhook. An all-purpose hook whose shank was driven into timber.

86-88 Two clenched bolts and a shaped rove. The clenched bolts, formed from nails with their tips clenched over a rove, were used in ship construction (Bersu and Wilson 1966, 13-14, fig 4, pl III), but these, given their find spot, are more likely to be from doors, shutters, or hatches on which they held ledges and battens together. The flat rectangular roves nos 86 and 87 are little more than washers, but the shaped rove, no 88, whose profile indicates the shape of the ledge it clasped, is obviously more decorative even if not necessarily more effective. Its form (Geddes 1982, 313-15) can be paralleled on the church door at Hadstock, Essex (Hewett 1974, 97-8, fig 65), perhaps of the mid eleventh century, and on such twelfth-century church doors as that at Stillington, North Yorkshire (Adyman and Goodall 1979, 90, fig 9). A more
angular form was employed on the slightly later well-cover from Lydford Castle, Devon (Geddes 1980).

89, 90  Hinge pivots, both long and comparatively slender. No 90 has a clench tip.

91  Loop rest, the shank driven into timber.

92  Looped hasp of angled figure-of-eight shape with hooked fingerhold at base, forged from twisted iron. Similar hasps were used on chests, as on one in Laneham church, Nottinghamshire (Mercer 1969, pl 28), and on hatches like the Lydford Castle well-cover (Geddes 1980). The smaller loop was fixed in position by one staple, while the larger loop passed over a second one to which a padlock was secured.

93–96  Hinge, no 93, and broken lengths of binding strip, nos 94–96, from caskets and boxes, all with non-ferrous plating. Similar fittings were often made of copper alloy, but other examples of iron include small hinges from Castle Acre Castle (I H Goodall 1982, 228, fig 130.156–61).

97–99  Curved and angled pieces of binding.

**Locks and keys**

(Fig 158)

100  Box padlock case, the two long sides strengthened and decorated with applied twisted rods. The U-shaped padlock bolt is missing, but the top of the case has an enlarged hole for the entry of the spring arm, and down one short side is the incomplete tube for the free arm. The T-shaped keyhole in the other short side is missing.

Box padlocks are almost entirely of pre-Conquest date, and this broken case is most likely to be residual in its context of c 1080–1125. A complete, similarly decorated box padlock, evidently derived from Anglo-
Danish levels, was found at Hungate, York (Richardson 1959, 81-3, fig 16.4; full size, not half), but a similar case is known from Thetford (I H Goodall 1984a, 89, fig 131.169).

101-104 Barrel padlocks, nos 101-103 cases with attached fins and tubes, no 104 a fin and tube fragment. Nos 101 and 102 are of some elaboration with longitudinal and transverse straps, some part of the construction of the padlock, others merely decorative, both have T-shaped keyholes along the underside. No 103, which is less complete, has projecting longitudinal straps on the case.

Barrel padlocks were in use alongside box padlocks in the pre-Conquest period, but the paucity of finds of either makes it impossible to assess their relative popularity. However, the rarity of box padlocks on sites established after the Conquest, in contrast to the substantial number of barrel padlocks found on them, does imply that the latter form was more common in the eleventh century. Barrel padlocks 101 and 102 are from contexts dated c 1000-1080, and they may be compared with later examples, including one from Castle Acre Castle (I H Goodall 1982, 228, fig 39.68). An earlier barrel padlock, of c 900, from Coppergate, York (Hall 1984, 108, fig 129), though of similar form, differs in its construction and decoration. The perforations on no 102, though found on other padlocks, are not a common feature. The projecting longitudinal straps on no 103, which is from topsoil, are normally found on barrel padlocks of thirteenth- and fourteenth-century date.

105-110 Padlock bolts, nos 105-108 U-shaped, no 109 T-shaped, no 110 a spring fragment. Nos 106 and 107 are not illustrated. When complete, the U-shaped bolts 105-108 had two arms, one the spring arm which entered the main part of the padlock case, the other the free arm which entered a tube. This type of bolt was used with both box and barrel padlocks, which one depending on the date of the bolt and on the shape of the closing plate on its spring arm. Nos 105 and 106 are from contexts before c 1080 and so are potentially from either type of padlock, whereas nos 107 and 108, from after c 1080, are more probably from barrel padlocks. Only no 105 has a sufficiently complete closing plate; it is circular, and is the bolt therefore from a barrel padlock. The scrollwork above this closing plate, which is also found on nos 106 and 107, recalls that on more completely preserved padlock bolts, including one from Weoley Castle, Warwickshire (Oswald 1962-3, 129, fig 51.2). It is partly a decorative feature, complementing the likely elaboration of the padlock case, but also functional, supporting the closing plate and, if necessary, providing a loop to which a chain might be attached in the manner of the gold padlock in the Fishpool, Nottinghamshire hoard (Cherry 1973, 312-13, pl LXXXVid).

The T-shaped padlock bolt, no 109, is from a barrel padlock with shackle, a type known from pre- and post-Conquest contexts, as at Winchester (I H Goodall forthcoming, CG 1345, 1347, 1348, BS 5468). No 110 is the base of a padlock spring riveted to the spine in the manner of others from Goltho village (Tylecote 1975, fig 39.60-1). Of the various padlock bolts 105-109, only nos 105 and 109 preserve anything of their spines and springs. No 105 has two spines at right-angles to each other, one retaining part of a double leaf spring, and no 109 has three spines, all with double leaf springs.

111-115 Padlock keys. Nos 111-114 are of a type in use both before and after the Conquest whose form was intended for use in padlocks with T-shaped keyholes (cf nos 100-102 above). Only no 111 is from a pre-Conquest context; the swollen stems of nos 112 and 113, spirally inlaid with copper alloy wire, are typical of a variant of this type of key found in eleventh- to thirteenth-century contexts, including some from Castle Acre Castle (I H Goodall 1982, 228, fig 40.84-88). No 115, with its laterally set bit and expanded terminal, was used with barrel padlocks with end keyholes. Though a common post-Conquest form, it was also current at an earlier date.

Key with lozenge bow and bit rolled in one with the hollow stem. Keys of this type were primarily used to open locks mounted on doors and chests.

117, 118 Sliding bolts from fixed locks, both with a single lower projection and from contexts dated before c 1080. Complete lock mechanisms rarely survive, but one contemporary with these bolts was found at Lloyds Bank, York (MacGregor 1982, 80-1, 159, fig 42.431, fig 45). It has an oak case with an iron guide pin and a simple mechanism comprising a tumbler and bolt, the latter slightly more sophisticated than the bolts from Goltho in having a pair of lower projections which the key bit engaged. Most lock bolts of this type have two projections or teeth. A further two were found at Lloyds Bank, York (ibid, 81, 159, fig 42.431-2), and of five from Thetford (I H Goodall 1984a, 95, fig 131.174-8), one has a single projection.

Household ironwork

(Fig 159)

119 Flesh-hook with two arms and a short, angled tang now incomplete. Similar flesh-hooks are known from sites of pre- and post-Conquest date. Two come from Thetford (I H Goodall 1984a, 95, fig 13.193-4), and another, with three arms, from Lloyds Bank.
York (MacGregor 1982, 80, fig 41.428). Other seventh- to eleventh-century examples from northern Europe are quoted by MacGregor (1982, 80), and later English examples include one of thirteenth- to early fourteenth-century date at Brooklands, Surrey (I H Goodall 1977b, 73, fig. 45.18). The angling of the tang and its short length are both related to the method of hinging.

120, 121 Vessel handles. No 120, though more angled than normal medieval bucket handles (Dunning 1974), nevertheless resembles a complete handle from Criccieth Castle, Gwynedd, found near what may have been a bucket (O’Neill 1944–5, 41, pl IX, 17). No 121, altogether smaller, may be from a chest or other item of furniture, although such handles were often rectangular in shape (Eames 1977, pls 31B, 46A, 49A, 51A, 52) rather than curved.

122-125 Chains and associated fittings. Nos 122 and 123 are broken chain links, both of twisted iron. Twisting gave strength to iron, as well as being decorative and displaying good craftsmanship. It was used for elements of the Sutton Hoo cauldron chain (Bruce-Mitford 1972, 39, figs 16, 17), as well as for a chain hook of 840–1000 from North Elmham Park, Norfolk (I H Goodall 1980a, 514, fig 267.89). No 124 is a chain of three figure-of-eight links with an end hook, no 125 a swivel hook originally used in conjunction with a swivel ring.

126-128 Rings. No 127 is distorted, 27 to 36mm diameter. No 128 is 54mm in diameter. Nos 127 and 128 are not illustrated.

129, 130 Objects with spatulate ends.

131 Spike of twisted iron, possibly an incomplete forging of a rushlight holder like some from Aarhus, Denmark (Andersen et al 1971, 168) found in late medieval contexts.

Buckles and chape
(Fig 159)

132-153 Buckles and parts of buckles, some not illustrated. Nos 132, 133 and 150 are from contexts of c 1000–1080, the remainder from c 1080–1150, or the end of that period. Those with D-shaped frames (nos 132–140) are the most numerous individual form, as they are among eleventh- to fifteenth-century buckles as a whole. Like the rectangular buckle frame, no 141, they could be from personal dress or from sword belts; some may be from harness, which is the most likely use for buckles 142–146 which all have rectangular frames incorporating revolving arms. The purpose of the revolving arm, like the sheet iron cylinder found at times on some buckles, was to ease the passage of leather straps and prevent them chafing. Nos 147 and 148 are revolving arms found independently of their frames. No 148, though of unusual shape, is paralleled by an example from Oxford (I H Goodall 1980b, fiche 2: CC9, fig. 51.76–7). No 149, a flat oval buckle with a pin bar carrying a sheet iron buckle plate, is probably not medieval, having few if any parallels of that date. Nos 150–153 are buckle pins.

All the buckles are simply shaped, as is usual among those made of iron, but a few (nos 157, 139, 142, 144) have decorative grooves on their surfaces. Nos 132, 135–137, 142, and 144 all retain traces of non-ferrous plating which protected them from rusting and incidentally gave them the appearance of a more noble metal.

Equestrian fittings
(Fig 160)

155–159 Horseshoes and horseshoe nails. The two horseshoes 155 and 156 are typical of 53 strapped horseshoes from Golttha. All have countersunk nailholes. Many, like no 155, retain fiddle-key nails which were also found separately (nos 157–159). One horseshoe comes from a period 4 context, 2 from periods 5–7. Three horseshoe nails came from period 5 contexts, eight from period 6, and one from period 7. The tang and its short length are both related to the method of hinging.

Some of the horseshoes from Thetford (I H Goodall 1984a, 104–5, figs 142–3) must be pre-Conquest, as is one from York (MacGregor 1982, 83, fig 44.37), with discussion of other English and Continental finds).

160–165 Bridle bits and harness fittings. Nos 160–162, all originally double-looped, are side links used to attach the reins to the mouthpiece of a bit. Nos 160 and 161 are decorated and plated with non-ferrous metal, and no 160 is almost identical to the link on a complete bit from York (Waterman 1959b, 74–5, fig. 8.1), itself related to Scandinavian examples of ninth- to tenth-century date. It is also similar to others from Thetford (I H Goodall 1984a, 100, fig 138.258–61). No 163 is the distorted and incomplete mouthpiece link from a bit. Nos 164 and 165 are strap distributors, no 164 capable of taking substantial strain. No 165 is much slighter, and its decorative detailing suggests that it may be from a belt rather than harness, like the copper alloy fitting from Cronk Moar, Isle of Man (Bersu and Wilson 1986, 72–5, fig 43).
Spurs
(Fig 160)

Blanche Ellis

166-170 Prick spurs, coming from contexts of c.1080-1150, are important early examples of a type of prick spur which combined straight necks with sides deeply curved under the wearers’ ankles. Curved sides first appeared in the twelfth century and became common during the thirteenth century. These earlier specimens had their leathers held by rivets between their terminals and small inner retaining plates (London Museum 1954, 98, fig 29.2, 6). All retain traces of non-ferrous plating. A similar iron spur from Castle Acre Castle, Norfolk, is in a layer no later than the 1140s (Ellis 1982).

166 Prick spur with D-section sides plunging into a deep curve under the ankles. Very small terminals, only large enough to hold two rivets set one above the other; four domed rivet heads and two of their stems remain. Straight round neck tapered to become thinner next to the quadrangular goad which has a damaged tip. Overall length 122mm, length of neck 49mm including 19mm goad, span 88mm.

167 Prick spur. The front end of one side missing. Of similar type to no 166 though more slender, the complete side even more strongly curved, its two-rivet terminal larger. Both rivets remain. Round neck, quadrangular goad, the facet of its point slightly concave. There is a slight possibility of diagonal incised line decoration on the outer surfaces of the sides, which have deteriorated too badly for certainty on this. No 167 is an exceptionally graceful specimen of the type. Overall length 140mm, length of neck 35mm including 24mm goad.

168 Prick spur, the front ends of both sides and goad tip missing. Similar to no 166 but sides less deeply curved. Overall length 118mm, length of neck 45mm including 18mm goad. Not illustrated.

169 Prick spur, the front end of one side missing, the other distorted. Similar to no 166 but more slender, the neck shorter and of rounded quadrangular section. Quadrangular goad, tip broken. Several traces of non-ferrous plating, silver or tin (Iope 1956). Overall length originally about 120mm, length of neck 34mm including 19mm goad. Neck and goad from a prick spur with traces of non-ferrous plating. Straight round neck decorated with encircling grooves at both ends and in the middle. Tiny, pointed, conical goad. This is from a spur of a type with long straight sides popular during the late Saxon period, and is probably eleventh century. Complete specimens of the type, plated with tin, are published by Iope (1956, 38-9, fig 13.1-3, 5). Overall length 57mm.

Weapons
(Fig 160)

171 Spearhead with pinned socket and broken tapering blade with stubby projecting wings. Winged spearheads are known throughout the medieval period, a close parallel though of late medieval date coming from Oslo (Grieg 1933, 294, fig 269; 1943, 115, fig 75. I should like to thank Dr D H Caldwell for these references).

172-175 Javelin heads, the broad lozenge-shaped sockets tapering to a point and flanked on two sides by narrow blades. No 175, which is not illustrated, is 39mm wide and 89mm long, and resembles the proportions of no 173. These four javelin heads, all from a context of c.1080-1150, invite comparison with one from a tenth- to eleventh-century context at Ipswich (West 1963, 274, fig 54.1). Others in later medieval contexts are known from Faccombe, Netherton, Hampshire (I H Goodall 1984b, 810, fig 9.11, no 587) and Wharram Percy, North Yorkshire (I H Goodall 1979, 121, fig 63.60).

176-197 Arrowheads, of which a selection is illustrated. All are socketed, but the blades have differing shapes. No 176 is triangular, nos 177-182 are lozenge-shaped, nos 183-196 have tapering blades, and no 197 has an enlarged head. Unillustrated arrowhead 180 has the proportions of no 178, whereas no 181 is like no 179; no 182 is a blade fragment. Among the tapering arrowheads, nos 183 and 184 are short, nos 185-196 are, or were originally, long. The three most complete, nos 185-187, are illustrated.

All the arrowheads except nos 177 and 191, which come from contexts of c.1000-1080, are from post-Conquest contexts, and their different types may all be found among the twelfth-century arrowheads from Castle Acre Castle (I H Goodall 1982, 235, fig 42.145-63). Similar, earlier arrowheads, most tanged but a few socketed, are also known from such continental sites as Birka (Armban 1940-3, taf 10-12) and Trelleborg (Norlund 1948, pls XLI-XLIII). Socketed lozenge-shaped and short, tanged arrowheads are also known from tenth- to eleventh-century contexts at Durham (Carver 1979, 17-18, fig 13, 174/1659, 185/1741). These arrowheads were probably all for military use, although those with triangular and lozenge-shaped heads would also have been effective in hunting.

Contexts of iron objects

29, 37, 129 Old soil level courtyard north of halls. Periods 2-3, c.800-950
7, 9 Eastern side of courtyard. Period 3, c.850-950
8 Early floor of long hall. Period 3, c.850-950
FINDS

38 North of weaving shed. Period 3, c 850–950
160 Stone path leading to long hall. Period 3, c 850–950
74 Upper levels of long hall floor. Period 3, c 900–950
35, 111 Area south of halls. Periods 3–4, c 850–1000
5 Tenth-century kitchen area. Period 4:1, c 950–975
53 Post-trench of first tenth-century hall. Period 4:1, c 950–975
10 Lower level of floor of tenth-century bower. Period 4, c 950–1000
85 Floor of tenth-century bower. Period 4, c 950–1000
14, 15, 25, 40, 52, 71, 39, 42, 57, 117 Area north-west of tenth-century halls. Period 4, c 950–1000
12, 13, 27, 58, 122 Floor of second tenth-century hall. Period 4:2B, c 975–1000
11 Small pit. Period 4, c 950–1000
26 Tenth-century ditch. Period 4
6, 19, 43, 54, 78, 86, 118, 131, 16–18 Soil above demolished weaving sheds. Periods 4–5, c 1000
68 Under early eleventh-century rampart. Period 4:2, c 975–1000
171 Misc posthole. Pre eleventh century
1, 3, 22–3, 44, 87, 132, 159 Top scraping of early kitchen built on site of tenth-century bowers. Period 5, c 1000–1080
20, 28, 56, 60, 82, 94, 102, 165 East of late Saxon hall. Period 5, c 1000–1080
34 Kitchen midden east of late Saxon hall. Period 5, c 1000–1080
21, 45, 59, 69, 70, 81, 83, 119, 130, 155 Spread of occupational debris north-west of late Saxon hall. Period 5, c 1000–1080
36, 88, 150, 177 Surrounds of late Saxon hall (upper levels). Period 5, c 1000–1080
46 Floor of eastern building. Period 5, c 1000–1080
55, 164 Final scraping of floor of late Saxon hall. Period 5, c 1000–1080
33, 64–5, 73, 76–7, 104–6, 127, 191 Late Saxon courtyard. Period 5, c 1000–1080
75 Kitchen floor. Period 5, c 1000–1080
79 Occupational spread south-west of late Saxon hall. Period 5, c 1000–1080
91 Outside northern building. Period 5, c 1000–1080
93 Timber-trench of pentice of late Saxon hall. Period 5, c 1000–1080
101 Northern building. Period 5, c 1000–1080
126 South of late Saxon hall. Period 5, c 1000–1080

133, 161 Posthole of late Saxon hall. Period 5, c 1000–1080
24, 32, 47–9, 51, 62, 66–7, 72, 80, 84, 90, 92, 95, 98–9, 108, 110, 113, 120–1, 123–4, 128, 134–9, 141–5, 147, 149, 151–2, 154, 156, 158, 163, 166–70, 172–5, 178–86, 188–90, 192–4, 196–7
30, 116, 146 Inner face of rampart. Period 6, c 1080–1150
50, 100, 107 Inner motte revetment trench. Period 6:1, c 1080–1125
31, 61, 89, 112, 157 Post-trench of hall. Period 6:1, c 1080–1125
63, 97, 162 Floor of hall. Period 6:1, c 1080–1125
115, 176 Garderobe in hall. Period 6:2, c 1125–50
96, 123, 140, 148, 153 Upper end of hall. Period 6:2, c 1125–50
195 Timber-trench for partitions between hall and kitchen, house in bailey. Period 6:2, c 1125–50
2 Moat. Periods 6–7, c 1080–1150
187 Posthole for door jamb in south wall of hall. Period 7, c 1150
4, 103, 109, 114 Topsoil

Unstratified Romano-British coins

RIC refers to Roman imperial coinage in bibliography.

1, 2 Local imitations apparently copying a dupondius of Divus Augustus struck in the reign of Caligula (AD 37–41). RIC Gaius 56.
Obverse: DIVVS AVGSTVS, radiate head left, SC.
Reverse: CONSENSV SENAT ET EQ ORDIN P Q R, Augustus seated left. Both coins are from the same pair of dies, and may be dated to between c AD 40 and c 64.
3 Dupondius (or possibly as) of Domitian, AD 81–96.
Obverse: IMP CAES DOMIT AVG GERM COS XVI CENS PER PP, radiate (or possibly laureate) head of Domitian to right.
Reverse: VIRTVTI AVGSTI SC, Virtus standing right with spear and parazonium.
RIC 406 (or 1409), AD 92–4, mint of Rome.
4 Base silver antoninianus of Gallienus, AD 253–68.
Obverse: GALLIENVS AVG, radiate head right.
Reverse: LIBERO P CONSV AVG, panther walking left.
RIC 230, c AD 266–8, mint of Rome.
5 Base silver antoninianus of Carausius, AD 286–93.
Obverse: IMP CARAVSIVS P AVG, radiate, draped and cuirass bust, seen from front, right.
Reverse: PAX AVG, Pax standing left holding olive branch and transverse sceptre.

Obverse: DN GRATIANVS AVGV AVG, bust pearl-diademed, draped and cuirass, seen from front, right.
Reverse: GLORIA NOVI SAECVLI, Emperor standing facing with labarum and shield.

Medieval coins
M.M. Archibald

Because of the condition of the coins, all weights are virtually useless except for identification purposes. BMC refers to British Museum Catalogue in bibliography.

1 EADGAR 957/9–975
Penny Two-line type BMC I (North 1980) 1a
Moneyer: Aserth Mint: uncertain (NE group)
Obverse: +EADGAR REX
Reverse: +ASERF ++/DNON
Wt 0.38gm = 5.8gr (very chipped at edge)
cf BMCI 73 (different dies)
Abnormal survivals apart, an absolute terminus for the currency of this piece is provided by the recoinage which took place towards the end of Eadgar’s reign c 973.

2 CNUT
Penny Pointed Helmet type BMC XIV (Dolley and Ingold 1961) IIIa
Moneyer: Wulfbern Mint: Lincoln
Obverse: +CNVT R / EX ANG
Reverse: +PVBLEREN ON LINC
Wt 0.60gm = 9.3gr (small hole; heavily cleaned)
Dies not in Mossop 1970
The issue of the Pointed Helmet type has been dated by Dolley (1978, 129) to 1024–30.

3 CNUT
Penny Short-Cross type BMC XVI
Moneyer: Li llic Mint: Lincoln
Obverse: reading uncertain
Reverse: +LI/ ?/PINCON/LINCO
Wt 0.96gm = 14.8gr (corroded, cracked, parts missing)
The reverse die is certainly Mossop 1970 ‘m’ and since the obverse has an annulet – rather than pellet – type shoulder brooch, the coin is probably a die duplicate of Mossop 1970 pl. IX no 27.

The issue of the Short-Cross type has been dated by Dolley (1978, 119–33) to 1030–35. Several hoards buried during the reign of Edward the Confessor, eg Wedmore c 1043 and Milton Street c 1055, still contain appreciable numbers of coins of Cnut so that a deposition date for coins 2 and 3 around the middle of the eleventh century remains a possibility. If however both coins were from the same level, this would greatly strengthen the case for an earlier deposition date within the reign of Cnut.

4 STEPHEN 1135–54
Penny BMC I
Obverse: ST ------
Reverse: -E(or F)---D:ON
Moneyer and mint uncertain
Wt 0.95gm = 14.7gr
Given that site-finds of this period are often still from the local mint and that there is space for three or four ‘missing’ letters between the E and the D, the most likely candidate would be Reinald of Lincoln. Unfortunately no die-link has been found with coins of this mint or with those having other possible candidates such as Altward (reading the ‘E’ as ‘F’ in this case).

5 STEPHEN 1135–54
Fragment of penny BMC I (not a cut-halfpenny)
Moneyer: ? Willem Mint: uncertain
Wt 0.45gm = 8.9gr
Obverse: ST---NE
Reverse: ? P ILL
No die-links with coins of mints at which a moneyer Willem is known on type I have been found.

6 STEPHEN 1135–54
Cut halfpenny BMC I
Moneyer: uncertain Mint: Canterbury
Obverse: ------E:
Reverse: ------N:CAN
Wt 0.23gm = 3.5gr (fragments, incomplete)
No reverse die-link with any coin of Canterbury has been found.

Objects of bone and antler
Arthur MacGregor

Bone pins
(Fig 161)

1 Pin, rectangular in section, with flat, angular head (head broken). Length 75mm.
2 Pin, subrectangular in section, with flat head pierced by one large and two smaller perforations and notched on either side with angular cuts; tip broken. Length 70.5mm.
3 Pin, ovoid in section with expanded head, broken through perforation. Length 80mm.
4 Pin, circular in section with squared, perforated head surmounted by two scroll-like ‘ears’. Length 128mm.

Stylistically these pins all resemble Scandinavian types from the British Isles, as at York (Waterman 1959b, fig 14) and Dublin (O’Riordain 1976, pl 16), and from numerous Continental settlements including Oslo (Grieg 1933, fig 210), and Hedeby (Schwarz-Mackensen 1976, 37, Abb 12).
Fig 162 Worked bone
Antler composite combs
(Fig 161)

5 Fractures of comb, comprising parts of the
decorated, tapering side-plate and two
tooth-plates; the end tooth-plate is slightly
expanded at the bottom and is interrupted at
the top on the innermost face by a transverse
saw cut. Decorated at the top with converging
pairs of incised lines. Two iron rivets
survive. Maximum height 45mm.

6 End tooth-plate fragment, expanded at the
bottom and notched at the top. Traces of one
iron-oxide-stained rivet-hole. Decorated with ring-and-dot motifs on both sides.
Height 45mm. Thickness 3mm.

7 End tooth-plate fragment; part of a suspen­sion hole and an iron-oxide-stained rivet­hole survive. Decorated with ring-and-dot motifs on either side. Maximum height
48mm. Thickness 3.5mm.

Bone spoon
(Fig 162)

15 Bone spoon, handle missing. The bowl is
narrow and elongated and is rounded at the
end; very shallow curvature. Length 59mm.
Width (max) 20.5mm.

Bone spoon
(Fig 162)

15 Bone spoon, handle missing. The bowl is
narrow and elongated and is rounded at the
end; very shallow curvature. Length 59mm.
Width (max) 20.5mm.

Bone spool and weaving implements
(Figs 161, 162)

8 Spindle whorl: cf bovine femur head, with
central perforation 12mm wide. Diameter
43mm.

9 Pin beater, with flattened, spatulate head;
polished and heavily grooved. Length
147mm.

10 Pin beater, with flattened, transversely
pointed head; polished and slightly grooved
at tip. Length 107mm.

11 Pin beater, with rounded, transversely
pointed head; polished, possibly recut at tip.
Length 122mm.

12 Pin beater, with roughly squared head;
polished. Length 117mm.

13 Pin beater, with roughly squared head;
polished. Length 110mm.

14 Broken rough-out for a pin beater. Length
51mm.

Spindle whorls made from bovine femur
heads are among those most commonly
found during the Anglo-Saxon and medieval
periods.

The pin beaters represented here, having a
round point at one end only and, in some
instances, a spatulate point at the other end,
are typically later Saxon. They contrast with
those of the earlier Saxon period which have
a rounded point at both ends, although this
latter type also survives until about the time
of the Conquest (MacGregor 1978, fig 36, 6).

Casket mount
(Fig 162)

16 Ornamental antler strip, with one surviving
fixing hole. Decorative marginal lines
incised on longer sides and four double
ring-and-dot motifs grouped in a lozenge
formation. Length 28.5mm. Width 18mm.

The practice of ornamenting small wooden
caskets with plates of bone or antler was
fashionable from the late Roman to the early
medieval period. Little or no variation can be
detected between earlier and later products
of the genre. Among those closest in date to
the Goltho piece are assemblages of mounts
from South Cadbury Castle (Greene 1970,
22–3) and Ludgershall Castle (Addyman
1966, pl XV), and two wooden lids with bone
mounts in situ from York (Addyman 1978, pl
10; Waterman 1959b, pl XVII).

Gaming pieces
(Fig 162)

17 Playing piece, onion-shaped, of dense cetacean bone. Flat base has a central perforation
5mm wide and 12mm deep, for insertion of a
peg. Slightly charred on one side. Diameter
34mm. Height 26mm.

18 Playing piece, discoid, cut from the angle of a
jawbone, probably cattle. Upper surface
decorated with 16 double ring-and-dot motifs, arranged concentrically within a compass-scribed border. Considerably worn. Diameter 44mm. Thickness 8mm.

Playing piece, discoid, of antler. Upper surface decorated with incised multiple concentric circles, with 4 large ring-and-dot motifs in central circle and 21 smaller motifs arranged concentrically towards the periphery. Diameter 44mm. Thickness 13mm.

Playing piece, discoid, of antler. Upper surface decorated with incised multiple concentric circles, with 3 pairs of ring-and-dot motifs grouped around the centre and 16 similar motifs arranged concentrically towards the periphery. A deep concentric groove partly obliterating the central groups of ring-and-dot is a later addition. Diameter 33mm. Thickness 12mm.

The affinities of no 17 distinguish it from the other pieces. Its general shape, the material, and the provision of a peg-hole all combine to suggest a Viking origin; it may be compared with other examples from Jarlshof, Shetland (Curle et al 1954, 19, fig 5) and from South Uist (MacLaren 1974, 17, fig 2, 37); four other pieces of this type in the National Museum of Ireland in Dublin may have come from the Viking cemetery at Kilmainham (Boe 1940, 53-4). Further examples with a more rounded outline are known from Scandinavia, notably at Birka (Arbman 1940-3, taf 147-50). Hencken (1950, fig 83) illustrates a gaming piece of different form but with a peg still in position, and the same author (Hencken 1937, pl XXV) has published a gaming board from Ballinderry. Crannog no 1 with holes for the pegs of the playing men. All these pieces, as well as the Ballinderry board, were probably used for the game of hnefatafl (Murray 1952, 56). The currency of the game in tenth-century England is confirmed by a manuscript illustration from the reign of Athelstan (Robinson 1923, 169-71).

Among the discoid counters, the two smaller examples, nos 20 and 21, although differing from each other in detail, are fairly certainly from the same set and, apart from their size, are closely comparable to no 19; no 18 is different in material but identical in diameter to no 19, suggesting that it may perhaps have served as a substitute for a lost antler counter.

Counters of this type are well known from the early medieval period and seem to have been introduced around the time of the Conquest. Those in antler and bone are most common, but more elaborate counterparts in ivory also exist (Dalton 1909, 74-83). Examples comparable with the Goltho finds may be noted from Methley, Yorkshire (I H Goodall 1973, fig 37, 10), King's Lynn (Clarke and Carter 1977, 314), London (R A Smith 1908, 165, fig 28), Winchester (Cunliffe 1964, 152, fig 52, 1-4), and Southampton (Platt and Coleman Smith 1975, 271, fig 247, 1930). They are probably to be identified with the game of tables (Murray 1941).

Crossbow nut
(Fig 162)

22 Crossbow nut of antler, lathe-turned, with a narrow axial perforation and with notches for the seating of the trigger sear, the bow-string, and the bolt or arrow. Diameter 23mm. Length 23mm.

Details of the construction of medieval crossbows and of the role of the nut are given by Payne-Gallwey (1903, 95-8). The antler nut lay across the top of the bow stock, cradled in a close-fitting socket and held in place by a pin. The point of the trigger lever (the sear) protruded through an aperture in the bottom of the socket and engaged in the lower recess of the nut, preventing it from turning until the trigger was pressed. The bow-string was held under tension in the upper notch, which is slotted to allow the arrow to engage the string. When the sear was disengaged from the lower notch the nut was left free to revolve, so releasing the string and hence the bolt.

Payne-Gallwey (ibid., 97) states that the trigger recess was invariably protected by a steel wedge. The considerable wear on the leading edge of the recess on the Goltho nut, combined with the absence of appropriate fixing holes, shows that this example never had such a wedge. A recent survey of crossbow nuts from archaeological contexts (Credland 1980) includes several examples, mostly of early date, without such wedges.

The early history of the crossbow has recently been reviewed elsewhere (MacGregor 1976), including the evidence for its currency in Norman Britain. Additional evidence is adduced by Credland (1980, 14-15). Other early medieval nuts include one dated to the first half of the twelfth century from Wareham Castle, Dorset (Renn 1960, 61) and two others, probably of thirteenth-century date, from Castell-y-Bere, Gwynedd (Butler 1974, 93) and Pevensey Castle, Sussex (Credland 1980, 15).

Contexts of bone and antler objects

1 Courtyard, tenth century. Periods 3-4, c 850-1000
Fig 163 Glass

2 Courtyard, tenth century. Periods 3-4, c 850–1000
3 Courtyard, ninth-tenth century. Periods 3-4, c 850–1000
4 Courtyard, tenth century. Periods 3-4, c 850–1000
5 Upper levels of long hall. Period 3, c 850–950
6 Bailey. Period 6, c 1080–1150
7 North-west of tenth-century halls. Period 4, c 950–1000
8 North-west of tenth-century halls. Period 4, c 950–1000
9 Trench north-west of tenth-century halls. Period 3, c 850–950
10 Ninth- or tenth-century levels of soil south of halls. Periods 3-4, c 950–1000
11 Yard north of Saxon hall. Periods 4-5, c 950–1080
12 North-west of tenth-century halls. Period 4, c 950–1000
13 West ditch. Period 4, c 950–1000
14 North of weaving shed. Period 4, c 950–1000
15 Upper floor levels of long hall. Period 3, c 850–950
16 Floor of late Saxon hall. Period 5, c 1000–1080
17 South of tenth-century halls. Period 4, c 950–1000
18-22 Late Saxon hall. Period 5, c 1000–1080

Unstratified Romano-British glass
(Fig 163)

Guy Beresford

1 Roman bead. White pressed on blue.
2 Roman glass bead.
3 Roman rock crystal bead.
4 Coloured mosaic bead. Section from rod.
5 Small Roman bead.
6 Second-fourth-century glass bead.
7 Mid to late Roman bead. Hexagonal/pentagonal section.
8 Mid Roman base. Pushed-in base ring.

I am most grateful to Dr D B Harden for identifying these finds.
Fig 164 Spindle whorls
Spindle-whorls
(Fig 164)

Guy Beresford

Ten examples of sandstone and chalk spindle-whorls, some decorated with incised lines. Nos 8 and 9 were found in ninth–tenth-century contexts.

Contexts

1  Romano-British pound. Period 2, c 150–200
2  West end of weaving shed. Period 3, mid ninth century
3  Long hall, early tenth century. Period 4
4  Tenth-century courtyard. Period 4
5  Tenth-century courtyard. Period 4
6  Tenth-century hall floor. Period 4
7  Floor of tenth-century bower. Period 4
8  South of tenth-century hall. Period 4
9  South of tenth-century hall. Period 4
10  Bailey c early twelfth century. Period 6

Whetstone

Guy Beresford

11  Finely made schist whetstone with hole bored through one end, presumably for leather thong to attach to belt.

Quernstones and mortar
(Figs 165–167)

D Smith

Quernstones

1a  Fragment of an upper quernstone, 380mm in diameter. The stone is very weathered and probably derives from the first century AD settlement on the site. This type of quern appears to be very widely distributed throughout Western Europe and persists well into post-Roman times in many areas.

1b  Approximately half a lower quernstone 150mm thick, 380mm in diameter, very weathered. This stone might be the lower stone for 1a above.

2  Fragment of coarse sandstone quern, 460mm in diameter, 30mm thick. The grinding surface is worn, with annular grooving, and the underside is roughly finished, indicating that it is probably part of a lower stone.

3a  Six fragments of an upper millstone 90mm thick, 740mm in diameter. The central hole is 100mm in diameter with a keyhole 15mm deep, 50mm wide, and 70mm long recessed into the grinding surface, which is pecked. The top side is moderately well finished. The source of power used to drive this millstone cannot be determined.

3b  Fragment of an upper stone 530mm in diameter and 65mm thick with a worn grinding surface. From a large quern or possibly a small mill.

4  Fragment of upper quernstone of Mayen lava 50mm thick (Hörter et al 1950–1). No trace of the grinding surface remains. Part of a handle hole 45mm deep and worn smooth inside remains.

5a  Two fragments of Mayen lava from a quern 460mm in diameter and 40mm thick with a pecked grinding surface.

5b  Fragment of Mayen lava quern 20–30mm thick with a very worn grinding surface and a very rough underside, indicating that it is part of a lower stone.

6  Twenty-three joining fragments of an upper millstone 860mm in diameter, average thickness 60–70mm with a collar 20mm high and 50mm wide around a central hole which is 130mm in diameter. A handle hole 50mm in diameter penetrates the stone near the outer edge. There are the remains of two keyholes approximately 25mm deep, 80mm long, and 70mm wide recessed into the underside of the stone around the central hole at an angle of 54° to the handle hole. The grinding surface has been almost totally destroyed by the heat.
of the fire, but a small portion is preserved on
the fragment from the yard and shows that it
was worn smooth although it was probably
originally pecked.

The stone is of considerable interest since
the pattern of wear on the handle hole,
combined with its irregular angle to the
keyholes for the rynd (bridge), implies that
the two were not functionally related. The
wear, on one side of the handle hole only,
shows that it was not intended merely as an
aid to lifting the stone but was the means by
which the stone was turned, in an anti­
clockwise direction. The contrast with the
millstone from Tamworth (excavated by
Professor P A Rahtz and on exhibition at
Tamworth Museum) is clear, since that stone
has no handle hole and four keyholes around
a much smaller central hole. It can therefore
be concluded that this stone belonged to a
mill driven by animal or human power.
There is little possibility of this stone having
been reused from a Romano-British mill
since the collar is typically a post-Roman
feature. No other stone of this type appears
to have been recorded in Britain.

Mortar

7 Fragment of stone mortar 140mm high,
280mm in diameter at rim, and 190mm in
diameter at base. The mortar has been used
for pounding.

Contexts

1 Middle Saxon palisade. Period 2
2 Late Saxon courtyard. Period 5
3 Threshold to eastern building. Period 5
4 Late Saxon courtyard. Period 5
5 Early eleventh-century kitchen area. Period 5
6 Late Saxon hall hearth. Period 4
7 Late tenth-century courtyard. Period 4
Identification of stone

Martyn Onew

1a, 1b Pebble glauconitic calcareous sandstone obviously from the Spilsby Sandstone (Lower Cretaceous) of Lincolnshire. Although these strata are mostly unconsolidated sands, large cemented concretions of this type are common and would have been very suitable for millstone manufacture.

2a, 2b Coarse-grained sandstone identified as Millstone Grit from the Pennines. There are some differences in colour and grain-size, but they are within the range usually seen in these strata.

Pale orange-buff ironshotted oolitic limestone probably from the local Interior Oolite (Jurassic) strata that occur in a north–south running belt passing through Lincoln itself.

Animal bones, with some notes on the effects of differential sampling

(AML Report 3589)

RT Jones and RBaben

Methods

The vertebrate remains from the manor site were examined at the Ancient Monuments Laboratory, then of the Department of the Environment, during December 1981 and January 1982. Full use was made of the Laboratory's skeletal reference collection. Data recording followed the method outlined in Jones et al. 1981, the initial data record being made on a semi-automatic vernier caliper attached to a teletype producing punched paper tape. The data were processed and analysed using both a Research Machine 380Z and a Cromemco Z2H utilising custom-written software. Both metrical and nonmetrical archives of the animal bone information were produced and these are available at the Ancient Monuments Laboratory, 23 Savile Row, London W1. The bone material at the time of writing also resides with the Ancient Monuments Laboratory.

Results

A total of 2938 bones were recorded from the site. The following bones for each species were identified: cattle (Bos sp domestic) 550, goat (Capra hircus) 14, ovicaprid (Ovis sp/Capra sp) 528, pig (Sus sp domestic) 368, horse (Equus sp domestic) 57, red deer (Cervus elaphus) 17, fallow deer (Dama dama) 33, roe deer (Capreolus capreolus) 75, large ungulate 531, small ungulate 371, dog (Canis sp domestic) 15, rabbit (Oryctolagus cuniculus) 4, hare (Lepus sp) 10, badger (Meles meles) 1, domestic fowl (Gallus sp domestic) 100, goose (Anser sp) 65, domestic duck/mallard (Anas sp) 10, carrion crow (Corvus corone) 1, common buzzard (Buteo buteo) 1, cod (Gadus morhua) 17, unidentified mammal fragments 164, and unidentified bird bone fragments 4. Only species from this list up to and including dog are considered further (Table 8). Species listed after dog are presented in Table 15, on a period by period basis. The representation of species for each period group is presented in Tables 9–13 and Table 14, for the unstratified material.

Discussion

There are two main areas of interest associated with the faunal remains from Goltho. These are the seeming inconsistency of the sampling strategy and the changing proportions of species through time.

Sampling

Normally the faunal collection from a site consists of approximately 50% unidentifiable fragments, with this proportion tending to increase as the excavation progresses owing to the diggers’ greater familiarity with the site. Viewed in this light the yearly variation, Table 7, of fragment recovery at Goltho is remarkable. In 1971, average levels of fragment recovery occurred, although the sample size overall was low, and these figures were maintained through 1972. By 1973 the proportion of unidentifiable fragments had dropped and by the final season’s work in 1974 it was dramatically reduced, as was the total sample size. It is of interest that in 1974 three phases of the site were excavated, the last phase producing the fewest fragments. This variation from year to year nullifies any but the crudest interpretation of the faunal remains from Goltho. It is also clear from the bone assemblage that all the bone was well preserved, and that only whole bones, bones with obvious joints, and fragments usually more than 80 mm long were selected.
Fig 168 Animal bone: goat horn core (photo: Ancient Monuments Laboratory)
for retention during excavation. For this reason species with bones less than 60mm in length have been excluded from the analysis. These species are presented in Table 15.

The fauna

Considering the poor sampling of the Goltho animal bones it is possible to suggest tentatively the following proportions of different species. Taking the site as a whole the most well represented species were cattle (21.5%) and ovicaprids (20.6%). Pig, representing 14.4% of the assemblage and considering its smaller size, was probably of similar importance. Horse is not usually present in large numbers but at Goltho it seemed to be fairly well represented, making up 2.2% of the collection. The deer as a whole represented 4.9%, again an unexpectedly high proportion of the bones, roe deer being the predominant species. This pattern remains similar when the finds are divided into their period groups, but with horse reducing in numbers after period group 3/4, though this could again be a reflection of the inconsistent samples. Some change occurred in period group 6 in which the ovicaprid bones predominated (23.8%). In all there were nine goat horn cores from the site, all of the long curved form often seen in collections from sites of this date (Fig 168). However they only occurred in period groups 2 and 5. They all appeared to have been deliberately removed from the skull, which indicates that there may have been some form of hornworking on the site. Fowl occurred in all periods and goose in all but period 7.

The changing importance of deer through time at Goltho is of interest. Tables 9 to 13 inclusive show that no deer were recorded from period 2 (possibly due to the sampling), while red, fallow, and roe deer occurred in period groups 3 to 6 with the most frequent species changing from fallow in group 3/4 to roe in groups 5 and 6. In periods 5 and 6 a small number of roe deer bones showed signs of butchery in the form of knife and chop marks. These marks were not apparent on the other species of deer or in other periods. Butchery marks were recorded on all the domestic species, but no attempt has been made to analyse them owing to the poor fragment count. In Figure 169, two interesting things can be seen: firstly that three of the five ovicaprid tibia, on the left of the photograph, are broken part way down the midshaft
(this point of breakage was very common throughout the site); secondly that these five tibia and (from left to right) a roe deer metatarsal, a roe deer radius, and an ovicaprid radius are all pierced to some degree, at the distal end in the case of the ovicaprid tibia and at the proximal end in the other three bones. These holes have been noted at other sites (Wall 1980). From the varying degree of perforation on either one side or both, our impression is that they were made by dogs' canine teeth. A common form of splitting of metapodials, usually those of cattle and in some cases those of ovicaprids, is shown by a cow metatarsal that has been cleft from the distal reticulation towards the proximal end along the bone's axis. The result was that a reasonably large splinter of bone was cut off and it is possible that this may have been a primary stage in the manufacture of some form of bone object. The gnawing of the bones, probably by dogs, is also common, perhaps indicating that refuse was left lying around the site.

Pathology

There were 39 recorded pathological bones, 31 of which were of dental pathology and 8 of axial pathology. Only four of these are of sufficient interest or severity to be described here. A horse metacarpal from period 5 has exostosis around the distal midshaft. X-radiography showed that this extra bone was associated only with the outside of the bone. A cattle metatarsal and associated tarsal bones, from period 5, are ankylosed together. This condition is referred to in Baker and Brothwell 1980 (119, fig 11) and is relatively common. One large ungulate rib has a large hole on the caudal intercostal surface immediately below the tubercle. The hole is smooth and penetrates almost through to the cranial surface. This may have been a congenital abnormality. The absence of column three of the third lower molar in cattle is relatively common and at Goltcho it occurred twice, once in period 2 and once in the unstratified group.
**Table 7** Variation in fragment recovery

<table>
<thead>
<tr>
<th>Year of excavation</th>
<th>Period</th>
<th>*Total of unident. fragments</th>
<th>Total fragments recovered</th>
<th>% of fragments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971</td>
<td>7</td>
<td>17</td>
<td>43</td>
<td>39.5%</td>
</tr>
<tr>
<td>1972</td>
<td>6</td>
<td>698</td>
<td>1525</td>
<td>45.2%</td>
</tr>
<tr>
<td>1973</td>
<td>5</td>
<td>329</td>
<td>1066</td>
<td>30.9%</td>
</tr>
<tr>
<td>1974</td>
<td>3/4</td>
<td>19</td>
<td>166</td>
<td>16.4%</td>
</tr>
</tbody>
</table>

*Unidentified fragments include 'unidentified mammal' fragments and 'large' and 'small ungulate' fragments.

**Table 8** The numbers of mammalian bones from different species and different parts of the skeleton for the whole site

<table>
<thead>
<tr>
<th></th>
<th>Cattle</th>
<th>Goat</th>
<th>Ovine</th>
<th>Pig</th>
<th>Horse</th>
<th>Red deer</th>
<th>Fallow deer</th>
<th>Roe deer</th>
<th>Large ung</th>
<th>Small ung</th>
<th>Dog</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skull</td>
<td>14</td>
<td>-</td>
<td>11</td>
<td>51</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>82</td>
</tr>
<tr>
<td>Jaw</td>
<td>76</td>
<td>-</td>
<td>82</td>
<td>187</td>
<td>4</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>1</td>
<td>7</td>
<td>-</td>
<td>323</td>
</tr>
<tr>
<td>Scapula</td>
<td>32</td>
<td>-</td>
<td>38</td>
<td>12</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>9</td>
<td>21</td>
<td>6</td>
<td>-</td>
<td>118</td>
</tr>
<tr>
<td>Humerus</td>
<td>38</td>
<td>-</td>
<td>77</td>
<td>28</td>
<td>7</td>
<td>1</td>
<td>4</td>
<td>8</td>
<td>6</td>
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<td>169</td>
</tr>
<tr>
<td>Radius</td>
<td>51</td>
<td>-</td>
<td>78</td>
<td>21</td>
<td>2</td>
<td>2</td>
<td>13</td>
<td>6</td>
<td>3</td>
<td>-</td>
<td>-</td>
<td>176</td>
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<td>Ulna</td>
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<td>7</td>
<td>22</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>51</td>
</tr>
<tr>
<td>Metacarpal</td>
<td>68</td>
<td>4</td>
<td>13</td>
<td>8</td>
<td>-</td>
<td>1</td>
<td>11</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>105</td>
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<td>1st Phalanx</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>29</td>
</tr>
<tr>
<td>2nd Phalanx</td>
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<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>3rd Phalanx</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>Os coxae</td>
<td>29</td>
<td>-</td>
<td>41</td>
<td>10</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>23</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>121</td>
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<tr>
<td>Femur</td>
<td>24</td>
<td>16</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td>3</td>
<td>19</td>
<td>30</td>
<td>2</td>
<td>96</td>
<td>290</td>
</tr>
<tr>
<td>Tibia</td>
<td>31</td>
<td>-</td>
<td>130</td>
<td>84</td>
<td>8</td>
<td>7</td>
<td>13</td>
<td>20</td>
<td>40</td>
<td>5</td>
<td>-</td>
<td>290</td>
</tr>
<tr>
<td>Fibula</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Calcaneum</td>
<td>9</td>
<td>-</td>
<td>8</td>
<td>3</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>33</td>
</tr>
<tr>
<td>Astragalus</td>
<td>27</td>
<td>-</td>
<td>4</td>
<td>2</td>
<td>5</td>
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| % contribution   | 21.5   | 0.5  | 20.6  | 14.4| 2.2   | 0.7     | 1.3         | 2.9      | 20.8      | 14.5      | 0.6 | 100   |
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| % contribution | 52.5 | 0.9 | 16.2       | 4.8 | 7.6   | 0.9        | 2.9 | 1.9   | 7.6        | 3.8   | 0.9   | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 | 100.0 |
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Table 15   Number of bones per period of all species not in Table 8

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Summary

Excavations between 1971 and 1974 on the site of the earthwork castle of Goltho in advance of its levelling and ploughing revealed not only the remains of structures belonging to the eleventh- and twelfth-century castle itself, but also a sequence of earlier houses of aristocratic status. Detailed study of these remains of timber halls and their related buildings has provided a substantial amount of new evidence for and raised renewed questions about the origins of private defence in England.

The earliest remains on the site (Figs 13–16) were those of a sequence of three circular houses of Roman date, part of a farmstead first occupied around AD 50 but apparently abandoned by AD 200. A spread of debris of the later Roman period suggested that there was a more substantial building of that date nearby. There was no evidence for the subsequent use of the site until the middle Saxon period.

Around AD 800, two houses built of timber and clay within palisaded enclosures fronted onto a street running across the site (Fig 21). These were probably part of a planned village settlement. Within 50 years or so, however, these houses were demolished to make way for an important timber house of aristocratic status, the first of a sequence of three such houses built prior to the implantation of the castle in 1180. This first Saxon manor (Fig 28), comprising a bow-sided hall, kitchen, and weaving-shed round three sides of a courtyard and with a separate bower house, was defended by a substantial earthen rampart and ditch (Figs 29–31).

These buildings were renewed on the same site around AD 950 (Fig 59). The earlier hall was replaced with an aisled hall, itself later rebuilt, and a new kitchen and weaving-shed occupied the positions of those of the previous layout. The bower was enlarged to provide more space for private apartments: internally it was subdivided into smaller chambers, and it was moved closer to the upper end of the hall. It was rebuilt several times before AD 1000.

The site was laid out afresh in the early eleventh century (Figs 71, 75), when the courtyard was increased in size and all the principal buildings surrounding it were renewed. The latest of the bowers from the previous manor was converted into a kitchen, though a new one was later added. The defences were rebuilt during this period (Fig 72) to enclose a larger area of occupation. Although the principal gate on the north side of the enclosure was destroyed by the later castle, the postern gate lying to the south-east survived.

Around 1080, a small motte and bailey castle (Fig 89) was built within the existing late Saxon fortifications. The motte, surrounded by a moat, stood near the church and dominated the village around it. It sealed the remains of the earlier Saxon periods and lay astride the rampart which had enclosed them. Although it was partially levelled in the mid twelfth century, the remains of the basement of the timber tower it originally bore were excavated. In the associated bailey there were remains of a single-aisled hall (Fig 112).

After the partial levelling of the motte and the top of the ramparts to raise ground level within the bailey, a new and more substantial twelfth-century aisled hall, still of timber, was built on the site (Fig 118). This does not appear to have been occupied for any substantial length of time.

Pottery and other finds from the site can be closely related to the sequence of buildings and help to define the status of the occupants at different periods of the site’s use. In addition, a full assessment of the complex manorial and tenurial history of the area attempts to determine who were the owners of the manor from eleventh- and twelfth-century documentary sources.

Résumé

Les fouilles entreprises entre 1971 et 1974 sur le site du château féodal de Goltho avant d’être nivelé et labouré, ont révélé non seulement les restes des structures du château du onzième et du douzième siècle, mais aussi une série de domiciles seigneuriaux plus anciennes. Une étude détaillée de ces restes de maisons en bois avec leurs complexes de bâtiments a fourni une quantité considérable de données pour redefinir des perspectives et pour poser des nouvelles questions sur les origines de la fortification privée en Angleterre.

Les restes les plus anciens sur le site étaient une sequence de trois bâtiments ronds de l’époque romaine, qui formaient partie d’un établissement agricole occupé dans les environs de l’année 50 de notre ère jusqu’au son abandon vers l’année 200 (Figs 13–16). Une couche de débris datant du bas empire a démontré l’existence d’un plus grand bâtiment contemporain dans les environs. Il n’y avait point de trace d’une occupation du site entre l’époque romain et le neuvième siècle, la période ‘Middle Saxon’.

Les environs de l’année 800, deux maisons, bâties en bois et entourées de palisades, débouchaient sur une rue qui courait à travers le site (Fig 21). Elles étaient probablement une partie d’un village de plan régulier, jusqu’à ce moment sans défences. Après au moins 50 ans, ces maisons étaient demolière pour être remplacées par un établissement toujours en bois du rang aristocratique, le premier de trois complexes consécutifs à cet endroit avant l’implantation du château en 1080. Ce premier manoir Saxon (Fig 28) avait une grande salle aux côtés en forme d’arc, une cuisine, et un établissement de tissage sur trois côtés d’une cour rectangulaire. Une demeure privée se trouvait un peu détachée des autres bâtiments, et le tout était entouré d’un rempart de terre avec un fossé (Figs 29–31).

On a renouvelé les bâtiments à la même place aux environs de l’année 950. La grande salle était remplacée par une salle à bas-côtés, soi même rebati un peu plus tard: la cuisine et l’établissement de tissage étaient rebattis comme dans le manoir précédant. La demeure privée, agrandie pour fournir de chambres individuelles, et rebâtie plusieurs fois avant l’année 1100, prit position plus près de la partie haute de la grande salle.

Au début du onzième siècle, le manoir était rebati de nouveau (Figs 71, 75). La cour était agrandie, et
tous les bâtiments principals ont été reatis. La domicile privée devenait une cuisine bien qu’une nouvelle fut construit un peu plus tard. On a augmenté les fortifications (Fig 72) à cette époque pour renforcer une complexe plus grande. Bien que la porte d’entrée principale fut démolie par la construction du château conséquent, une pôterne au coin sud de la site a survécu.

En 1080, un château Normand de type ‘motte and bailey’ (Fig 89) fut construit dans les limites mêmes des fortifications existantes. La motte, entourée par un fossé, était située près de l’église, et dominait le village qui l’entourait. Elle a remplacé les restes des manoirs Saxons, et était à cheval sur le rempart qui les entourait. Bien qu’elle fut partiellement nivelée au milieu du XII siècle, on a pu examiner les restes des un sous-sol de son tour en bois. Dans la basse-cour (bailey) il y avait des restes d’une grande salle à un bas-côté (Fig 112).

Après le nivellement partiel de la motte et la partie superieure des remparts pour rehauser le niveau de la basse-cour, une nouvelle et plus grande salle a bas-côtés du douzième siècle était batie, toujours en bois, sur le site (Fig 118). Son occupation a dû être de courte durée.

Le céramique et le mobilier de Goltho peuvent très exactement être reliés à la suite de bâtiments des périodes Saxones et Normandes, et aident ainsi à définir le rang aristocratique ou seigneurial des occupants à des périodes différentes. Une étude de l’histoire complexe de manoir et sa propriété locale a tendance à découvrir, du point de vue des sources documentaires du onzième et douzième siècle, les propriétaires seigneuriaux pendant la période normande.

Zusammenfassung


Die früheste Überreste (Figs 13-16) waren die einer Folge dreier Rundhäuser aus römischer Zeit, die Teil eines Gehöfts waren, das ca, 50 n, Chr. zum ersten Mal bewohnt, aber offenbar 200 n Chr aufgegeben wurde. Spuren und Baureste aus spätromischer Zeit lassen darauf schließen, dass es wesentlich mehrere Gebäude aus diese Zeit gab. Es gab aber keinen Beweis für eine spätere Nutzung dieser Ausgrabungsfäche bis zur mittelangelsächsischen Zeit.

Um 800 n Chr lagen zwei aus Holz und Lehm gebaute Häuser innerhalb eines Palisadenzaunes an eine Strasse, die quer durch das Gebiet verlief (Fig 21). Jene waren wahrscheinlich Teil einer geplanten dörrlichen Niederlassung. Diese Häuser wurden jedoch vor 50 Jahren wieder abgerissen, um Platz für ein wichtiges Adelshaus aus Holz zu schaffen. Dieses war das erste dreier solcher Häuser die zuvor an dieser Stelle errichtet wurden, ehe die Burg 1080 gebaut wurde.

Dieses erste angelsächsische Gehöft (Fig 28) bestand aus einem Hof, der von drei Seiten durch eine Halle mit nach aussen gewölbten Wänden, einer Küche und einer Webhütte begrenzt war, und stand in Zusammenhang mit einem alleinstehenden Wohnhaus. Dies alles wurde durch einen Schutzwall und Graben verteidigt (Figs 29-31).

Diese Gebäude wurden um 950 n Chr an gleicher Stelle wieder errichtet (Fig 59). Die frühere Halle wurde durch eine Halle mit Seitenflügel ersetzt, die später wieder aufgebaut wurde. Eine neue Küche und Webhütten hatten die gleichen Platz wie die vorhergehenden eingenommen. Das Wohnhaus wurde vergrössert um mehr Platz für Privatwohnungen zu schaffen; innen wurde es in kleinere Räume unterteilt, und es rückte dem oberen Ende der Halle näher. Es wurde vor dem Jahre 1000 n Chr mehrmals wieder aufgebaut.

Dieses erste angelsächsische Gehöft wurde im 11 Jahrhunderts neu angelegt (Figs 71, 75), als der Hof vergrössert und all die Hauptgebäude, die ihn umgaben, erneuert wurden. Das neueste der Wohnhäuser des vorgehenden Gehöfts wurde in eine Küche umgewandelt, obwohl eine neue später hinzu kam. Die Verteidigungsanlage wurde in dieser Zeit ebenfalls erneuert (Fig 72) um ein grösseren Gebeit zu umfassen. Obwohl das Haupttor an der Nordseite der Einzäunung durch die spätere Burg zerstört wurde, blieb das Nebentor auf der Südost-Seite erhalten.

Um 1080 wurden innerhalb der schon bestehenden spätangelsächsischen Befestigungsanlage eine Burg vom Typus ‘motte and bailey’ gebaut (Fig 89). Der von einem Graben umgebene Turmhügel (‘motte’) stand in der Nähe der Kirche und herrschte über das umliegende Dorf. Er lag quer über dem Schutzwall und verbarg die Überreste der vergangenen angelsächsischen Perioden, die er eingeschlossen hatte. Obwohl es in der Mitte des 12 Jahrhunderts teilweise eingebeet wurde, konnten die Fundamente des Holzturmes ausgeräumt werden. In dem dazugehörigen Hof gab es Überreste einer Halle mit einem einzelnen Seitenflügel (Fig 112).

Nach der teilweisen Einsturz des Turmhügels und des oberen Teils des Schutzwalls um den Innenhof aufzuschütteten, wurde eine neue und solide Halle mit Seitenflügel, die immer noch aus Holz bestand, auf diesem Gelände im 12 Jahrhundert gebaut (Fig 118). Ihr Okkupation dauerte nur kurze Zeit.

INDEX

St Albans (Herts), eleventh-century tiles 170
StBotolph (Hadstock, Ess), church 118
StNectans (Cambs) 23, 45; Saxon pottery 134; weedbook from 178
Saxon x, 12
aristocratic holdings, origin 123
farmsteads 23-5
defences 30, 89
houses 25-8, 126
industrial evidence, 75thining 35
middle Saxon settlement at Goltho 22-8, 121
pottery 25, 57, 59, 68, 83, 84, 121, 122, 134-64
stratified groups from Goltho 134, 137-64
orientation 164-8
grey ware 22, 25
grey sandy ware 25, 30, 42, 63, 72, 79, 135, 137, 141, 143, 147, 151, 154, 158, 164, 166, 167
compared with Torksey ware 135
harsh shell-tempered ware 22, 61, 63, 72, 79, 86, 135, 141, 143, 147, 151, 154, 158, 164, 166, 167
Ipswich ware 167
lamps 68, 147, 151, 154, 166
Lincoln products 164-7
Maxey-type ware 22, 25, 42, 137, 141, 164, 166
Norman-by-le-Wold 135, 164, 166, 167
ship-tempered ware 22, 25, 30, 42, 61, 63, 72, 79, 134-5, 137, 141, 143, 147, 151, 154, 158, 164, 166, 167
Goltho group compared with Lincoln 134-8
splash-glazed ware 72, 79, 86, 135, 147, 151, 154, 158, 164, 166, 167
Nottinghamshire splash-glazed ware 158, 164, 168
Stamford ware 25, 30, 63, 72, 79, 137, 137, 141, 143, 147, 151, 154, 158, 164, 166
Thertford ware 135, 166
Torksey ware 22, 25, 30, 42, 63, 72, 79, 135, 137, 141, 143, 147, 151, 154, 158, 164, 166, 167
settlement in England 22
Scrivelsby (Lincs), ‘Teapot Hall’ 84
settlements, medieval 3
sheep 16, 24
Skuldelev (Denmark), ships 49
Socomb (Durham), log-back stone 50
Soignies (Hainault, Belgium), Romanesque church 51, 52, 117
Southampton (Hants), gaming piece 192
South Uist (Scotland), gaming piece 192
Suffolk (Saxony), church 118 medieval buildings 125;
sheep 16, 24
Sutton Hoo (Suff) 184
towers: in relation to mottes 96-9; in motte
construction 96-9, 108-10, 113-17, 119
braces 117
day, use of 25, 27, 38, 63, 81, 105-6, 108, 125
cob 27, 104, 109
cruck 27
joints 47, 105-6, 109, 116, 117, 125
posts and postholes 28-7, 108, 116-17
durability of posts 76, 120
roofs 27-8, 50-2, 64, 77, 81-2, 109
sill-beam 47, 116, 120, 121, 125
stave-construction 22, 38, 41, 45, 46, 47, 48, 49, 52, 54, 57, 59, 68, 75-6, 79, 81, 105-6, 108, 112-17, 120, 125
timber-framing 27, 47, 76, 125
towers 112
wattles, use of 19-20, 27, 59, 81, 106, 117, 125
windows 49
Middle Saxony 26-8
Romano-British 19-21
Saxon compared with later medieval 47
sunk-en-floored 55
towers at Goltho and elsewhere 104-6
see also halls; houses
Tofting (Holstein, Germany), longhouse 66
Totnes (Devon), stone tower 99
towers: in relation to mottes 96-9; in motte and bailey castle at Goltho 100, 103-6
Tower of London, defences tab 2
Trelleborg (Denmark), defences 14, 32, tab 2; stave-construction 12, 47, 49, 58, 120; knife 181; arrowhead 186
turf, in roof construction 27-8
Tyler Hill (near Canterbury, Kent), tile factory 170
Urmes (Norway), stave church 41, 77
Utrecht Psalter 67, 115
Vanga (Gotland, Sweden), stave construction 41, 63
Viking: defences 89; bow-sided house-plan not exclusively Viking 45; gaming pieces 192; influence on Goltho halls 66, 120; origin for Goltho discussed 30; settlement of Lindsey 30, 123-4
villages, medieval 7-8

Wacher, Prof J 169
Wales, Dr CJ 129
Wallington (Berks, now Oxon), castle 104, tab 2
Waltham Abbey (Ess), aisled building 65, 66
Wareham (Dors), defences 32, 124; cross-bow nut 192
Warendorf (Westphalia, Germany) 12, 23, 29, 45, 65
water supply to motte-tower 104
wattles 19-20, 27, 81
weavers, living conditions, tenth-century 68
weaving 30, 55
at Goltho ninth-tenth century 55-7
at Goltho mid tenth century 61, 68
equipment found at Goltho: heckle-teeth 55, 178
looms 53-7
pin-beaters 55, 191
shearboard hook 55, 178
see also iron objects
loom-weights absent from Goltho 55
weaving-sheds x, 35, 38, 55-3, 61, 68
Weldon, Great (Northants), circular hut 16
Wesleyan Methodist chapel at Goltho 127
Westminster 29; aisled building 65, tab 3; carved capital 99
West Stow (Suff) 23; weaving-hut 55; bone comb 191
Wharram Percy (N Yorks), javelin 186
Whitwell, Dr JB 168, 169
Wijchen (Netherlands), aisled building 65
William I, King 125
Winchester (Hants), motte 95; bone spoons 191; bone gaming pieces 192; shearboard hook 178; knife 181; padlocks 183
windows, in twelfth-century hall 118-19
Winterton (Lincolnshire, now Humberside) 16, 21
Wintringham (Hunts, now Cambs) 38, 54, 59, 64, 66, 81, 109
Woodland, Mrs Rosemary 168, 169
woodworking tools 178
Wragby (Lincs) 7, 130 n1
Wullstan, Archbishop of York 34
Yeavering (Northumb) 14, 29, 34, 38, 45, 47, 49, 54, 65, 66, 125, 126, 181
Young, Mrs Jane 169
York: bone pin 188
bone mount 191
Coppergate 47, 60, 125, 177, 178, 183
Baile Hill, motte 95
metal ‘octopus’ mounts 176
post-conquest defences tab 2
Hunghate, padlock 183
Lloyds Bank, iron objects 183, 184
PERIOD 2 MIDDLE SAXON HOUSES & BOUNDARIES C. 800-1300

Fig 24: Period 2: Middle Saxon houses and boundaries
Fig 26. Periods 3-4: superimposed halls and domestic offices (950–1066). The hatched line marks the positions of structures of the 10th century and early to mid-11th century, which are thought to be dark.
Fig 71: Period 3, a (1980-1990) plan showing the position of the hall and domestic offices and the reconstruction of the defences. The confinements on the east and south sides of the site stood up to the height of roof 1. Some of the excavation in the central part of the house was not carried out. The remains of buildings were confirmed by trial trenching, as shown in the vertical photographs of the site (Fig 3, 10).
Fig 79: Periodic plan of motte and Bailey castle c. 1550-1650. The sites of the cross-roads are indicated by the cross on the map. The outline marking the site of the town is included on the plan.
Front cover

Periods 1–2: view looking south of the remains of the Romano-British huts, of the middle Saxon houses and their boundaries, and of the footings of the postholes cut from higher levels.