

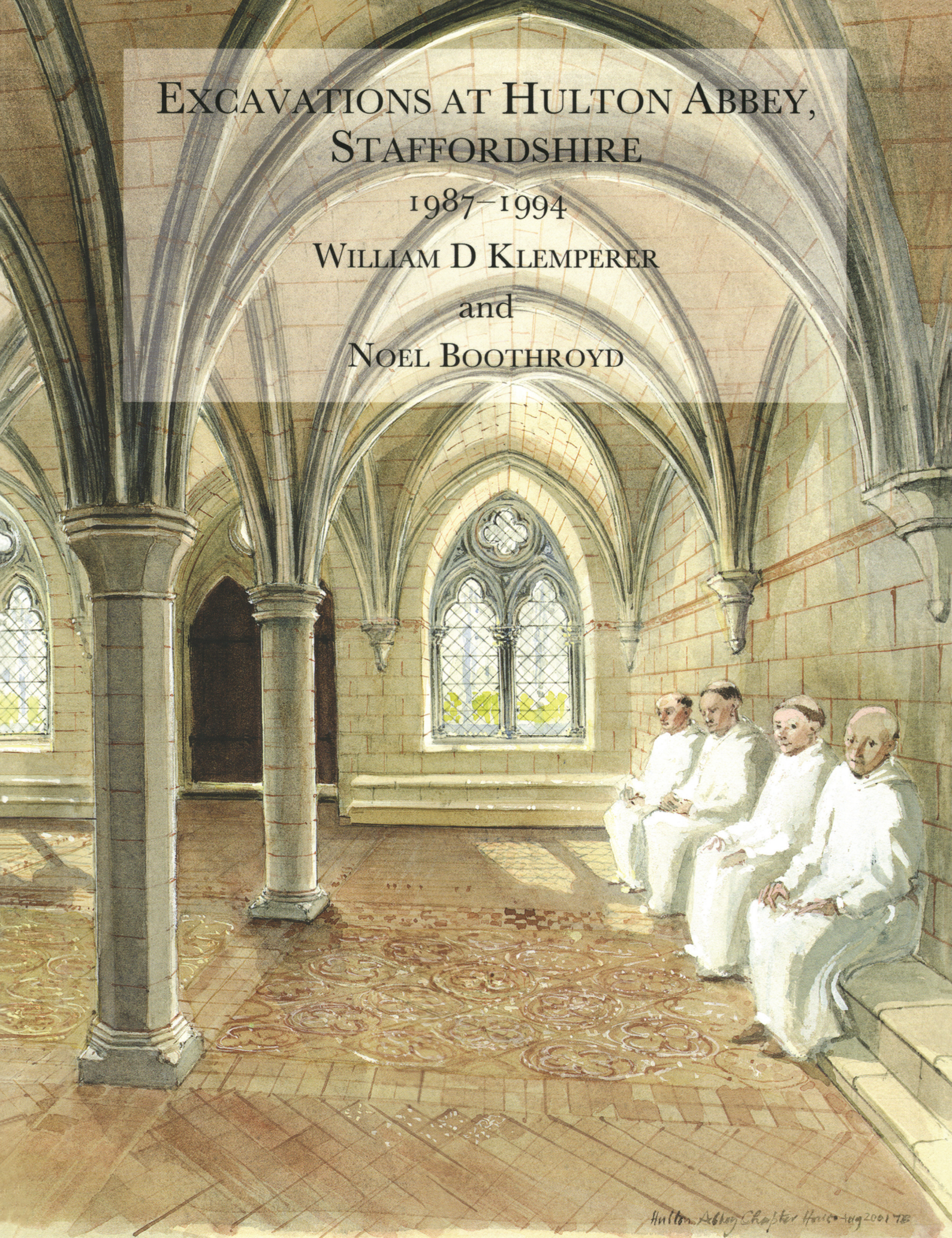
EXCAVATIONS AT HULTON ABBEY,
STAFFORDSHIRE

1987–1994

WILLIAM D KLEMPERER

and

NOEL BOOTHROYD



Hulton Abbey Chapter House Aug 2001 TB

Excavations at Hulton Abbey, Staffordshire 1987–1994

**William D Klemperer
and
Noel Boothroyd**

with contributions by
Umberto Albarella, Catharine Goodwin, Sue Browne, Wendy Carter, Frank Chambers,
Gill Craddock, Jonathan Goodwin, James Greig, Adam Ford, Deborah Klemperer,
Mike Hughes, Brian Moffatt, Lisa Moffett, Quita Mold, David Morgan, Graham Morgan,
Philip Morgan, Hayley Morris, Richard K Morris, Alison Nicholls, Neil Oldham,
Alan Outram, Liz Pearson and Peter Thomas



 **Routledge**
Taylor & Francis Group
LONDON AND NEW YORK

THE SOCIETY FOR MEDIEVAL ARCHAEOLOGY
MONOGRAPH 21

Published for The Society for Medieval Archaeology by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN
711 Third Avenue, New York, NY 10017, USA

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2004 The Society for Medieval Archaeology and authors

ISBN 13: 978-1-904350-30-9 (pbk)

Edited by Christopher Gerrard

This publication has been made possible by a grant from Stoke-on-Trent City Council
in collaboration with The Society for Medieval Archaeology

Cover: Reconstruction of the interior of the chapter house at Hulton Abbey, by Terry Ball

FOREWORD

Bill Klemperer excavated the site of Hulton Abbey in Stoke-on-Trent in Staffordshire between 1987 and 1994. In this report, these excavations are described and set in their context, both locally, and nationally. There were two other Cistercian abbeys nearby in Staffordshire in the Middle Ages and these, and those elsewhere in Britain are used as comparisons in the extensive discussion.

Studies of monasteries in archaeology have in recent years moved away from considerations of architecture and art history in isolation. The architectural development of the monastic plan and consideration of the architectural fragments excavated are not ignored but are put into a context beyond simply architectural relationships. This study in particular examines the place of Hulton Abbey in the local social and physical environment using environmental evidence to piece together the local contemporary landscape.

The environmental evidence indicates undocumented aspects of the economy of the abbey. It seems that flax and hemp/hops were grown for fibres. Pottery found at the abbey hints at a local industry and so we see one of the beginnings of the industry that eventually made Stoke world-famous.

Bill Klemperer has given us a superb study of one of a relatively small number of medieval monastic sites which have been the subject of modern archaeological examination using a wide range of techniques. As such it will stand as a good example of how a full modern study of a medieval abbey should be carried out.

Mick Aston
Professor of Landscape Archaeology
University of Bristol



Bill Klemperer (left) and Mick Aston (right)

About the authors

Bill Klemperer has been Stoke-on-Trent City Archaeologist, Principal Historic Environment Officer for Staffordshire County Council, and is currently an English Heritage Inspector of Ancient Monuments. Noel Boothroyd is Assistant Archaeologist for Stoke-on-Trent City Council.



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

CONTENTS

List of Figures	ix
Preface	xiii
Summary	xvii
Acknowledgements	xix
1 Introduction	1
1.1 The Cistercians (by W D Klemperer)	1
1.2 Monasticism in Staffordshire (by N Boothroyd)	2
1.3 The history of Hulton Abbey (by W D Klemperer)	2
1.4 Carmountside Farm to 1884 (by A Nicholls)	6
The abbey site after the Dissolution	6
The first Carmountside Farm	6
The rebuilding of Carmountside Farm	6
1.5 The re-discovery of the site and excavations after 1884 (by W D Klemperer and A Nicholls)	8
2 The excavations 1987–94 (by W D Klemperer)	13
2.1 Evaluation of the outer court	13
2.2 Excavations in the church and chapter house	13
2.3 The chapter house, bookstore and sacristy (area BH)	13
The bookstore and sacristy	15
The chapter house	16
2.4 The south transept (area BB)	24
Phase BB2: construction	25
Phase BB3: medieval	25
Phase BB4: post-medieval	25
2.5 The crossing (area BF)	26
Phase BF2: construction	28
Phase BF3: early graves	28
Phase BF4: medieval timber structure	28
Phase BF5: construction of the choir stalls, a screen and further burials	29
Phase BF6: Dissolution	31
Phases BF7 and BF8: post-medieval	32
2.6 The north transept (area BG)	32
Phase BG2: construction	33
Phase BG3: medieval floors	35
Phase BG4: medieval graves	37
Phase BG5: demolition or collapse	42
Phase BG6: stone robbing and post-Dissolution soil build up	42
Phase BG7: mid 19th century to modern	42
2.7 The nave and aisles (area BD)	43
Phase BD1: before the abbey	44
Phase BD2: construction and early features	44
Phase BD3: new floor, chapels at the west end and early burials	48
Phase BD4: remodelling of the west end	51
Phase BD5: a new floor and associated burials	52
Phase BD6: pre-Dissolution	53
Phase BD7: evidence for the Dissolution	56
Phase BD8: post-Dissolution decay of the church	58
Phase BD9: post-medieval disturbance	59
Phase BD10: late 19th century onwards	59
2.8 The west court and west range (area BC)	60
Phase BC2: construction	60

Phase BC3: medieval	60
Phase BC4: Dissolution debris and destruction	61
Phase BC5: demolition or collapse	62
Phase BC6: modern, including Lynam's excavations of 1884	64
2.9 The chancel/north transept external angle (area BE)	65
Phase BE2: construction	65
Phase BE3: medieval	65
Phase BE4: Dissolution	65
Phase BE5: post-medieval	66
3 Structural evidence	69
3.1 Introduction (by W D Klemperer)	69
3.2 The architecture and worked stones (by R K Morris)	69
The architectural detail of the church	71
The chapter house and conventual buildings	80
Sculpture and carved ornament	84
Summary	85
3.3 Bricks (by N Boothroyd)	86
3.4 Nails (by N Boothroyd)	87
3.5 Mortar and plaster analysis (by G C Morgan)	87
3.6 Ceramic floor tiles (by N Boothroyd and G Craddock)	88
Methodology	90
Tile manufacture	90
Fabrics	91
Catalogue of designs	91
Plain tiles	97
Discussion	98
Catalogue of floor tile photographs	99
3.7 Analysis of selected tiles and clays by ICPS (by M J Hughes)	102
3.8 Medieval window materials (by N Boothroyd)	102
Glass	102
Came	103
3.9 Roofing material	105
Stone roof tiles (by C Goodwin)	105
Ceramic roof tiles (by N Boothroyd with W Carter)	106
Roofing lead (by N Boothroyd)	111
4 The burials	115
4.1 Human bones (by S Browne)	115
The material	115
The methods	115
Results	115
Analysis of special groups of burials	124
Discussion of the complete sample from Hulton Abbey	125
Family relationships	125
Health status	125
Comparison with samples from other monastic churches	126
4.2 Discussion of burials (by W D Klemperer and N Boothroyd)	128
Burial areas	128
Grave goods	131
Family relationships	133
5 Environmental evidence (edited by E Pearson)	135
5.1 Introduction (by W D Klemperer)	135
5.2 Pollen analysis from sk 50004–50010, south transept and crossing (by F Chambers)	136
Results	138
Discussion	138

5.3 Pollen and microfossil remains from sk 50001 and 50002, and from the drain/ditch to the south of the cloister (by B Moffat)	138
The graves	138
The drain/ditch (context 166, trial excavation AG, sample 60050)	140
5.4 Three further pollen samples (by J Greig)	142
Results	142
Conclusions	142
5.5 Analysis of charred and waterlogged plant remains from the gully fill and drain (by L Moffett)	142
Results	143
5.6 Overview (by E Pearson)	144
The burials	144
The environment	145
5.7 Small bones from samples (by U Albarella)	145
5.8 Large mammal bones and bird bones (by A Outram)	146
Identifications	146
Species present	146
Age and sex of animals	147
Butchery	147
Animal size	147
Pathology	147
Bird bones	147
6 Finds	149
6.1 Introduction (by N Boothroyd)	149
6.2 Medieval finds (by N Boothroyd, with leather by Q Mold)	152
Religious artefacts	152
Dress and personal items	156
Items associated with writing, weighing and counting	162
Tools and household items	164
Miscellaneous objects	164
Manufacturing waste	166
Structural fittings	168
6.3 Medieval pottery (by D Klemperer)	168
Introduction	168
The nature of the deposits and the problems of dating	168
Methodology and quantification	168
Discussion	170
Discussion and comparison with other published monastic assemblages from the Midlands	176
Illustrated medieval pottery	176
6.4 Post-medieval finds (by N Boothroyd, with leather by Q Mold)	178
Dress and personal items	178
Tobacco pipes	178
Items associated with writing, weighing and counting	178
Tools and utensils	179
Miscellaneous objects	182
Manufacturing waste	182
Structural fittings	184
6.5 Post-medieval pottery (by J Goodwin)	184
6.6 Prehistoric flint tools (by A Ford)	186
6.7 Analysis of the wax chalice and seal (by D Morgan, H Morris, N Oldham and W D Klemperer)	186
7 Discussion (by W D Klemperer and N Boothroyd)	189
7.1 Cistercians in north Staffordshire	189
7.2 Landscape	189
7.3 Layout and use of the abbey church	191
7.4 Architectural mouldings	194
7.5 Material culture	195

7.6 Settlement hierarchy	197
7.7 Patrons and prosperity	198
7.8 Conclusion	199
7.9 The post-medieval period	199
Bibliography	201
Index	211

LIST OF FIGURES

i	Educational events. John Hudson demonstrates making medieval pottery and tiles	xv
ii	Educational events. Malcolm Reaney opening his experimental wood fired kiln	xv
iii	Landscaping of the seven-acre site in 1995	xvi
iv	View of the site following the creation of a park in 1996	xvi
1.1	Monastic houses in North Staffordshire	3
1.2	Location plan of Hulton Abbey	3
1.3	Hulton Abbey in its medieval topography	4
1.4	Carmountside Farm in the 1851 census	6
1.5	Illustration of the model farm at Carmountside	7
1.6	Carmountside Farm in the 1861 census	7
1.7	Carmountside Farm in the 1881 census	8
1.8	Lynam's plan of the 1884 excavations at Hulton Abbey	8
1.9	A Goodwin family wedding party at Carmountside Farm, c1900	9
1.10	Arnold Mountford conducts a tour of the site for the Council Excavation Committee in 1966	9
1.11	Demolition of Carmountside School in 1987	10
1.12	Aerial view of the church and chapter house under excavation in 1990	10
2.1	Location of trial trenches and excavation areas	14
2.2	Key to phasing	15
2.3	A general view of work in progress on the chapter house in 1989	16
2.4	The sacristy and bookstore after excavation	16
2.5	Plan of the chapter house, phase BH2	17
2.6	The chapter house after the removal of backfill from old excavations	17
2.7	South wall core 1334 and mortar in trench 1329 showing positions of robbed facers	18
2.8	Core of west wall 1369	18
2.9	East wall core 1339–1340 and bench footings 1341	19
2.10	East wall showing 1318, 1319, 1322, 1338, 1339, 1341, 1352 and 1359	19
2.11	Stone pad F1388 footing for pier base in the NE corner of chapter house	19
2.12	Plan of the chapter house, phases BH3, BH4 and BH5	20
2.13	Grave slab 1383 with complex floriated cross, early 13th century	20
2.14	Floor make up 1308 and foundation for bench 1377 in the south wall	20
2.15	Plan of the chapter house, phase BH6	21
2.16	SE corner of the chapter house (1341, 1342 and 1343)	22
2.17	Plan of the chapter house, phases BH7, BH8 and BH9	23
2.18	Mid 19th-century posthole with fragments of chapter house roof within the fill (F1367)	24
2.19	Ordnance Survey map extract showing Carmountside Farm c1900	24
2.20	Ranging rods showing the fence line along the mid 19th-century track leading from Carmountside Farmhouse (built over the north transept) to the courtyard farm buildings	24
2.21	The south transept after cleaning	25
2.22	The south transept after excavation, with features backfilled with sand	25
2.23	Plan of the south transept, phases BB2 and BB3	26
2.24	Plan of the south transept, phase BB4	27
2.25	The completed excavation of the crossing	28
2.26	Plan of crossing, phase BF2	29
2.27	Construction feature F434	30
2.28	Plan of crossing, phase BF3	31
2.29	Skeleton 50047, which remained unexcavated	32
2.30	Textile impression from grave fill adjacent to skeleton 50047	32
2.31	Skeleton 50048, a male aged 35–45 with hands clasped and a wax chalice on the abdomen	33
2.32	Skeleton 50048 with wax chalice, probably originally held in the clasped hands	33
2.33	Plan of crossing, phase BF4	34
2.34	Plan of crossing, phase BF5	35
2.35	The crossing after removal of former backfill	36
2.36	Skeleton 50022. A mature male, buried with a seal impression, wand and with shoes on	36

2.37	Skeleton 50041 within sandstone tomb F360. A male, 25–35 years old, found with a wand and a lead eagle badge	36
2.38	Plan of north transept, phase BG2	37
2.39	Rubble raft foundation F390 in the north transept	38
2.40	Postholes F401, F407, F399, F397, F395 and F411	38
2.41	Plan of north transept, phases BG3 and BG4	39
2.42	Floor sequence in north transept (267, 268, 281 and 282)	39
2.43	Flat sandstones (441), probably remnants of a flagstone floor	39
2.44	Skeleton 50045	40
2.45	Skeleton 50035 with two wands	40
2.46	Graves in NW corner of north transept with post-medieval drain F271	40
2.47	Grave F317	41
2.48	Layer 237 with grave F332 and grave F367, both cutting stone-lined drain F368	41
2.49	Cellar of the farmhouse built in 1854	42
2.50	Plan of the north transept, phase BG7	43
2.51	Plan of the nave and the north aisle, phases BD1 and BD2	45
2.52	The west wall of the church, revealed after removal of the backfill of Mountford's 1949 excavation	46
2.53	The south aisle area after removal of topsoil	46
2.54	The north aisle	46
2.55	NW crossing pier with foundation raft 818	47
2.56	Eastern pier base 604 in the north aisle, with foundations 894 over 986	47
2.57	Foundations at western end of the north aisle	47
2.58	Foundation courses to the north wall	47
2.59	Posthole F903 for scaffolding, with stone packing	48
2.60	Posthole F816 for scaffolding, truncated by later grave F745	48
2.61	Skeleton 50075, aged 0–3 months	49
2.62	Skeleton 50078, aged 6–18 months	49
2.63	Skeletons 50079 and 50082, both 0–6 months; sk 50080, a female of 25–35 years of age, and sk 50081, a male of 25–35 years	49
2.64	Plan of the nave and the north aisle, phase BD3	50
2.65	Cross wall 808, creating two compartments in the west end of the north aisle	51
2.66	The north aisle opening into the north transept	51
2.67	Skeleton 50062, a 25–35 years male; and sk 50063, a male at least 45	51
2.68	The north aisle with floor make-up layers 787 to the east and 801, 802 and 809 to the west	52
2.69	Plan of nave and north aisle, phase BD4	53
2.70	Plan of nave and north aisle, phase BD5	54
2.71	Stone reinforcing (779) to pier base 604	55
2.72	Floor make up in north aisle (663)	55
2.73	Stone floor remnant (662) of broken flagstones	55
2.74	Plan of the nave and the north aisle, phase BD6	56
2.75	Plan of the nave and the north aisle, phase BD7	57
2.76	Burning in the west end of the north aisle (660) and lead-melting hearth (F629)	58
2.77	Lead-melting hearth (F629)	58
2.78	The church from the west. Post-Dissolution rubble (1031) largely removed	59
2.79	Post-medieval pit in the nave (F1030)	59
2.80	The church from the west. The west wall exposed after re-excavation of Mountford's 1949 trench	59
2.81	The Carmountside High School (closed 1986) long jump pit	59
2.82	Plan of the west court and west range, phases BC2 and BC3	61
2.83	The west court under excavation	62
2.84	The area was covered with compacted sandstone to facilitate firmer ground in front of the west entrance. Lynam's trenches dug in 1884 can be seen partially excavated	62
2.85	15th-century tiles found <i>in situ</i> in the west range	62
2.86	Plan of the west court and west range, phase BC4	63
2.87	Demolition debris in the west range (1196)	64
2.88	Plan of the west court and west range, phase BC6	65
2.89	Plan of chancel/north transept external angle, phases BE2, BE3 and BE4, and phase BE5	66
2.90	Gully F1507 with wood boards in its fill	67
2.91	Cellar floor of Carmountside Farm partially slumped into a medieval gully	68
3.1	Stone profiles: ribs	72

3.2	Stone profiles: bases	74
3.3	Stone profiles: nave arches	75
3.4	Stone profiles: voussoirs and capitals	77
3.5	Windows	79
3.6	Architectural stone	81
3.7	Croxden Abbey, west elevation to chapter house	85
3.8	Quantification of brick by fabric	86
3.9	Medieval bricks (1:4)	87
3.10	Quantification of nails by phase	87
3.11	Analyses of mortar and plaster	88
3.12	Mortar analysis graph 1	89
3.13	Mortar analysis graph 2	89
3.14	Mortar analysis graph 3	90
3.15	Floor tile designs (1:4)	92
3.16	Quantification of stamped-and-slipped 16-tile	93
3.17	Quantification of two fleur-de-lys floor tiles	93
3.18	Quantification of four fleur-de-lys floor tiles	94
3.19	Quantification of bird-and-acorn floor tiles	94
3.20	Quantification of flowering fleur-de-lys floor tiles	95
3.21	Quantification of rosettes-and-diagonals tiles	95
3.22	Quantification of plain floor tiles	96
3.23	Quantification of plain slipped floor tiles	97
3.24	Principal components analysis of data from ICPS analysis of tiles, pottery and clays from Hulton Abbey, shown by fabric	100
3.25	Principal components analysis of data from ICPS analysis of tiles, pottery and clays from Hulton Abbey, shown by tile design	101
3.26	Not-illustrated coloured glass	102
3.27	Not-illustrated glass from Group 1	103
3.28	Medieval window glass (1:2) and lead came (1:1)	104
3.29	Not-illustrated glass from Group 2	105
3.30	Stone roof tiles (1:4)	107
3.31	Quantification of flat roof tiles by fabric	107
3.32	Quantification of ridge roof tiles by fabric	108
3.33	Stone and ceramic roof tiles (1:4)	109
3.34	Ceramic roof tiles (1:4) and roofing lead (1:2)	110
4.1	Completeness of skeletons	116
4.2	Bone preservation (number of individuals)	116
4.3	List of burials from earlier and recent excavations	116
4.4	Age distribution	117
4.5	Sex distribution	117
4.6	Osteometric data for samples of 20 individuals or more males	118
4.7	Discontinuous, morphological characters	119
4.8	Medial aspects of the modified left proximal femur and eburnated bony mass on dorsal surface of left ilium with which it articulated (skeleton 50005)	120
4.9	Medial aspects of the modified right proximal femur and eburnated bony mass with which it articulated (sk 50005)	120
4.10	Skeleton 50005 <i>in situ</i>	120
4.11	Oral pathology in the permanent teeth	121
4.12	Lateral aspect of the left and right humeri of skeleton 50005 showing modified distal ends and disuse atrophy of left humerus	122
4.13	Left and right elbows of skeleton 50005	123
4.14	Adult:immature ratio in the samples from Hulton Abbey and five comparative sites	126
4.15	Age distribution in the samples from Hulton Abbey and the five comparative sites	126
4.16	Number of individuals aged (a) over 25 years and (b) over 35 years in the aged adult samples from Hulton Abbey and the five comparative sites	127
4.17	Sex distribution in the adult and adolescent sample from Hulton Abbey and the five comparative sites	127
4.18	Estimated stature in males and females from Hulton Abbey and the five comparative sites	127

4.19	Oral pathology in the permanent teeth in the samples from Hulton Abbey and the five comparative sites	128
4.20	Number of burials per square metre in the different areas at Hulton and Bordesley abbeys	129
4.21	Location of burials	130
4.22	Grave goods recorded from all excavations at Hulton Abbey	132
4.23	Grave goods from Hulton Abbey: wax seal, lead eagle, papal bulla and wax chalice	132
5.1	Pollen analysis from selected burials (sk 50004–50010), south transept and crossing	136
5.2	Pollen chart summarising flora of medieval environment	139
5.3	Pollen analysis from skeletons 50001 and 50002, south transept	140
5.4	Additional macrofossil remains from skeleton 50001	141
5.5	Macrofossil remains from the drain/gully	142
5.6	Pollen and spores from samples from a drain (60019), the contents of the wax chalice (60161) and organic material from a grave (60209)	143
5.7	Table of charred and waterlogged remains	143
5.8	Frequency of vertebrate taxa from sieved samples. Late 16th-century deposits in the nave	146
5.9	Large mammals. Numbers of fragments by species present	147
5.10	Bird bones. Numbers of fragments for species present (post-medieval)	147
6.1	The pilgrim badge	151
6.2	Religious items (1:1 except 8 at 1:2)	153
6.3	Other lead crosses, not illustrated	154
6.4	Distribution of wands	154
6.5	Quantification of leather	156
6.6	Leather shoes (1:4)	157
6.7	Dress and personal items (1:1)	159
6.8	Dress and personal items. Items associated with writing, weighing and counting (1:1)	161
6.9	Tools and household items (1:1)	165
6.10	Miscellaneous objects (1:1)	167
6.11	Waste metal. Structural items (1:1)	169
6.12	Quantification of medieval pottery	170
6.13	Iron-rich sandy ware and Midlands white ware (1:4)	171
6.14	Midlands white ware (1:4)	172
6.15	Late medieval orange ware and Midlands Purple (1:4)	173
6.16	Midlands Purple (including distillation equipment) (1:4)	174
6.17	Cistercian ware, Tudor Green ware, and Raeren stoneware (1:4)	175
6.18	Post-medieval dress and personal items. Tools (1:1)	180
6.19	Post-medieval tools (1:1)	181
6.20	Post-medieval miscellaneous objects. Structural fittings (1:1)	183
6.21	Post-medieval pottery: Yellow ware and Midlands Purple (1:4). Figurine (1:2)	185
6.22	Prehistoric flints (1:1)	186
6.23	Gas chromatograms comparing the constituents of the chalice and the seal impression with modern beeswax	187
7.1	Settlement in the locality of Hulton Abbey in the 13th and 14th centuries	190
7.2	Comparison of medieval small finds by category from Hulton Abbey with assemblages from 16 other sites	195
7.3	Late 19th/early 20th-century jug from Burgess and Leigh, Middleport	200

Colour plates

Plate 1	Reconstruction of the interior of the chapter house at Hulton Abbey, looking west	<i>following</i>	108
Plate 2	Floor tiles	<i>following</i>	108

PREFACE

Hulton Abbey was a poor Cistercian monastery founded in 1219 and dissolved in 1538. The *Valor Ecclesiasticus* survey of 1535 indicated that the house was relatively poor and even before the Dissolution its buildings were falling into disrepair. Following the sacking of the monastery in September 1538 the site was pillaged for building stone and had been turned over to agriculture by the 19th century. Today the site of the monastery lies in the modern suburb of Stoke-on-Trent, Abbey Hulton.

The site of Hulton Abbey was re-discovered during drainage works in 1885 and recorded by Charles Lynam, a local architect and antiquarian. He established the ground plan of the inner court by trenching alongside the wall foundations. When housing estates were built in the 1930s to accommodate the burgeoning population of the industrial city of Stoke-on-Trent, construction began adjacent to the abbey site and it was decided to build a new school by the abbey and preserve the remains of the inner court beneath the playing field. Further excavations took place in advance of the school's construction and more archaeological work continued at the site in the 1940s, 60s and 70s. Excavations between 1885 and c1980 have been published (Wise 1985), though the details within that report have been reassessed here in the light of new analysis.

In 1987 Carmountside School was demolished and the land became available for re-use. Stoke-on-Trent City Council decided to begin an excavation, following which the site was to become a local park. That excavation lasted from 1987 until 1994. Bill Klemperer was appointed to the staff of the City Museum as Excavation Director, and the Manpower Services Commission funded an enthusiastic team of supervisors and diggers. MSC schemes came to an end in 1989 and the City Council took over the project directly, providing funding through the City Museum, now renamed as the Potteries Museum. Initially a team of nine site staff were taken on for the excavation, but as funding grew tighter the numbers diminished to four in the last season.

The excavation work concentrated on the church and chapter house because of the City Council's aim to create a park. Backfill from the numerous old excavations was removed and the archaeology re-recorded. The chapter house was uncovered and re-assessed. The eastern part of the church and north aisle were completely excavated and the eastern half of the nave was partially excavated.

This monograph presents the main excavation report, but also contains background information, specialist reports and discussion. The introduction, Chapter 1, gives a background to the Cistercians and monasticism in Staffordshire, the history of Hulton Abbey, and the history of the site after the Dissolution, including the excavations that have taken place intermittently since the late 19th century. The 1987–94 excavations are described in Chapter 2. There were significant difficulties in phasing the site due to the former disturbance and it was decided to excavate the site in discrete areas. The prefix B refers to the inner court and the suffix A the chancel, B the S transept, C the W court, D the nave and N aisle, E the angle between the chancel and N transept, F the crossing, G the N transept and H the chapter house. The excavation produced evidence for multiple floor renewals, each of which was accompanied by removal of the former floor covering.

Structural evidence in Chapter 3 is centred around the architectural stone report by Richard K Morris, and a report by Noel Boothroyd and Gill Craddock on the significant assemblage of ceramic floor tiles. The church was built to a simple Bernardine plan with an aisleless chancel, and transepts with flat east walls, each containing two chapels. The church was started in 1219 and by 1223 the chancel, transepts and crossing were completed, probably with stone vaulted roofs. The nave followed in the middle of the century and the chapter house was rebuilt in the 14th century with traceried windows and a nine-bay vaulted roof. Roofs incorporated ceramic and stone tiles and lead waterproofing. The nave roof was probably wooden and the presence of a tower cannot be proven. There were leaded and painted windows and it is possible that some parts of the original monastery were built in brick. The chapter house and eastern parts of the church had decorated floor tiles and the walls were plastered and painted. The church never connected with the west range, probably because of a lack of need due to the demise of the lay brother system. Evidence of structural instability includes continuous foundations to the western bays of the north and south aisle, the reinforcing of a pier base in the north aisle and the raising of the floor surface by the laying of new floors.

Chapter 4 deals with the burials. The church was used intensively for burials, mainly of men but also women and children. The remains of 91 individuals, including those previously excavated, are reported on. This section contains demographic analysis and comparisons with other published monastic assemblages. Notable burials are fully described, including a skeleton with a wax chalice (sk 50048) and another of a severely disabled person (sk 50005). A discussion of burial practice and grave goods is included.

The environmental reports in Chapter 5 present the results of a programme of pollen analysis from graves. The abbey's environment included a wide variety of flora, although there were significant grasslands. The study of

small mammal bones from the post-Dissolution deposits in the nave shows that the site was left a ruin and frequented by barn owls.

The finds are dealt with in Chapter 6 and are arranged according to function rather than by material. The areas chosen for excavation are unlikely to be the richest in terms of finds, doubtless the church and chapter house would have been kept clean and ordered. The finds, however, do include religious items, dress and personal items, items for writing, weighing and measuring, tools and household items, manufacturing waste, structural fittings and pottery.

Chapter 7 is a discussion in which the findings are drawn together and Hulton Abbey is placed into a wider context. The site is compared to its north Staffordshire sisters, Croxden and Dieulacres, and the inter-relationship of the abbey and its surrounding landscape is considered. Architectural pedigree is examined, along with aspects of material culture, settlement hierarchy and relationships with patrons.

Public archaeology and the creation of an amenity

Throughout the excavation the project was actively promoted. A popular booklet was published in 1989 (Klemperer *et al* 1989) and an education pack linked to the national curriculum was produced by the Archaeology Unit in 1995 (Philips 1995).

A series of open days were held from 1988 to 1992 and proved popular with local people. In 1993 a series of even more successful educational events began. These events were part of a general movement in museums towards outreach in the 1980s and 1990s and provided an opportunity to interpret archaeology that was not possible in a classroom or museum gallery. The National Curriculum Key Stage 3 core study unit 2, *Medieval Realms: 1066–1500* was the inspiration for a series of events at the site which were aimed specifically at schools and have been described in more detail elsewhere (Klemperer 2001). The events were highly organised, allowing children access to the excavations and to a range of demonstrations and activities illustrating aspects of medieval life (Figure i). The physical remains introduced the notion of archaeology to school children, artefacts were displayed in a temporary on-site museum and demonstrators made replica items (Figure ii). Detailed work sheets allowed follow up work in the classroom. Over 700 children regularly attended and the events helped the excavation project and the site of the abbey generally to achieve a high local profile. The local press were fascinated with the project and closely followed the archaeological investigations and educational activities. The substantial press coverage is incorporated in the project archive held at the Potteries Museum and Art Gallery Stoke-on-Trent.

The excavation took place on land that was officially ‘derelict’ following the demolition of the Carmountside High School. Increased awareness resulted in widespread support for the development of a scheme to landscape the site. A grant was made by English Partnerships, a government body charged with bringing together the private and voluntary sectors to create economic growth, employment opportunities and environmental improvements. The grant of £158,000 allowed a sympathetic landscaping and planting scheme to be achieved over the seven-acre site (Figure iii). The site is now a park enjoyed principally by local residents (Figure iv).

Bill Klemperer
June 2003



FIGURE i

Educational events. John Hudson demonstrates making medieval pottery and tiles

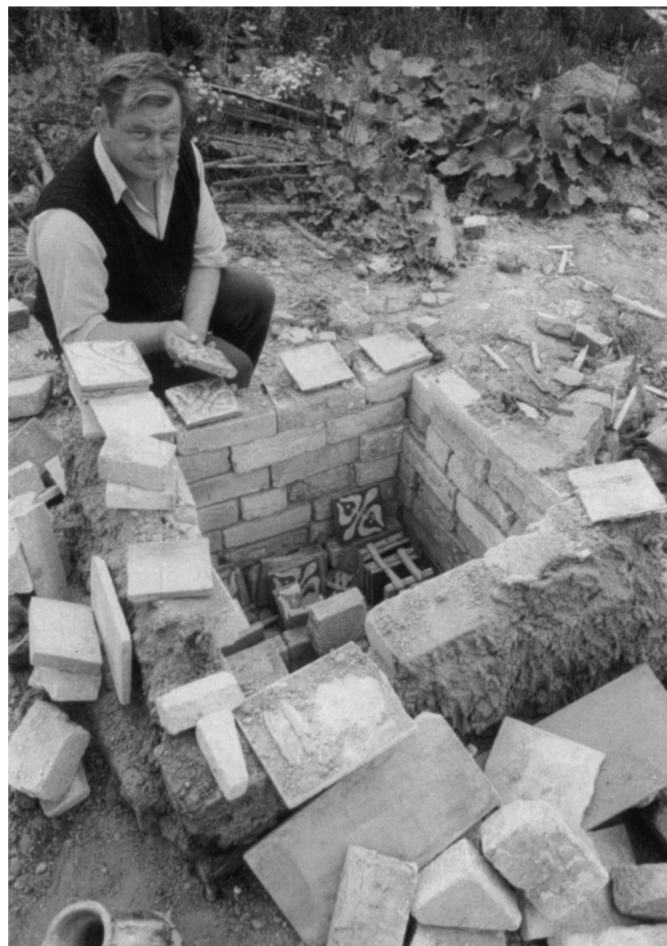


FIGURE ii

Educational events. Malcolm Reaney opening his experimental wood fired kiln in which he successfully made replica of decorated medieval floor tiles



FIGURE iii
Landscaping of the seven-acre site in 1995

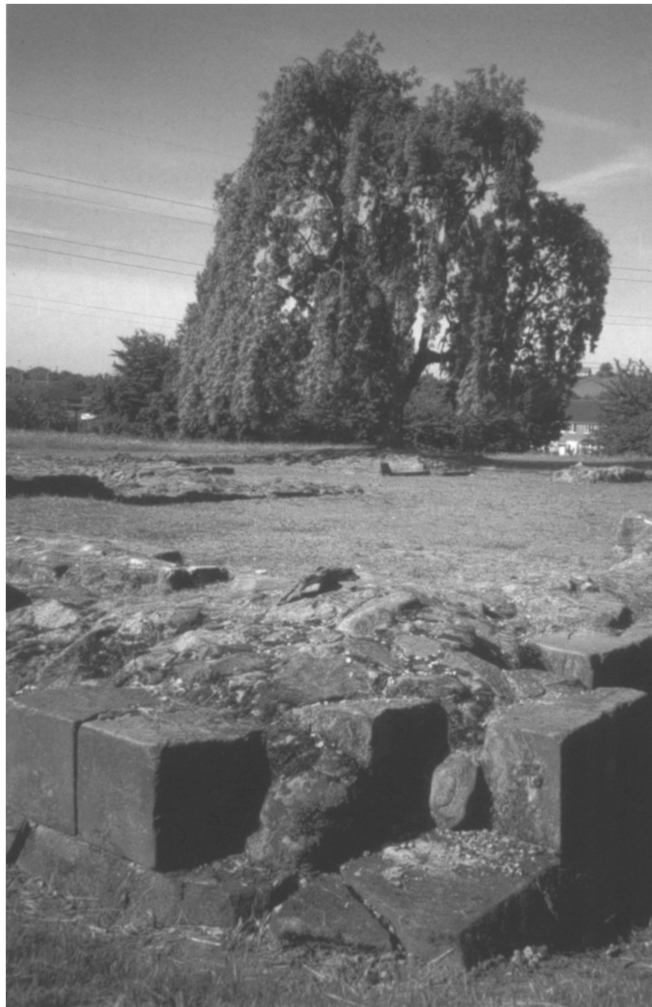


FIGURE iv
View of the site following the creation of a park in 1996

SUMMARY

Hulton Abbey was a minor Cistercian monastery in north Staffordshire (England), founded in 1219 and finally dissolved in 1538. This is the final report on the archaeological excavations undertaken there between 1987 and 1994. In particular, the chapter house was uncovered and re-assessed and the eastern part of the church and north aisle were completely excavated, together with the eastern half of the nave. The excavations are described by area and chronological phase with detailed specialist reports including architectural stonework and decorated floor tiles. An extensive programme of sampling and analysis of pollen remains from burials was also completed. The remains of 91 individuals, mainly men but also women and children, are reported on in detail, with sections on abnormalities and pathology as well as medieval burial goods such as a wax chalice and wooden wands. Comparisons with other published monastic sites in the region help to place Hulton into a wider context. An important element of the project was education and community involvement and today the site lies in a small urban park in Stoke-on-Trent.

RESUMEN

Hulton Abbey fue un monasterio cisterciense menor situado en el norte de Staffordshire (Inglaterra). Fue fundado en 1219 y abolido en 1538. El presente volumen es el estudio de los resultados de las excavaciones arqueológicas desarrolladas entre 1987 y 1994. En el transcurso de las mismas se descubrió y volvió a examinar la sala capitular, a la vez que se excavaron por completo el lado oriental de la iglesia y las naves norte y oriental. Las excavaciones se describen por área y fase cronológica, con los análisis especialistas correspondientes, incluyendo los de la piedra arquitectónica y azulejos de suelo decorados. También se realizó un programa extensivo de toma de muestras y análisis de polen de los enterramientos encontrados, habiéndose encontrado 91 individuos, sobre todo varones, pero también mujeres y niños. El estudio de los enterramientos ofrece tanto detalles sobre aspectos patológicos como objetos asociados encontrados, destacándose un cáliz de cera y varios bastones de madera. La comparación con otros yacimientos monásticos en la misma región ayuda a situar a Hulton en su contexto más amplio. Un elemento importante del mismo proyecto fue el aspecto educativo y participación de la comunidad local; hoy el yacimiento está situado en un pequeño parque urbano en Stoke-on-Trent.

RÉSUMÉ

L'abbaye de Hulton était un monastère Cistercien mineur dans le nord de Staffordshire en Angleterre, fondé en 1219 et éventuellement dissout en 1538. Ceci est le dernier rapport sur les fouilles archéologiques qui y ont été entrepris entre 1987 et 1994. En particulier le chapitre a été découvert et réévalué, la partie est de l'église et la nef latérale nord ont été entièrement excavés, ainsi que la moitié est de la nef. Les fouilles sont présentées selon secteur et phase chronologique, avec des rapports spécialistes décrivant en détail la maçonnerie architecturale et les carrelages décorés. Un programme étendu d'échantillonnage et d'analyse de restes de pollen trouvés dans les enterrements a aussi été effectué. Les rapport décrit les restes de 91 humains, pour la plupart d'hommes mais aussi de femmes et d'enfants, et contient des sections traitant les anomalies et la pathologie ainsi que d'autres objets d'enterrement médiévaux par exemple un calice en cire et des bâtons en bois. Des comparaisons avec d'autres sites monastiques dans la région servent à situer Hulton dans son contexte historique. Un aspect important du projet était la participation et l'éducation de la communauté locale, et aujourd'hui le site se situe dans un parc urbain à Stoke-on-Trent.



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

ACKNOWLEDGEMENTS

Hulton Abbey site staff 1987–94

Director: Bill Klemperer

Assistant Directors: Derek Sloan, John Gale and Rob Barnett

Assistant Director Post-excavation: Noel Boothroyd

Supervisors: Debbie Forrester, Steve Carter, Lee Elliot, Chris Jones, Alison Nicholls, Jamie Patrick, Mike Weetman and Gareth Williams

Other site staff included: Cliff Bateman, Tony Cottam, Michael Garrett, Alan Guest, Andrew Hanasz, Malcolm Reaney, Mairi Robertson, Andrew Shallcross and Rachel Sholl

Finds Supervisors: Gill Craddock and Noel Boothroyd

Site photographs: Rob Barnett and Bill Klemperer

Site plans and finds drawings: Noel Boothroyd (unless otherwise acknowledged)

The Hulton Abbey Project was started in 1987 by Stoke-on-Trent City Council in partnership with the Manpower Services Commission (MSC), who supported a Community Programme Scheme. The MSC scheme ended in 1988 and thereafter all of the fieldwork and post-excavation costs have been funded by Stoke-on-Trent City Council. The project was initiated in 1987 by the late Arnold Mountford CBE, Museum Director, and Cameron Hawke-Smith, Keeper of Archaeology. Latterly, Ian Lawley, Head of Museums, gave valuable support. Special mention must be made of Alison Nicholls who worked tirelessly in the preparation of this report.

In addition, the contribution of the members of the Manpower Services Commission funded teams in 1987 and 1988 and that of volunteers too numerous to mention individually must be acknowledged. The enthusiastic support by Thelma Lancaster and other members of the Stoke-on-Trent Museum Archaeological Society is also gratefully acknowledged.

Richard K Morris writes the following: I acknowledge my debt to the work of two recent scholars, Philip Wise and John Maddison. Philip Wise's summation of the archaeological work at Hulton up to 1985 forms the essential background to my report, and though I have differed with a number of his conclusions, I am only too aware that in due course my interpretations are equally likely to be subject to revision by others. Philip did not have the benefit, as I have had, of access to John Maddison's research and publications on the Gothic architecture of the NW Midlands, which have vastly increased our knowledge of architectural detail in the region. I am also much indebted to Eilis Hague, who first drew my attention to the local Cistercian sites of Croxden, Dieulacres and Hulton; and especially to Eleanor Schärer who produced a selective catalogue of the Hulton worked stones and provided a preliminary report and concordance. At Croxden, I am grateful to Jackie Hall, and to the team who recorded the loose worked stones under my supervision: David Kendrick (the project manager), Anna Barsby and Eilis Hague (again). I am also grateful to Grenville Astill for permitting me to see 'Thirty years not out!' in advance of publication, and to Jackie Hall and David Robinson for reading drafts of my report and making valuable suggestions. Finally I am extremely grateful to Bill Klemperer for giving me the opportunity to write up the architectural fabric of the site.

The authors would like to thank John Marrow of Norton Priory Museum for allowing access to the floor tile collection there, and Jenny Stopford for encouraging comments on the early draft of the floor tile report. They also acknowledge the contribution of the following: Rachel Atherton, David Barker, John Cherry (British Museum), Geoff Egan (Museum of London), Debbie Ford (Archaeology, Potteries Museum), Graham Morgan (Leicester University), Andreas Rehberg (Deutsches Historisches Institut, Rome), Wendy Scott, Brian Spencer (British Museum), and Don Steward (Natural History, Potteries Museum), who have made helpful comments and provided identifications of various items. Conservation of artefacts was carried out at the Shakespeare Birthplace Trust by Barbara Clayton. X-rays of much of the ironwork were taken at GEC-Alstom, Stafford. The authors would like to thank the anonymous referee who added many useful comments to our manuscripts.

Figures i–iv: R Barnett and W Klemperer. Figures 1.1–1.3: A Gutiérrez and A Nicholls. Figures 1.9–1.10: Potteries Museum Archive. Figure 1.11: W Klemperer. Figure 1.12: J Gale. All photographs in chapter 2 by R Barnett and W Klemperer. All drawings in chapters 2, 3 and 6 by N Boothroyd, except for: Figure 2.1: A Gutiérrez. Figures 3.1–3.5: R K Morris; Figure 3.15, 1–6: A Ford. Figures 3.30 and 3.33, 9–10: K Goodwin. Figure 3.6: Potteries Museum Archive. Figure 3.7: W Klemperer. Figure 6.1: R Weston. Figures 6.2, 1–2 and 7;

6.8, 38 and 43; 6.10, 67; 6.22: A Ford. Figures 6.13 nos 4, 7, 8, 11, 13, 14, 16, 18; 6.14 nos 23, 24, 28, 31, 36–38; 6.15 nos 39–42, 45–47, 49–55; 6.16 nos 57–60, 62–63, 65–69, 71–73; 6.17 nos 74, 75, 77–79, 82, 85, 88, 89, 92: K Goodwin. Figures 6.13 nos 9, 15, 19, 21; 6.14 nos 29, 35: R Fern. Figures 6.13 nos 1–3, 5, 6, 10, 12, 17, 20, 22; 6.14 nos 25–27, 30, 32–34; 6.15 nos 43, 44, 48, 56; 6.16 nos 61, 64, 70; 6.17 nos 76, 80, 81, 83, 84, 86, 87, 90, 91: A Nicholls.

Figure 4.21 by A Nicholls; photographs in chapter 4 by S Browne, except for Figure 4.10 by W Klemperer and Figure 4.23 by N Boothroyd. Figure 7.1: A Gutiérrez and A Nicholls. Figure 7.3: N Boothroyd.

Colour Plate 1: T Ball. Plate 2: N Boothroyd.

INTRODUCTION

1.1 THE CISTERCIANS

by W D Klemperer

In 1098 a group of malcontents led by a French monk, Robert de Molesme, broke away from the Cluniac dominated monastic world and founded an abbey at Citeaux in Burgundy, France. They established a more rigorous monastic lifestyle, claiming a return to the original ideals of St Benedict's Rule. Under its charismatic early leader St Bernard of Clairvaux (d 1153), and benefiting from a dynamic central control exercised from the mother house of Citeaux, the Cistercian order quickly expanded. In 1147 the Cistercians took over the smaller Savigniac order, which remained a distinctive element in the Cistercian family. This expansion was assisted by the popularity of the Cistercian 'back to basics' message, and leaders of medieval society sought to associate themselves with the order in order to gain spiritual benefit. Benefactions, often of land, fuelled rapid expansion in the 12th century throughout western Europe, based upon a new economic model in which the Cistercians retained direct control of their economy. Monastic farms or 'granges' were founded in order to control economic production and distribution, a system which relied on the recruitment of *conversi* or laybrothers who took religious vows but whose purpose was to act as a direct labour force. Remote locations were often chosen for foundations, where spiritual purity might be more easily attained, but also where new land could be taken into grazing for the vast flocks of sheep that came to characterise the English Cistercian economy. The order spread quickly and by 1153 there were 343 Cistercian abbeys throughout Europe, this number more than doubling to 738 Cistercian houses for men and 654 for women by 1500 (Lawrence 1984, 153). In Britain the first Cistercian house was established at Waverley (Surrey) in 1128 and by 1154 there were 53 Cistercian abbeys in England and Wales (although 13 of these had originally been founded as Savigniac

houses), as well as 11 nunneries following Cistercian rules but not yet officially recognised as Cistercian (Knowles 1940).

The order maintained strict rules according to the terms of the *Carta Caritatis* which was read at all meetings of the Chapter General, an annual meeting of Cistercian abbots, normally held at Citeaux on the Vigil of the Holy Cross on 13 September. Although abbots from far away places such as Syria attended less frequently, the meetings expanded rapidly and became a principal method of retaining a distinctively Cistercian identity throughout western Europe. This identity was also protected through a system of filiation whereby every new foundation was established from a mother house. The abbot of the mother house would carry out an annual visitation of all the daughter houses to ensure uniformity of observance. In turn daughter houses could become mother houses to a new generation of foundations.

As the order expanded so did its wealth. In a world that believed literally in heaven, hell and purgatory, it was vital to gain spiritual benefit during the transient time on earth. The object was a place in heaven, or at least to gain remission from purgatory and the eventual assurance of a place in heaven. The saying of mass for the benefit of a person's soul was especially important in this regard. The numerous benefactions the order gained in return enabled a significant portion of the lucrative wool trade to be cornered. Depending on local opportunities numerous other industrial activities were developed such as metal and leather working and the mining of coal and lead. The burgeoning wealth of the Order was preserved by exemptions from taxes and in time the Order, perhaps inevitably, strayed away from the high ideals of its founders. The Cistercian rule was breaking down by the 13th century and an increasingly aggressive approach to business during the 14th and 15th centuries saw growing involvement with the commercial secular world. Land began to be purchased despite the

Chapter General ruling against it and urban properties were bought and leased to lay people. The simple diet was increasingly abandoned as attested by numerous new meat kitchens, such as those at Jervaulx and Kirkstall (Moorhouse and Wrathmell 1987). The lay-brother system dwindled and failed during the 14th century due to a lack of recruits, especially after the plague of the 1340s and the consequent shortage of labour. To compound the lack of spiritual clarity, the Cistercians had also failed to adapt sufficiently to the emergence of towns and a socially mobile middle class. The preaching orders of friars had moved into the towns in the 13th century while the Cistercians remained remote. The Dissolution instigated by Henry VIII between 1534 and 1540 brought the Cistercian and wider monastic world to a close and was accompanied by large-scale destruction of monastic sites.

1.2 MONASTICISM IN STAFFORDSHIRE

by N Boothroyd

Wilfred, bishop of York, and Chad, first bishop of Lichfield, are credited with the foundation of monasteries in the Staffordshire area by the mid 7th century but little is known of these foundations. The first major monastic foundation was Burton Abbey, a Benedictine house founded in 1004 near the Derbyshire border. It soon acquired royal patrons and was the wealthiest monastery in Staffordshire throughout the medieval period, though never of national importance. Two other Benedictine houses were founded along the southern borders of the county in the 12th century, Canwell Priory c1140 and Sandwell Priory c1180, and two alien priories in the late 11th century at Lapley, also in the south, and Tutbury, on the Derbyshire border. Nuns were catered for by three Benedictine priories founded by Roger de Clinton, Bishop of Lichfield 1129–48, at Blithbury, Brewood, and Farewell, again all in the south of the county. An attempt to establish a Cistercian abbey at Radmore (or Red Moor) in the royal forest at Cannock in south Staffordshire lasted less than 10 years, the monks moving to Stoneleigh in Warwickshire in 1154.

It was the Augustinians who undertook the monastic colonisation of north Staffordshire in the 12th century. Priors of Augustinian canons were established at Calwich (c1125–30), Stone (c1138–47), Ranton (c1160), Trentham (c1153), St Thomas near Stafford (1174), and an abbey at Rocester (c1141–46) (Greenslade 1970). The Augustinians were responsible not only for the establishment of religious houses but also for large scale landscape clearance at these sites; the foundation charter of Ranton priory in mid-Staffordshire, for example, describes the house as ‘St Mary des Essarz’, in other words, on assarted land (Studd 1986, n 7).

The Cistercians thus entered a crowded monastic landscape when the first abbey at Cotton was begun in

1176, moving a couple of kilometres to Croxden three years later. With the foundation of Dieulacres (moving from Poulton in Cheshire) in 1214 and Hulton in 1219 the Cistercians actually broke their own regulations concerning the placing of abbeys at a minimum of six leagues apart, approximately 23 to 35km, despite the protests of the abbot of Croxden (Tomkinson 1997). Of course, the extent to which any religious order could choose the sites of its monasteries, as they were reliant on the gift of lands from lay patrons, is an interesting question (see Burton 1986 for the relationship between patrons and Cistercian abbeys in the 12th century).

Later religious foundations in the county were almost all of friars who established themselves in three Staffordshire towns in the 13th century: Franciscans and Augustinians in Stafford, Franciscans in Lichfield and, closest to Hulton and the only ones in the north of Staffordshire, Dominicans at Newcastle-under-Lyme some time before 1277 (Greenslade 1970). The Templars also established a preceptory at Keele some time between 1216 and 1255, on land they had acquired in the 1150s or 1160s (Studd 1986).

According to the Victoria County History for Staffordshire ‘few of these monasteries had more than local significance, and some of them lacked even that’ (Greenslade 1970, 135). All of them, though, are likely to have had a significant impact on their local economy and landscape. Even absentee landlords such as the Templars and later the Hospitallers, who took over Keele following the suppression of the Templars in 1308, influenced the type of cultivation on their estate, with large scale assarting in the 12th century and, because they gave such generous terms to their tenants at Keele, open field arable farming continued into the 15th century despite the high rainfall, high altitude and generally unfavourable conditions for arable there (Studd 1986).

1.3 THE HISTORY OF HULTON ABBEY

by W D Klemperer

There were 82 permanent Cistercian foundations in Britain, of which 62 lay in England (Robinson 1998, 63). Of these, four were in Staffordshire. Radmore was founded c1143 (moving to Warwickshire in 1154), Croxden in 1179, Dieulacres in 1214 and finally Hulton in 1219. Hulton was therefore the last of the south Pennines-Cheshire plain group of Cistercian monasteries of Savigniac ancestry originating with Combermere (Cheshire) in 1133, Combermere’s other daughter houses being Poulton (Cheshire) c1146–53 (moved to Dieulacres in 1214) and Stanlow (Cheshire) 1172 (moved to Whalley, Lancashire, in 1296). Croxden, another Savigniac house, was a daughter of Aunay-sur-Odon, Normandy. The Staffordshire houses all post-date the most vigorous period of Cistercian expansion in the first half of the 12th

INTRODUCTION

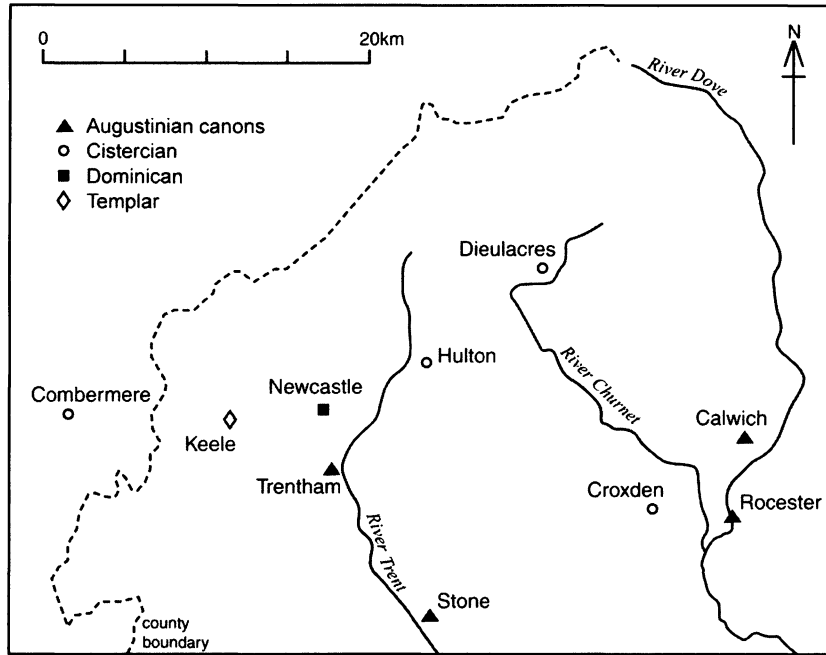


FIGURE 1.1
Monastic houses in North Staffordshire

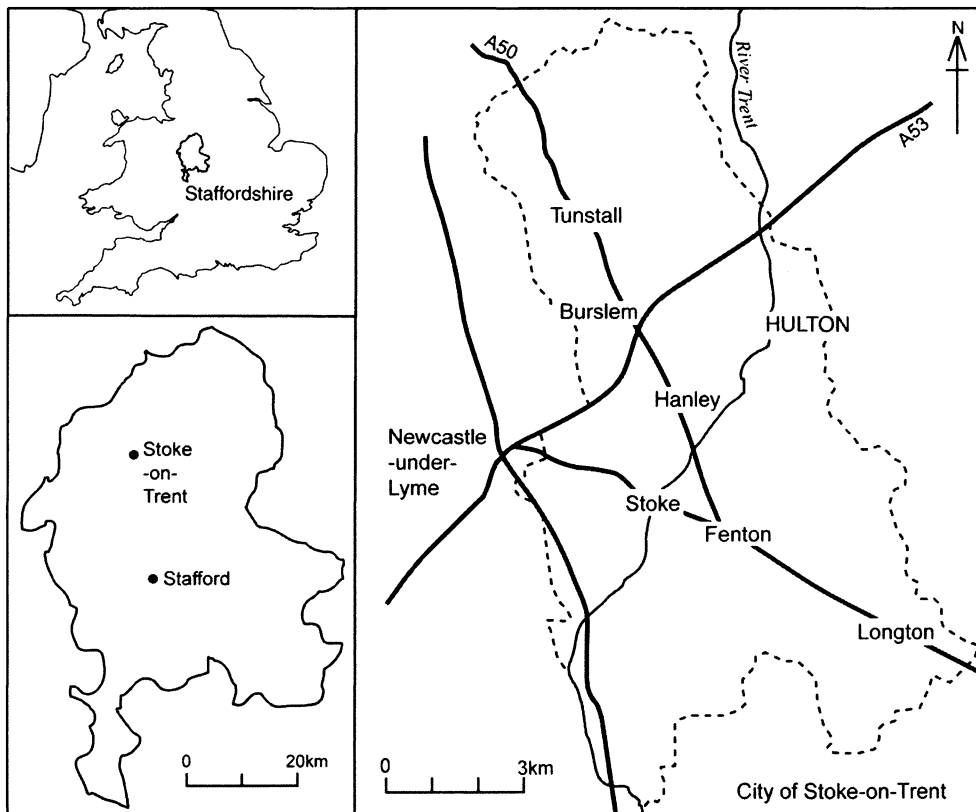


FIGURE 1.2
Location plan of Hulton Abbey

century, perhaps a reflection of the marginal and untamed nature of north Staffordshire in the Middle Ages (Figure 1.1).

Of the north Staffordshire Cistercian houses Hulton was the poorest and little remains above the ground (Figure 1.2). The site in the modern-day suburb of